

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

## ImmTrac2 Data Exchange Support:

- **Email:** [ImmTracMU@dshs.texas.gov](mailto: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/>