Electronic Health Care Transactions Technical Submission Guidance

1. Introduction and Purpose

1.1 Purpose and Scope

The purpose of this Electronic Health Care Transactions Technical Submission Guidance (guidance) is to detail technical requirements for submitting certain electronic health care transaction information to the State-Designated Health Information Exchange (CRISP). The guidance was developed by CRISP in consultation with stakeholders, including the Maryland Health Care Commission (MHCC) and MHCC- certified Electronic Health Networks (EHNs). Maryland law (2021)[1] requires EHNs certified by MHCC to provide electronic health care transactions to CRISP to support certain purposes. COMAR 10.25.07, *Certification of Electronic Health Networks and Medical Care Electronic Claims Clearinghouses* are the regulations to support implementation of the law[2] and became effective on November 10, 2025.

1.1.1   CRISP

Maryland law requires CRISP to operate as a health data utility for the State to assist in the evaluation of public health interventions, advance health equity, facilitate communication of data between public health officials and health care providers, and enhance interoperability of health information throughout the State.[3]

CRISP technology complies with all applicable HIPAA/HITECH requirements and is subject to an annual HIPAA/HITECH security audit by an independent audit firm. CRISP uses the HITRUST CSF model as its risk-based security management program. The framework drives a continuous maturity model, which allows CRISP to consistently measure the effectiveness of its controls and adjust as needed to further enhance security and manage risk. CRISP has documented policies and procedures in place to guide personnel in identifying business objective risks, assessing changes to the system, and developing risk management strategies as part of the risk assessment process.

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[1] Chapter 791 (SB 748) and Chapter 790 (HB 1022), *Public Health - State Designated Exchange - Clinical Information*.

[2] https://regs.maryland.gov/us/md/exec/comar/10.25.07

[3] Chapter 296 (House Bill 1127), Public Health - State Designated Exchange - Health Data Utility (2022)

CRISP Shared Services, the technology vendor for CRISP, establishes operational requirements supporting the security, availability, and confidentiality commitments and other requirements.

1.2 Guidance Development and Publication

As directed by Maryland law and COMAR 10.25.07, CRISP is required to issue submission guidance in consultation with stakeholders, including MHCC staff.

CRISP held XX public meetings with stakeholders from September 2025 through X 2026 to discuss the approach and timeline to develop the guidance and gather feedback from EHNs on the content of the guidance. CRISP solicited public comments on the draft guidance during a 30-day period before finalizing and publishing the guidance on X X, 2026. The current version of the data submission guidance and related documents are available on the CRISP's website at: <<www.crisphealth.org/ehn>>

1.3 Applicable Transactions

COMAR 10.25.07 requires MHCC-certified EHNs to submit electronic health care transaction information for services delivered in Maryland. This includes:

- Health care claim or equivalent encounter information (837P and 837I); and
- Health plan eligibility inquiry and response (270).

The guidance that follows is specific to the submission of information from 837P and 837I transactions. The State is not requiring EHNs to submit information from 270 transactions to CRISP at this time.

As specified in regulation, only the EHN that receives the transaction from the originating submitter directly is required to submit the transaction information to CRISP. For example, if an EHN is "relaying" a transaction from another EHN, the relaying EHN is not required to submit the relayed transaction to CRISP.

1.4 Support and Contact Information

Direct questions regarding this guidance and data processing inquiries to:

Meg LaMar
PO Box 1152
Columbia, MD 21044-9997
Megan.Lamar@crisphealth.org

Direct questions regarding the regulations (COMAR 10.25.07) to:

Anna Gribble
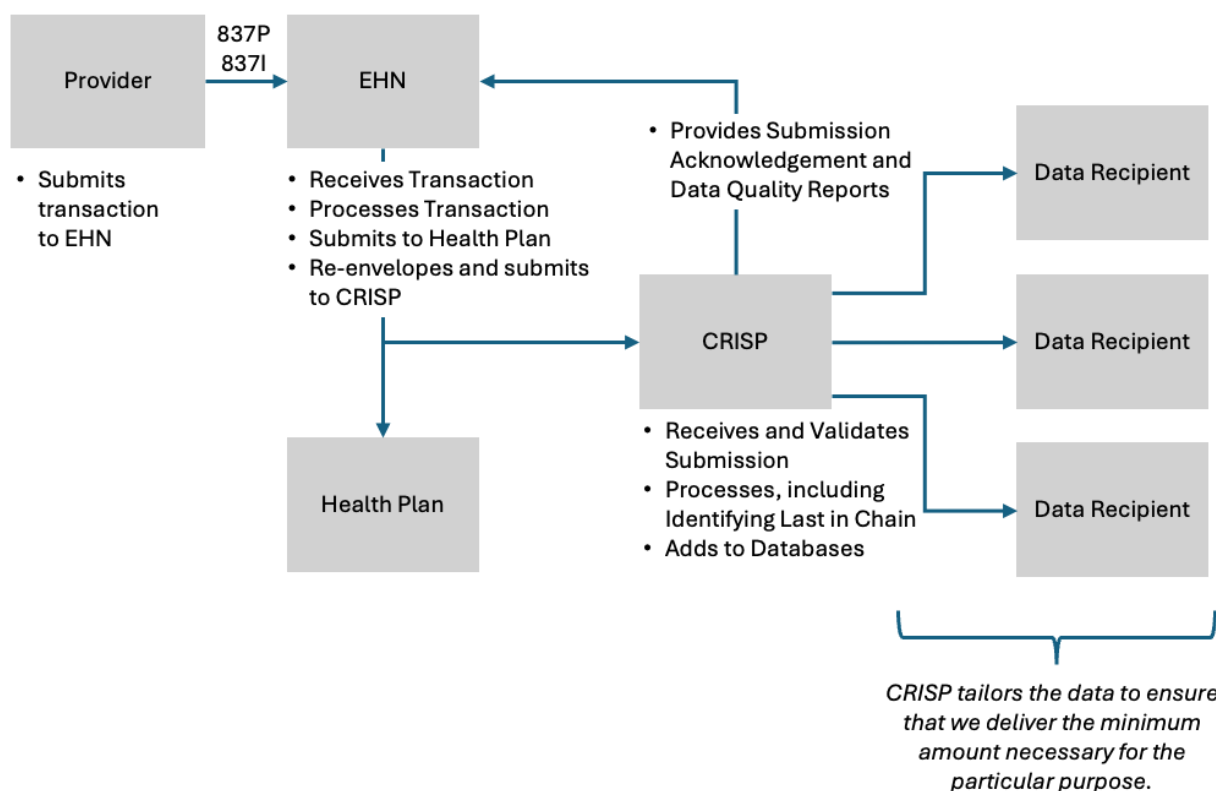Maryland Health Care Commission

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2. General Submission Requirement

2.1 Submission Process Overview

The following provides an overview of the data submission process.

Figure 1: Submission Process Overview

CRISP tailors the data to ensure that we deliver the minimum amount necessary for the particular purpose.

2.2 Submission Schedule

EHNs must submit data to CRISP at least monthly and no later than the last business day of each submission period for the preceding period.

EHNs may choose to submit more frequently, such as daily or weekly submissions. CRISP will work with each EHN to develop a preferred submission cadence.

In the event of a mechanical, electrical, or other technical failure that, as a direct consequence, precludes the EHN from submitting electronic health care transaction

information to CRISP, the EHN should report transaction information as soon as possible but no later than the next 5 business days following re-establishment of the means of electronic reporting. To be allotted extra time, the EHN must contact CRISP to report a mechanical, electrical, or technical failure at the contact above.

2.3 Defining Services Delivered in Maryland

EHNs must submit transaction information for services delivered in Maryland.

2.3.1 Definition for Non-Telehealth or Virtual Care

Submitters must apply the following logic to determine transaction reportability for non-telehealth/virtual care services. See Section 2.3.2 for telehealth/virtual care.

A transaction is deemed reportable using the following waterfall criteria.

If your organization identifies transactions for which these guidelines do not allow identification of the service delivery location, please contact CRISP to discuss options.

