Early Steps Data System (ESDS)

System Design – EHR/EMR Design Specification (Enrollment Data)

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Signature and Acceptance Page

I have reviewed the Print Template Inventory documentation and agree that the content of the document is accurate and clearly describes each Print Template.

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Preface

Uploading Early Steps enrollment data from an Electronic Health Record (EHR) or Electronic Medical Record (EMR) system to the Early Steps Data System (ESDS) is essential for ensuring the accuracy and efficiency of early steps services. This process is guided by the Early Steps Data Systems (ESDS) Enrollment Data Specifications, which clarify and specify the data content required for uploading transactions into the ESDS application.

Transactions based on this guide, used in tandem with the EHR/EMR data dictionary and data schema as well as with Early Steps state policies, ensure compliance with both the data syntax and content requirements specified by the relevant guidelines. This guide is intended to convey information within the framework of the established Part C data standards and policies adopted for early steps programs. The specification is not intended to describe information that exceeds the requirements or usages of data expressed in these standards. By following these guidelines, healthcare providers can ensure that enrollment data is accurately captured and integrated into the ESDS, enhancing the coordination and delivery of early steps services.

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1. Introduction

1.1. Purpose and Scope

The intended audience of this document includes any provider organization or Local Early Steps (LES) office that plans to upload early steps enrollment data generated from Electronic Health Records (EHR) or Electronic Medical Records (EMR) systems into the Early Steps Data System (ESDS). This enrollment data must be structured according to the specified data standards to ensure seamless integration and accurate data capture.

This guide is intended to be used in conjunction with established XML protocol, Early Steps policies, and the EHR/EMR data schema and EMR data dictionary, not to replace them. Additionally, this guide is intended to convey information that is within the framework and structure of these standards, ensuring compliance without contradicting or exceeding the established requirements. The guide provides detailed instructions and best practices for preparing and uploading enrollment data, thereby facilitating the efficient and accurate integration of early steps information into the ESDS.

1.2. Overview

The ESDS EHR/EMR File Upload Specifications includes information required to provide and maintain enrollment data within ESDS. The information is organized in the sections listed below:

- Getting Started
- Testing with the Group Agency / LES
- Connectivity with Group Agency / LES
- Contact Information
- Schema Component Details
- Enrollment Transaction Specific Requirements
- Entity Dedup / Merge Logic
- EHR / EMR Enrollment Data File Upload – Specific Requirements
- Notifications and Status Updates

1.3. Glossary

The ESDS Glossary of terms lists standard definitions for terms used within the ESDS system. The ESDS Glossary of Terms can be found in the Functional Specifications > Reference Materials folder (Reference Material).Reference

For more information regarding uploading data from an EHR/EMR, please refer to the EMR Data Dictionary.

1.4. Assumptions

Key assumptions related to the uploading of enrollment data from an EHR/EMR are:

- User who is uploading the file has a valid login to the ESDS with a role assigned to them that allows them to import EHR/EMR files. See the Security Roles Matrix for role(s) that are allowed to import EHR/EMR files.
    - The data for each enrollment in the import file is sent in the order specified in the data schema.
- The import file contains all the information you would like to send and is complete before uploading it into ESDS. Any import containing information that is already contained in the child's record in ESDS may change data that already exists in the child's record. Deduplication and merge logic will apply. See section 8.

2. Getting Started

2.1. Exchanging Transactions With ESDS

ESDS expects EHR/EMR enrollment data inbound files to be uploaded by direct submitters. Individuals who are submitting data on behalf of their LES or provider group / agency must be an active ESDS user with the appropriate role that has permission to upload data from an EMR. The data in these files will go directly into the ESDS application.

After logging into ESDS, users navigate to the EMR Dashboard which handles EHR/EMR data file uploads. The application provides an upload button interface for selecting the file from the local device and initiating the upload. Users upload the EHR/EMR enrollment data file in the XML supported format based on the application's existing data model which the EMR data dictionary reflects.

No supporting documents (binary files in data model) are allowed in this process. 5,000 enrollments per file is the upper limit.

