

Data Quality and Error Resolution Overview

Introduction

This companion job aide supplements the [Data Quality and Error Resolution Overview](#). This aide highlights key takeaways to understand how to ensure high data quality, the common data quality issues, and resolutions for errors.

Terminology

- **AIMs:** Antivirals, Immunizations, and Medications
- **BiDX:** Bidirectional Data Exchange
- **EHR:** Electronic Health Records
- **FTP:** File Transfer Protocol
- **Orgs:** Providers, healthcare entities, and/or organizations
- **Registry:** Texas Immunization Registry
- **TAC:** Texas Administrative Code

ImmTrac2 Org Identifiers

- Each org has 2 identifiers
- **Org Code:** 4 letters & 4 numbers; For ImmTrac2 Login
 - Example: ABCD1234
- **TX IIS ID:** String of 9-11 numbers, starting with 1 or 2; used for sending records through BiDX or FTP
 - Example: 229407593 or 1000403
- Used to identify which orgs are using the system, reporting data, & used to provide registry reports

ImmTrac2 identifiers & Org Structure

Overview of org structures and the impact on reporting.

Org Structures

- **Stand-Alone Org:** No ties with other orgs; Reports patient & immunization data for itself
- **Parent Org:** Has ties with other orgs
 - BiDX/FTP: Org reports for itself and other sites within its parent-child hierarchy
 - Manual Entry: Each site reports for itself; ongoing data quality issues reported up to parent org
- **Sub-Site:** Has ties with other orgs and a parent org
 - BiDX/FTP: Org reports data through the parent org
 - Manual Entry: Org reports data for itself.

Reporting Methods

Methods of reporting records to ImmTrac including

Method 1: Manual Entry

- Individuals assigned one ImmTrac2 account
- Single account can access multiple orgs depending on which they've been granted access to
- When logging into ImmTrac2, user requires:
 - Org Code of reporting site
 - Username & password

Method 2: Data Exchange

- Stand-alone or parent orgs are assigned a data exchange account, but not the sub-sites
- Uses the TX IIS ID for sites reporting data
- Data Exchange accounts require the following:
 - To report records via FTP
 - FTP username (import code)& password
 - TX TTS Ids for parent org and sub-sites
 - To report via Web Services/BiDX
 - Parent org's facility ID
 - BiDx username and password
 - TX ISS IDs for parent org and sub-sites

Manual Entry - Data Quality Issues

Data Quality Issues – Manual Entry

Overview of the most common manual entry data quality issues.

Not for data exchange providers.

Issue 1: Login with Incorrect Org Code

- Can occur when user has access to multiple org codes and logs in with the wrong one
- **Resolution:** Log in with the correct Org Code

Issue 2: Parent and Sub-Site Relationship

- If a parent org notices a sub-site not listed under it OR, a sub-site notices they're under the wrong parent org, then the sub-site is incorrectly associated in ImmTrac2
- **Resolution:** Contact ImmTrac2@dshs.Texas.gov and provide:
 - One or more of the sites' ImmTrac2 Identifiers for the parent and the sub-site
 - Org code, TX IIS ID or physical addresses
 - Info on the issue to be resolved

Issue 3: Incorrect Lot Number Entered

- A user or org identifies that they entered in the incorrect lot number for a vaccine
- For COVID-19 administrations, the lot number must be entered correctly for proper inventory decrementation
- **Resolution:** Edit Immunization Record
 - An org who reported the immunization or can administer immunizations has ImmTrac2 permissions to edit records
 - Locate the ImmTrac2 Client's immunization record and the vaccine with the incorrect lot number
 - Correct the lot number
 - Save

Overview of the most common manual entry data quality issues.

Not for data exchange providers.