Criteria 1: Service Location

The transaction is reportable if the physical location where care was rendered is within Maryland.

- **Logic:** Service Facility Header State = 'MD' **OR** Service Facility Line State = 'MD'.
- **X12 Mapping:** See **Figure 2** below for strict loop prioritization.
    - *Note:* If specific Service Facility data is absent, the Submitter must check the Billing Provider address (Priority 2).

If Criteria 1 is MISSING or NOT AVAILABLE, use:

Criteria 2: Billing Provider

The transaction is also reportable if the Service Location is MISSING or NOT AVAILABLE and the Billing Provider's address is within Maryland.

- **Logic:** Billing Provider State = 'MD'.
- **X12 Mapping:** Loop 2010AA N402 (State).

If Criteria 1 and 2 are MISSING or NOT AVALABLE use:

Criteria 3: Patient Address

The transaction is also reportable if the Service Location and Billing Provider is MISSING or NOT AVAILABLE and Patient's address is within Maryland.

- **Logic:** Patient State Code = 'MD' **OR** Patient Zip Code starts with 206 through 219.
- **X12 Mapping:** Loop 2010CA N402 (State) / N403 (Zip).

Figure 2: X12N 837 Technical Mapping for Location Determination

Criteria	837P (Professional) Source	837I (Institutional) Source
1	**Loop 2310C** (Service Facility) Segment N402 (State) **Loop 2420C** (Service Facility - Line) Segment N402 (State)	**Loop 2310E** (Service Facility) Segment N402 (State)
2	**Loop 2010AA** (Billing Provider) Segment N402 (State)	**Loop 2010AA** (Billing Provider) Segment N402 (State)
3	**Loop 2010CA** (Patient State) Segment N402 (State) or Segment N403 (Zip)	**Loop 2010CA** (Patient State) Segment N402 (State) or Segment N403 (Zip)

2.3.2 Telehealth & Virtual Care

For services identified as telehealth (POS 02 or 10), please use the Patient Address to identify if the service was delivered in Maryland.

Criteria 3: Patient Address

Patient's address is within Maryland.

- **Logic:** Patient State Code = 'MD' **OR** Patient Zip Code starts with 206 through 219.
- **X12 Mapping:** Loop 2010CA N402 (State) / N403 (Zip).

2.4 Opt Outs and Legally Protected Health Information

As an HIE, CRISP conforms to Maryland law for the handling of opt outs.

EHNs should follow all applicable laws when sharing legally protected health information. See COMAR 10.25.07.10 for more information.

2.5 Transaction Format

CRISP supports EHNs delivering transactions in either X12 or flat file format. Each EHN must select one submission format option for each transaction type.

2.6 Data Connectivity & Transfer Specifications

2.6.1 Overview of Data Exchange Model

CRISP operates a "Push" submission model for all submitted data.

1. **Submitter Responsibility:** The EHN (Submitter) is responsible for initiating the connection and "pushing" data files to the CRISP landing zone.
2. **CRISP Responsibility:** CRISP (and its designated technology partners) will not "pull" or query the Submitter's systems for batch claims data. CRISP is responsible for picking up the "pushed" files, processing them, and "pushing" back any associated acknowledgment files to the Submitter's designated outbound folder.

2.6.2 Security & Encryption Standards

2.6.2.1 Requirements

All connectivity methods described below must adhere to the following encryption standards and demonstrate compliance with the HIPAA/HITECH security standards set forth in HIPAA security standards set forth in 45 CFR Parts 160, 162, and 164 to ensure the protection of protected health information during transit and at rest.

1. **Data in Transit:** All external connections must employ TLS 1.2 or higher (TLS 1.3 recommended) or SSH v2. Unencrypted FTP or HTTP connections will be rejected.
2. **Data at Rest:** Files stored within landing zones must be encrypted using AES-256 (or higher) standards.
3. **Cipher Suites:** Submitters must support strong cipher suites. Weak ciphers (e.g., RC4, 3DES) are disabled on all CRISP endpoints.
4. **CRISP Security Requirements:** All connection methods and parameters must adhere to CRISP's access control standards, including but not limited to password complexity, MFA use (for Web Portal use only; for more information on the Web Portal, see Section 2.5.4.2), and credential rotation, as appropriate.