2.2. Trading Partner Onboarding

Onboarding organizations that extract enrollment data from their EHR/EMR systems and import it into ESDS involves a structured, multi-phase approach to ensure data integrity, compliance, and smooth integration. Here's a high-level overview of the process:

- Initial Planning and Scoping
    - Project Management - Establish a process to monitor progress and address escalations.
    - Initial Outreach - Send out introductory communication to establish initial contact, introducing the ESDS team, project objectives, and the high-level timeline.
    - Stakeholder Identification and Engagement - Define roles and responsibilities for both the organization and the Early Intervention Data System (ESDS) team
    - Requirements Gathering - Determine the data types to be extracted. Previously agreed to the following:
        - All Entities
        - ONLY Contact Notes
        - ONLY Referral and Contact Notes
        - ONLY Disposition and Contact Notes
- Technical Setup and Configuration
    - Data Exchange Orientation - The following documents were provided:
        - EHR Enrollment Data Dictionary
        - EHR Enrollment Data Schema
        - EHR Enrollment Sample File
        - EHR Sample Response File
- Individual Organization Kick-offs
- Establish certification environment access for those users who will be participating in the onboarding process.
- User must have a security role = EMR

- Organization must have the EHR System Usage type that matches the data that they will be uploading
- Data Extraction Configuration - LESs / Provider agencies need to configure data extractions within the organization's EHR/EMR system including frequency. ESDS's The Project Team's recommendation is daily.

2.3. Trading Partner Testing and Certification Process

All trading partners who wish to submit EHR/EMR enrollment data files to ESDS via the user interface must complete testing to ensure it is working correctly before any production transactions can be processed.

3. Testing With the Group Agency/LES

3.1. Testing Overview

ESDS requires testing for all providers and LESs submitting EHR/EMR data files for the first time before actual submission to the production environment.

To help EHR/EMR data file testers achieve a successful test, please follow the appropriate format specifications (listed in this guide) and submission directions. To receive approval to move from test to production, a minimum 95% "correct rate" for the test file submitted must be achieved.

3.2. Testing Procedures

Coordinate with ESDS Support to initiate testing. The enrollment data in your test file should simulate enrollment data from a normal business process.

- Run test extractions with sample data sets.
  - Deeper dives and technical support may be required in the beginning (prior to XML even loading).
  - Once files can be uploaded, users should be able to understand based on error messages, what updates are needed and own that level of analysis.
- Verify data extraction completeness, field mapping accuracy, and record counts.

- Perform data quality checks to ensure extracted data meets format and business rule requirements.
- Validate against predefined data rules (e.g., mandatory fields, data types).
- Ensure all necessary records are correctly imported into ESDS.
- Determine if organization is eligible for PROD

3.3. Approval

Once the testing phase is complete, and it can be confirmed that all relevant scenarios are able to be processed successfully and accurately in the certification environment, your production account will be transitioned to allow uploading of EHR/EMR enrollment data files. A production approval notice will be sent to your account's primary contact email address when your latest test iteration has achieved the minimum test threshold.

The chart below outlines the datapoints and criteria that ESDS EHR Support will be looking at for each organization's file uploads, including both the specific Test Scenarios and the "Catch-Up" file. EHR Support will use this rubric to help inform an organization's file-readiness. The chart is not definitive, nor does it encompass every scenario; data quality issues must be reviewed on a case-by-case basis to determine potential data impacts down the line. All actual approvals are made at the sole discretion of ESSO.

- **Error Rate** = (totalPartiallyProcessedWithErrors + totalRejected) / totalProcessed. The values used in this calculation are found in the summary section at the top of the XML response file that the system generates after each file upload. See below* for an example of this section.

- **Necessary Entities -** Necessary entities are those that either contain required data or are necessary to upload other required data. To find which entities had errors, we can look at the Segment (Entity) with Error column of the CSV Response File generated after each file upload.

	Approved	Conditional Approval - program must request an exception	Not Approved
File Formatting/ Processing Status Review	File is successfully uploaded, and data can be processed.	N/A	File cannot be uploaded, or data cannot be processed. There is a filetype issue or formatting issue that must be resolved for the system to accept the file and process the data.
Response File & Error Rate Review	There are no error messages. (Error rate = 0). - OR - The **error rate** is below 10% and remaining errors will not prevent **necessary entities** from uploading.	The **error rate** may or may not be below 10% but remaining errors will prevent 1-2 **necessary entities** from uploading.	The **error rate** is equal to or higher than 10% and remaining errors will prevent more than two **necessary entities** from uploading.