Issue 4: Immunization Entered by Wrong Org Code

- A user or org identifies they entered in vaccinations under the wrong org code
- **Resolution:** Correct the Org Code of who Administered
 - Log in with the correct Org Code
 - Locate the ImmTrac2 Client's immunization record and the vaccine with the incorrect information
 - Validate if the immunization is reported correctly
 - If information is incorrect, proceed to the "Edit Immunization" screen and delete the immunization
 - After deleting, immediately add the correct data to retain the patient in the system

Issue 5: Incorrect DOB for Patient

- If the DOB error doesn't change the ImmTrac2 Client from a minor to an adult or vice versa, simple edits can be made to correct the issue
 - Example: DOB: 01/01/2002 but should be 01/10/2002
 - **Resolution:** Make the correction to the DOB and Save.
- If the DOB error **DOES** change the ImmTrac2 client from a minor to an adult or vice versa then contact the registry for assistance in deleting the data
 - **Resolution:** Contact ImmTracMU@dshs.Texas.gov

Data Exchange Reporting – Overview & Data Quality Reports

Data Exchange Reporting Overview

Overview of data exchange reporting, types of errors, and responses to error reports.

Reporting via Data Exchange

- Uses an EHR vendor or similar system to extract data.
- Data is reported utilizing HL7 format
- Data is reported via FTP or BiDX

Types of Data Quality Issues

- Messages are reviewed for data quality issues (errors) before being added to ImmTrac2
- Error Types:
 - File Rejection (FIR)
 - Message Rejection (MER)
 - Client Rejection (CLR)
 - Immunization Rejection (IMR)
 - Informational Error or Warning (IEE)
- Rejection Errors – **Significant Impact**
 - Prevents data from being added to ImmTrac2
 - Must be identified and corrected by org
- Informational Errors – **Data Quality Impact**
 - Doesn't prevent data from being added to ImmTrac2

Responses to Errors

- If FTP org's data has errors, 3 reports are generated per batch file:
 - HL7 Report or Data Quality Analysis (DQA)
 - Consent Notification File (CNF)
 - Response (Raw) Error Report
- If BiDX org's data has errors, will receive a response immediate via EHR and per message
 - Response (Raw) Error Report
 - Contact EHR vendor about accessing and reviewing error logs

Data Exchange – Data Quality Reports

*Overview of how an org can review error reports.
Only applicable to FTP and not BiDX providers.*

FTP Data Quality Best Practices

- At least once a week, org must access the Registry's FTP website to download and review any new DQA reports.
- DQAs to be opened using an advanced text editor e.g. Notepad++

Reviewing Errors

- Log into Registry's website and open the dqa-report folder to show all the available reports
- Click on desired **dqa-report(.HL7.Report.txt)** to automatically download
- Open the DQA report file to see the following file structure
 - HL7 message
 - Contains one client's (patient's) info and immunizations org reported
 - **PID** line: Patient's name
 - **RXA** line: Immunization
 - Rejection errors for that message
 - Informational errors for that message
- Error syntax
 - Errors have an alpha numeric code followed by a short description.
 - Example: MER-105:: Message Rejected. Required field PID-11 missing.

Using the HL7 Error Guide

- Errors are organized by their error categories (9FIT, CLR, IMR, MER, IEE) with a table of contents at the beginning
 - This will show all the available reports

Data Exchange – Data Quality Issues

Data Quality Issues – Data Exchange

Overview of the most common data exchange data quality issues.

Issue 1: Incorrect Parent/Sub-site Relationship

- If correct relationship is missing in ImmTrac2, the sub-site's records will be rejected
- **Resolution:** Submit a site agreement renewal in ImmTrac2 to set up the missing Parent/Sub-site relationship
 - Once relationship corrected, resend the rejected messages for reprocessing

Issue 2: Incorrect Parent TX IIS ID in Messages

- MSH-4: Identifies the parent org's TX IIS ID, indicating ownership of the data exchange account
- If MSH-4 is the sub-site's TX IIS ID, the message is rejected
- **Resolution:** Contact org's IT support and EHR vendor to update MSH-4
 - Once corrected, resend the rejected messages for reprocessing

Issue 3: Incorrect TX IIS ID as Administered the Immunization

- RXA-11.4: Identifies the TX IIS ID of the org that administered the vaccination reported
- ImmTrac2 doesn't validate whether RXA-11.4 is correct based on vaccine reported or lot number
- These issues are not flagged as an error in DQA reports
- **Resolution:** Contact Org's support and EHR vendor to map all subsite with the correct TX IIS ID number

Overview of the most common data exchange data quality issues.