2.6.2.2 Security Requirement Updates

CRISP may update security standards at any time if urgent cybersecurity conditions warrant. If this occurs, CRISP will communicate directly with submitters on the change and a transition plan for updating and testing any new connection requirements. Outside of emergency updates, CRISP will review, update, and communicate current security standards annually with sufficient notice for implementation and testing to allow for uninterrupted submissions. Submitters must comply with updated requirements to ensure the security of the associated systems and data.

If CRISP is made aware of a security incident, CRISP may, in its sole judgment, elect to not accept data from the submitter until the submitter provides assurances that there is no security risk to CRISP or any other submitter.

2.6.3 General Submission Standards

All submissions must adhere to the following requirements, or they will be rejected:

1. **Compression:** To maximize transfer and storage efficiency and reduce bandwidth overhead, CRISP requires that all batch submissions (both X12 and flat file) be compressed prior to transmission. Supported compression formats include.zip, .gz, .tar.gz, and .tgz.
   a. **File Extensions:** The final file extension must match the compression format to trigger the correct decompression logic. **Examples:**
      i. *GZIP:* Must end in .gz (e.g., Claims_Batch_001.edi.gz)
      ii. *ZIP:* Must end in .zip (e.g., Claims_Batch_001.zip)
      iii. *Incorrect:* Claims_Batch_001.edi (containing compressed data) is invalid.
2. **Batch Sizing Limits:** All size and volume limits apply to the uncompressed data payload. Submitters must ensure that when their files are decompressed, they adhere to the following limits to ensure processing stability.
   a. **Transaction Limit:** A single logical file must not contain more than 50,000 Transaction Sets (Claims).
      i. *X12:* While we understand that most ST/SE envelopes contain 5,000 or fewer transactions, we can support a maximum 50,000 ST/SE segments per file if a submitter is interested in reducing the number of files transferred.
      ii. *Flat File:* Maximum 50,000 line items (excluding headers).
   b. **Splitting Logic** Submitters must split large monthly volumes into multiple compressed files.
      i. **Example:** A submitter with 150,000 claims should create three separate files (~50,000 claims each), compress them individually, and upload them as per the example below. *Note that specific file naming conventions are provided for each accepted file format in the corresponding sections below.*
         1. [Filename]_001_01.edi.gz
         2. [Filename]_002_01.edi.gz
         3. [Filename]_003_01.edi.gz
   c. **Uncompressed Size Cap:** Regardless of claim count, the uncompressed size of any single file must not exceed 1000MB.

i. *Note:* A 100MB GZIP file that expands to 5000MB will be rejected by the processing engine for exceeding the uncompressed buffer limit.

3. **Consistency:** All submission batches must be transmitted via the same channel and format (e.g. all X12N or all flat files, all SFTP or all Web Portal uploads, but not a combination thereof).

2.6.3.1 File Naming Convention

To ensure automated ingestion and to prevent file collision, all file submissions must strictly adhere to the following naming convention. Files not matching this pattern will be automatically rejected by the intake gateway.

Do not reuse filenames: The system treats file names as unique receipts. Re-sending a file with an identical name to a previously processed file may cause it to be treated as a duplicate and ignored.

Naming Pattern

The file name must be constructed using the following components, separated by underscores (_):

Pattern: [SENDERID]_[SUBMISSIONDATE]_[FILETYPE]_[SEQUENCE]_[VERSION].[EXTENSION]

Example: PAYER12345_20251130_MC_001_01.txt.gzip

Figure 3: Component Definitions

Component	Format	Description / Rules
SENDERID	Alphanumeric	The unique Trading Partner ID assigned to you by CRISP during onboarding. This must match the Data Submitter Code (Field MC001) in the file Header.
SUBMISSIONDATE	YYYYMMDD	The date the file was generated/transmitted. **Note:** This must be the full date to accommodate daily transactional batches.
FILETYPE	Alpha (2 chars)	Indicates the content of the file. Must match the APCD-CDL file type codes: • **MC**: Medical Claims (837P / 837I traffic)
SEQUENCE	Numeric (3 digits)	A sequential counter (001, 002, etc.) used to distinguish multiple files submitted during the same