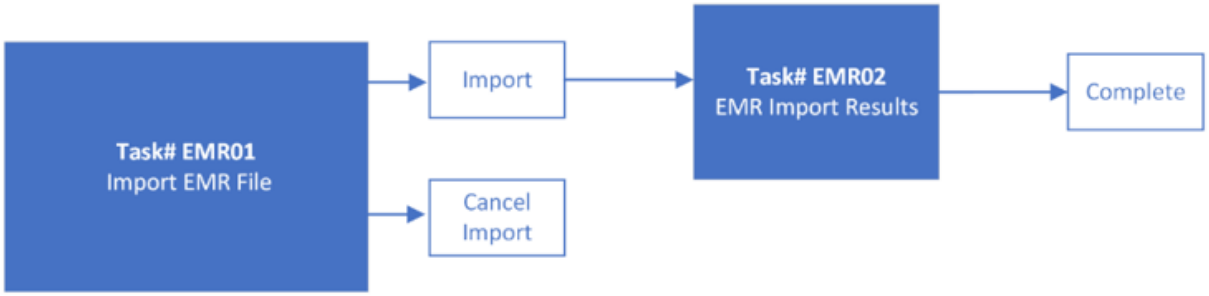
Data/File Quality Review	No data/file quality issues or issues are *easily fixable by EHR upload* (program can send updated data to correct without assistance). *Example: Intake date is often incorrect in the program's EHR system. Program is able to correct this date in their EHR system and upload the correct intake date to ESDS, overwriting the incorrect one.*	If data/file quality issue can be pinpointed to a specific entity and will affect required fields but will not affect the program's ability to upload other entities, conditional approval may be recommended. *Example: An issue is identified with discharge data exported from a program's EHR system that is not caught in an error message - i.e., the data is valid/acceptable but may be consistently wrong from a clinical perspective. DBHDS may decide to approve the program for file imports that do not include discharge information. Then, the program would process discharges manually in ESDS until approved to upload this information.*	Noticeable data/file quality issues that are *not fixable by EHR upload* and will affect multiple entities. Program will need to contact Support to fix the data. *Example: a program's EHR system cannot export data based on an ESDS ID, so a new enrollment case is generated every time an existing case is supposed to be updated. Multiple open enrollments are created for a single child and Support is requested to clean up the data.*

***XML Response File sample "summary" section:**

```
<summary>
        <totalProcessed>1</totalProcessed>
        <totalSuccess>0</totalSuccess
        <totalPartiallyProcessedWithErrors>0</totalPartiallyProcessedWithErrors>
        <totalProcessedWithWarnings>0</totalProcessedWithWarnings>
        <totalRejected>1</totalRejected>
        <totalEnrollmentsCreated>0</totalEnrollmentsCreated>
        <totalEnrollmentsUpdated>0</totalEnrollmentsUpdated>
</summary>
```

4. Connectivity With the Group Agency / LES

4.1. Process flows. Upload of an EHR/EMR Enrollment Data File



4.2. Transmission Administrative Process

ESDS supports data from multiple enrollments within the same file, but all enrollments must be associated to the organization of the logged in user.

Any organization transmitting data from their EMR must ensure that their submissions fall into one of the following categories:

- All Enrollment Data (includes all entities in the EMR Data Dictionary) - These can only be updated via EMR; however, contact notes may be performed in the ESDS system via the ad-hoc contact notes task.
- Only Contact Notes (includes child, enrollment, service log, and progress note entities in the EMR Data Dictionary).
- Only Referrals + Contact Notes (includes child, enrollment, referral service log, and progress note entities in the EMR Data Dictionary)

4.3. Security Protocols

ESDS web portal employs the latest versions of the SSL/TLS (Transport Layer Security) protocols. TLS 1.3, the most recent and secure version, is used to establish encrypted links between our servers and users' browsers. This ensures that all data uploaded over the internet remains encrypted.

4.4. File Naming Conventions

There are no restrictions on the file name.

4.5. EHR/EMR Submission Timeframes

It is recommended that EHR/EMR enrollment data is uploaded daily.

5. Contact Information

5.1. ESDS Customer Service and Technical Assistance

For technical questions or help related to any of the transactions, acknowledgments, or reports related to your enrollment data submissions, please contact ESDS Support at esds-app-support@ssg-llc.com.

For EMR support, please contact esds-emr-support@ssg-llc.com.

5.2. Provider Services

For questions regarding Provider Support Services / enrollment data submissions that do not pertain to ESDS, please contact the ESDS System Administrator, Stephanie Schofield at stephanie.schofield@flhealth.gov.

Schema Component Details

6.1. Inbound Schema

The inbound schema and sample files can be found here:

- Inbound_EMR_Message_Sample_All_Entities_v2
- Inbound_EMR_Message_Sample_Contact_Notes_v2
- Inbound_EMR_Message_Sample_Referral_v2
- Inbound_EMR_Schema_v2

6.2. Outbound Schema

The outbound schema and sample files can be found here:

- Outbound_EMR_Message_Sample_v2
- Outbound_EMR_Message_Schema_v2
- Outbound_Sample_Results_v2

7. Entity Deduplication / Merge Logic

This table outlines the logic used to deduplicate and merge entities in the database. The process involves identifying duplicate records based on matching criteria (e.g., name, email, or unique identifiers) and applying predefined rules to merge relevant attributes into a single, consolidated entity while retaining critical data integrity.