Issue 4: Incorrect Lot Number

- ImmTrac2 doesn't validate whether the lot number reported in Rxa-15 is valid or correct
- These issues are not flagged as an error in DQA reports
- Registry staff perform high-level analysis for COVID-19 immunizations to determine if lot numbers reported match what was allocated
- Lot number reported to ImmTrac must be **exactly** as listed on the medication to decrement in VAOS
- **Resolution:** Update the correct lot number
 - Retrain staff to enter the lot number in EHR as it appears on the medication
 - Make corrections in EHR with the accurate lot number
 - Resend the corrected record
 - If the only change was the corrected lot number, ImmTrac2 updates the existing info and won't create a duplicate record

Issue 5: Incorrect DOB for Patient

- If the DOB error doesn't change the ImmTrac2 Client from a minor to an adult or vice versa, simple edits can be made to correct the issue
 - **Resolution:** Make the correction to the DOB and resend patient records
- If the DOB error **DOES** change the ImmTrac2 client from a minor to an adult or vice versa then contact the registry for assistance in deleting the data
 - **Resolution:** Contact ImmTracMU@dshs.Texas.gov

Data Exchange – Data Quality Issues (Contd)

Data Quality Issues – Data Exchange (Contd)

Overview of the most common data exchange data quality issues.

Issue 6: Missing or Incorrect County of Residence for Patient

- ImmTrac2 doesn't validate whether the patient's county of residence is missing or incorrect in PIC-11.9
- Not flagged as an error in DQA reports
- Registry staff perform high-level analysis for COVID-19 immunizations to determine if county of residence is missing or incorrect
- Result in state and DSHS county level of reporting to be inaccurate
- **COVID-19: Missing or Incorrect County**
 - Patient/client home address county is a required element for COVID-19 reporting, as required by the CDC
 - Client's county must be reported using the county FIPS code in PID-11.9
 - Infor is used by the state for reporting to CDC
- **Resolution:** Correct county of residence for patient
 - Work with IT and EHR to update systems to include FIPS County Code for patient address in PID-11.9
 - FIPS County codes is 5 digits; first two are the FIPS code of the state (48 for Texas) and next three for the county
 - Send corrected data via data exchange to have registry records updated with FIPS county Code

Overview of the most common data exchange data quality issues.

Issue 7: Missing or Incorrect Race and Ethnicity for Patient

- ImmTrac2 doesn't validate whether the patient's race in PID-10 and ethnicity in PID-22 are missing or incorrect.
- Not flagged as an error in DQA reports
- Registry staff perform high-level analysis for COVID-19 immunizations to determine if information is missing or incorrect
- Result in state and DSHS county level of reporting to be inaccurate
- **Resolution:** Correct county of residence for patient
 - Work with IT and EHR to update systems to include HL& codes for patient race and ethnicity in the PID segment
 - Send corrected data via data exchange to have registry records updated with FIPS county Code

Conclusion

Regardless of manual entry or data exchange, org should always follow the guidelines below.

Final Reminders

- Check you are reporting under and for the correct org
- Identify any and all data quality issues
- Resolve all data quality issues timely
- Resubmit data that rejected or resulted in error
- Report lot number accurately
- Report all required elements, including: Patient county race and ethnicity

ImmTrac2 Contact Information

ImmTrac2 General Customer Support:

- **Email:** ImmTrac2@dshs.texas.gov
- **Phone:** (800) 348-9158, *option 1,2, and 4*

ImmTrac2 Data Exchange Support:

- **Email:** ImmTracMU@dshs.texas.gov
- **Phone:** 800-348-9158, *option 3*

ImmTrac2 DSHS Webpage:

<https://www.dshs.texas.gov/immunize/ImmTrac/>

User Trainings:

<https://www.dshs.texas.gov/immunize/immtrac/User-Training/>

Forms:

<https://www.dshs.texas.gov/immunize/immtrac/forms.shtm>

HHS Enterprise Portal to login into ImmTrac2:

<https://hhsportal.hhs.state.tx.us/iam/portal/Home/portalHome/>