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		submission batch. Reset this counter to 001 each submission set.
VERSION	Numeric (2 digits)	A sequential counter (01, 02, etc.) used to distinguish between re-submissions of the same sequence file. Iterate this counter for each re-submission of the same transaction set.
EXTENSION	Alpha	• File extension meeting the submission requirements described above. Include both the native filetype as well as compression designation (e.g. .txt.gzip)

2.6.4 Primary Connectivity Methods (Required)

2.6.4.1 Secure File Transfer Protocol (SFTP)

Use Case: Automated, high-volume batch submission (Standard Channel).

Submitters will be provisioned a dedicated SFTP account. This account is strictly for file transfer and does not provide shell access. Submitters are strongly encouraged to use this mechanism for ongoing transfers.

- **Protocol:** SSH File Transfer Protocol (SFTP) - *Note: FTPS (FTP over SSL) is not supported.*
- **Authentication:**
  1. **Public Key Authentication (Preferred):** Submitter provides a 2048-bit (or stronger) RSA public key.
  2. **Service Account:** Username/Password authentication is supported but must adhere to CRISP's password complexity and rotation requirements. CRISP will provide additional requirements and operational processes to change passwords during the onboarding process.

- **Directory Structure:**
  1. /Inbound: Submitters upload split X12 batch or flat files here. Note: all submissions must be either in X12 or flat file format; mixed submissions will be rejected.
  2. /Outbound: Submitters retrieve acknowledgments (TA1/999 or processing status response for flat file), submission rejection notifications, and rejection data quality reports here.
  3. /Test: Dedicated folder for validation testing (files dropped here are not processed by CRISP).
- **Connectivity Testing:**
  1. Submitter provides a static source IP or IP range for allow-listing.
  2. Submitter attempts connection to the designated CRISP endpoint (port 22).

3. Submitter uploads a 0-byte "handshake" file to confirm write permissions.

2.6.4.2 Secure Operations Web Portal

Request for Comment: CRISP is reviewing the utility and cost associated with a web portal. We request comment on this during the public comment period.

Use Case: Manual upload, exception handling, and "break-glass" scenarios.

The Web Portal allows authorized technical staff to manually upload batch files via a browser interface. This method is intended for low-volume submitters, submitters who do not have the technical resources to establish and maintain automated SFTP submission workflows, resubmissions of corrected batches, backloads, or ad hoc transfers as needed, or contingency use if SFTP automation is unavailable.

- **Access:** HTTPS via standard web browser.
- **Authentication:** For Web Portal access, unique user credentials with Multi-Factor Authentication (MFA) required, following CRISP/HITRUST access control requirements.
- **Functionality:**
  - Drag-and-drop interface for file submission.
  - Dashboard view of recent file statuses (Received, Parsing, Accepted, Rejected).
  - Direct download of human-readable acknowledgment reports.

2.6.5 Proposed Alternative Connectivity Mechanisms (Request for Comment from EHNs)

CRISP is currently evaluating the inclusion of the following protocols in the final system implementation. These options are designed to support modern development workflows (API) and enterprise clearinghouse standards (AS2). Please focus your feedback on the necessity and utility of these protocols.

2.6.5.1 AS2 (applicability Statement 2)

Proposed Use Case: Enterprise EHN interoperability with Non-Repudiation.

- **Description:** A persistent, always-on B2B connection over HTTP/S that provides a "Message Disposition Notification" (MDN) as legal proof of delivery.
- **Specifications:**
  - **Payload:** X12 837 Batch (encrypted/signed).
  - **Encryption/Signing:** AES-256 / SHA-256.
  - **Certificates**: Mutual exchange of X.509 public certificates.
  - **MDN Type:** Synchronous (preferred) or Asynchronous.

2.6.5.2 HTTPS POST (API-Based Submission)

Proposed Use Case: Developer-centric, scripted submission "Push."