Entity	Deduplication Logic	Merge
Address	Only ever can send one (1) address per child / guardian / contact	Use address sent with each record
Attendee	Attendee is used to store clinician and also family members. For users: Match on user record, eventdate and signature For family member: Match on name and role	Keep latest record
Child	The logic compares two individuals to calculate a match score. If their first name, last name, birth date, and optionally middle name match exactly, the score is a perfect match. Otherwise, partial matches are considered, with penalties for mismatched middle names or potential siblings (e.g., twins) having different first names, resulting in a reduced score. The match score is the minimum of these penalties and based on the score is considered a possible match or no match.	Keep latest record; do not overwrite a value with a null
CommunicationLog	Match on communicationType, contactDate, outcome, communicationNote.	Keep latest record
Consent	Match on type, startDate and name	Keep latest record
Contact	Match on contactType, contactCategory, contactName	Keep latest record
COS	Match on date	Keep latest record
EligibilityDetermination	Match on eligibilityDate and eligibilityResult	Keep oldest record

Entity	Deduplication Logic	Merge
Enrollment	Match on unique identifier For any enrollment sent that includes an enrollment number, the system will search for a matching enrollment using that identifier. If a match is found, the system will accept updates, nulls included. If no match is found, an error will be provided indicating the enrollment does not exist, and the import will be rejected. If no enrollment number is included in the EMR file, the system will still search for a matching open enrollment. If a match is found, an error will be provided indicating there is an active enrollment for that child and the import will be rejected. If no match is found, a new enrollment record will be created.	Keep latest record
EnrollmentGuardian	Match on firstName and lastName.	Keep latest record
Evaluation	Match on evaluationDate and evaluationTool	Keep latest record
First Contacts	Only accept 1 record per enrollment	Use first contacts sent with each record
Goal	Match on description under the provided outcome.	Keep latest record
HouseholdMember	Match on name and relation	Keep latest record

Entity	Deduplication Logic	Merge
IFSP	Match on ifspSignedDate and enrollmentNumber	If a match is found, the only fields that may be updated are: Primary setting Service plan owner Service plan owner authorized start date Payer Barrier code Location Location other Non natural environment justification If these fields are different in the sent file than what is existing, the sent data will replace the existing. Edits to other IFSP fields do not update the existing record and send an error message.
Insurance	If uninsured, match on startDate If insured, match on coverageStartDate, insuranceBrandName, subcriberIdentifer and subscriberBirthDate	Keep latest record
Intake	Only 1 intake can be sent in on a record	Keep latest record; don't override any value with a null
Outcome	Match on outcome (case insensitive match) and startDate	Keep latest record
Outcome Progress	Match on progress date for the outcome	Keep latest record
Progress Note	Match based on related service log ID	Keep latest record
Pwn	Match on reason, pwnType, givenDate, otherReason, infromationUsed	Keep latest record
Referral	Match on referralDate, referralSource, familyAware, firstName, lastName and referralReasons	Keep latest record

Entity	Deduplication Logic	Merge
Service Log	Match on id generated by ESDS, which is returned in the response communication upon initial creation of the service log and is also available in the extract. If an existing id is not sent a new record will be created.	Keep latest record
Service Plan	If part of a new IFSP, match on Service Category, Method (multi-select field, match on all values) If not part of a new IFSP, match on all fields EXCEPT insurance, location, otherLocation, nonInsurancePayerCode, servicePlanAuthorizations, timelinessReasonCode	If a match is found for a new IFSP, end date the previous record to have an end date one day prior to the start date of the new record. Consider it part of the same continuous service. If no match is found, create a new service plan and a new continuous service. If a match is found that is not part of a new IFSP, keep the latest record
Service Plan Authorization	Match based on user	If match is found, add an end date to the existing logic that is one day prior to the start date of the new record. Keep latest record.
Strategy	Exact match (case insensitive)	Keep latest record
TCM	Match on tcmDate	Keep latest record
Transition	Only one transition can be sent with each record	Use record that is sent. Existing values will not be overwritten with null values.
Transition Activity	Match on transitionActivityType and activity (case insensitive)	Keep recent record. Existing values will not be overwritten with null values.

8. EHR/EMR Enrollment Data File Upload - Specific Requirements

Child and Enrollment Data is always required.