- **Description:** A lightweight API endpoint allowing Submitters to POST raw X12 files programmatically without managing SFTP clients or keys.
- **Specifications:**
  - **Method:** POST
  - **Content-Type:** multipart/form-data or application/edi-x12
  - **Authentication:** Bearer Token (OAuth 2.0) or API Key.
  - **Response:** HTTP 200 OK with a JSON body containing a unique BatchID (Note: The HTTP response confirms receipt only; validation occurs asynchronously).

2.6.6 Connectivity Setup & Testing Process

The following onboarding process will be standardized for all EHNs:

1. **Connectivity Survey:** Submitter completes a technical survey indicating their preferred method (SFTP or AS2), static IP addresses, and public keys/certificates.
2. **Provisioning:** CRISP provisions the account, coordinates any necessary security exchanges, and provides credentials within [5] business days.
3. **Connectivity Test (Ping):** Submitter confirms the ability to reach the endpoint.
4. **Functional Test (Handshake):** Submitter uploads a test batch.
   a. *Success Criteria:* The system accepts the file and generates a 999 Acknowledgment in the `/Outbound` folder (or via MDN/API response) within one hour.

Additional details on connectivity setup, testing, and certification will be provided at a later date prior to EHN onboarding.

2.7 Data Quality, Validation, Error Correction and Resubmission

CRISP employs a multi-stage validation framework to ensure data integrity. Submissions are processed through a series of "Gates." A submission must pass each Gate to proceed to the next. Failure at any Gate triggers a specific acknowledgment/error report and stops processing for that specific file or record.

The system currently enforces WEDI SNIP Levels 1 & 2 (Integrity & HIPAA Syntax) and basic internal consistency checks. Each submitted part file will be evaluated and accepted / rejected independently to reduce resubmissions. It does not currently validate against external reference databases (e.g., verifying if a CPT code was active on the Service Date) or

conduct internal business logic checks (SNIP Level 3), though such requirements may be added in the future as additional Gates at MHCC's guidance.

EHNs are not responsible for versioning transactions to meet submission requirements.

2.7.1 Validation Gates

2.7.1.1 Gate 1 - Transmission & Integrity (File Level)

Scope: Validates the physical file artifact before opening the data content.

1. **Decompression Check:** File must decompress successfully (GZIP/ZIP) and not be corrupted.
2. **Naming Convention:** File name must adhere to the standards defined in Section 2.5.
3. **Duplicate File Check:** The system calculates a checksum (hash) of the file. If a file with the exact same content or exact same filename has been successfully processed previously, it is rejected as a Duplicate Transmission.

2.7.1.2 Gate 2 - Syntax & Structure (SNIP Level 1 & 2)

Scope: Validates that the file adheres to the syntax and structure rules mandated by the ASC X12 TR3 Implementation Guides and can be successfully parsed.

X12 Submissions:

1. Valid ISA/IEA Envelopes.
2. Segments must follow valid X12 syntax (e.g., valid delimiters, correct segment terminators).
3. Required Fields: Validation that all "Mandatory" loops and segments (as defined in the TR3 Implementation Guide) are present. Situational and optional loops and segments must be included or excluded as they are in the original transactions aside from any mandated data redaction, unless otherwise specified in this guidance.
4. Data Types: Checks that data follows TR3 formatting (e.g., Numeric fields contain only numbers).
5. Constraint Checks: Validates element length (Min/Max) against TR3 definitions

Flat File Submissions:

1. Column Headers: All required fields are included and correctly labeled in the included header rows according to the flat file layout specification. Optional / situational fields must be included in the file layout even if all values are null.
2. Column Count: Every row must have the expected number of delimiters/columns defined in the flat file layout specification.

3. Data Types: Data submitted via flat file must still adhere to the corresponding TR3 formatting rules for each data element.

Submitter Validation: The Submitter ID in the submitted file metadata and filename must match the account credentials used to upload the file.

2.7.2 Submission Acknowledgement & Data Quality Reports (DQR)

CRISP will provide submitters an automated acknowledgment file for every submission. The format depends on the submission type. CRISP will provide data quality reports for all rejected submissions detailing the corrections that need to be made prior to resubmission. CRISP will provide examples for the non-X12 response CSV during the onboarding process.