Each entity that is sent will be evaluated sequentially and independently. If one or more entities fail because pre-requisites were not met, required fields were not provided, or invalid values were included, then ESDS will not process that entity. ESDS will move on to the next entity to try to process it. Any entity that meets all the pre-requisites, required field logic, and valid formats will be processed. The user would

be required to reupload the entity that failed plus any pre-requisites related to the failed entities and other entities that could not process because of the failed entity.

For example, if the EMR file contains a new enrollment record, they would send Child, Enrollment, Referral, Guardian, First Contacts, Eligibility Determination, IFSP, etc. If everything is processed up until the Eligibility Determination, then the user would need to update the issues with Eligibility Determination and then resend (at a minimum), child and enrollment entities because those are always required, plus Eligibility Determination, and IFSP (because IFSP could not process without the Eligibility Determination processing). The user would not need to resend the other entities (like referral, first contacts, guardians, etc.). If a user chooses to, they can resend the full record which would also be acceptable.

Upon successful import of a new Child (child and enrollment entities), an ESDS ID is generated. This ESDS ID is included in the response file available to the user who uploaded the file.

Anytime updates for an existing enrollment is being sent, the ESDS ID must be included in the file. It is recommended that only new or updated information is sent. Including enrollments without new or updated information could affect processing performance.

If upon receiving the initial enrollment, ESDS identifies another open enrollment for the child during the same time period, the new/duplicate enrollment will be rejected. This rejection message will be included in the response file available to the user who uploaded the file. Similarly, if updates for an enrollment are sent but the ESDS ID is not included, then the updates for the enrollment will be rejected indicating that there is already an enrollment open and that the ESDS ID must be included if the updates are for that enrollment.

9. Notifications and Status Updates.

9.1. Initial EHR/EMR File Data Validation

Upon successfully importing a file, there will be a downloadable file generated and available within the application that contains the enrollment number for children included in the imported file. This file is available in both XML and CSV format.

If the file cannot process due to not meeting the XML format requirements, then a status of Failed will be reported on the EMR dashboard for the user.

9.2. Error Handling and Reporting

When the file has been imported, ESDS will create an Import Results task within the EI EMR Import case. If the file was able to be processed, ESDS will also create an EMR Import Results task within the EI EMR Import case.

In the EMR Import Results task, there are two response files available for you to use:

- The CSV Response file provides a summary of the error messages and which child they pertain to. It will also tell you how many imports were successful and how many need to be reviewed. You can open this file in Excel or in a notepad application. Error messages, if any, will be present in the 'Message' column.
- The XML Response File can be used to review the details of any error messages you may have received if you need more information. From the EMR Import Results task, choose the XML results file. Within the XML response file, there will be a summary of the import results (how many enrollments were processed, successfully processed, partially processed with errors, partially processed with warnings, or rejected, and how many enrollments were created or updated). Further details can be found below the summary section of the response file.

If any enrollments were processed with warnings or errors, these messages should be reviewed. If any enrollments were rejected or partially processed, the data in the EMR source system shall be updated and then the XML file should be regenerated and reuploaded. Partially processed records include files where one or more entities failed processing. You will need to fix the information in your EMR system, re-generate the XML file, and re-upload it to ESDS.

10. Implementation Checklist

- Organization has made a determination of which combination of entities the organization plans to upload via EHR.
  (All Entities || Contact Notes || Referral & Contact Notes)
- The organization's anticipated file readiness timeline - indicating when they will be ready to begin testing and when they expect to complete testing to be ready for EHR Go-Live.
    - The list of personnel who will be completing testing and will need access to the test environment. In addition to this, there will need to be both a lead organization contact as well as a lead technical contact.

10.1. Frequently Asked Questions

How many files are being sent?

Up to 5,000 child records can be sent as part of a single EMR import file.

Is it required to have the xml declaration/namespace rows at the top of the XML file for ESDS?

Of the top 3 lines listed in the sample XML file, only the tag including the xmlns attributes is required.

Some of the specs on the sample XML file didn't match what we were looking for.

The Sample XML Input file is intended to be an example of all the entities that you can upload via EHR Import. However, since this is a sample, please refer to the XML Schema for the full breakdown of how each entity should be sent and the fields that can be included. While you develop your file, it is important to make sure that your file aligns with the XML schema above all else. The Sample XML file and EMR Data Dictionary will help support your understanding of the schema and required fields.

How does ESDS handle being sent duplicate information?

ESDS has deduplication logic built in to avoid duplicate records for entities. However, there are risks to importing duplicate data. It is important to check the information already existing in ESDS before importing your EMR file. ESDS will overwrite the existing information in the child's enrollment if the data is different. For example, if the enrollment in ESDS has an intake date of 1/2/2021 and a new date of 2/1/2021 is imported, the new date of 2/1/2021 will be populated as the date of intake.