Figure 4: Acknowledgements

Submission Type	Acknowledgment Files	Usage
X12 837	**TA1**	Reports Gate 1 (Envelope) failures.
	999	Reports Gate 2 (Syntax) status. Rejects here are full file rejections.
Flat File	**Response CSV**	A "Status Report" file. The Header indicates File Acceptance (Gate 1/2)

2.7.3 Submission Corrections

Submitters are responsible for ensuring that all data submitted passes the CRISP validation gateways. A submission is not considered "Received" for regulatory compliance purposes until it has achieved a status of Accepted or Accepted with Errors.

2.7.3.1 Handling Rejections

As described above, upon processing a file, CRISP will generate and push a status response to the designated location based on the submission method. Submitters must analyze the acknowledgment files to determine if action is required and, if so, the scope of correction that is needed.

2.7.3.2 Resubmission Requirements

Only rejected files should be re-submitted; do not re-submit the entire associated batch. To prevent duplicate file errors, never reuse a file name. Generate the corrected file and increment the version number in the filename, following the file name convention standards described in this guidance.

It is a violation of submission requirements to simply drop rejected claims / files; rejected files or transactions meeting the inclusion criteria for submission must be corrected and resubmitted in a subsequent batch.

All resubmissions must be received within five business days of original rejection and no later than the due date for the subsequent monthly submission deadline. Notify MHCC and CRISP if your organization requires a longer period for resubmission.

2.7.3.3 Nullification / Voiding

If a file was sent and accepted in error (e.g. was discovered to contain the wrong data), the submitter must contact the designated CRISP help desk as soon as possible to request a purge and resubmission of the files to be nullified. Please include the full set of complete filenames with erroneous data when requesting a submission nullification.

2.7.3.4 Data Retention & Audit Capability Requirements

To ensure data integrity, facilitate historical refreshes, and support state audit activities, Submitters (EHNs) must either:

a) retain copies of all data submitted to CRISP in its exact submitted format (whether flat file or X12 batch)
    or
b) maintain the ability to regenerate on demand the exact data output for each submission

for a period of no less than 12 months from the date of original submission.

Retrieval: Archived or regenerated files must be retrievable within ten business days upon request by the State or its designee during the retention period.

Re-Submission: In the event of a processing failure or retroactive data correction, Submitters must maintain the capability to regenerate or re-transmit the original file structure during this retention period.

3. X12 Transaction Submissions

CRISP allows for transaction submission via X12 or flat file. We have included below additional guidance specific to X12 transaction submission.

3.1   General Requitements

To minimize transformation burden, CRISP accepts native ASC X12N transactions. Submissions must conform to the federally mandated HIPAA Implementation Guides (TR3s). Submissions additionally adhering to any associated Companion Guides (e.g. the Maryland Department of Health Companion Guide for 837 Healthcare Claim Professional

Encounters) are also accepted and do not need to be further modified for compliance to this submission guide.

- **Accepted Transactions:**
  - EHNs may submit the full ASC X12N 837 (837P and 837I) in standard ANSI X12N format, consistent with the applicable ASC X12 Type 3 Technical Reports (TR3) and associated Companion Guides
    - **837P:** Health Care Claim: Professional (005010X222A1)
    - **837I:** Health Care Claim: Institutional (005010X223A2)
- **Companion Guide Status:** This document serves as a Tier 2 Companion Guide. It does not replace the TR3; it specifies values and logic required for state reporting associated with this submission requirement.
- **Enveloping:** Files must be enveloped in standard ISA/IEA wrappers.
- **Batching:** Real-time streaming is not currently supported. Transactions must be batched according to the submission schedule established during onboarding. CRISP allows for submissions ranging from daily to monthly, as discussed above.
- **Filtering:** EHNs must apply filtering for services delivered in Maryland and legally protected health information.
- **File Identification:** The EHN must provide a submission header that clearly identifies the submitter, reporting period, and file type.

3.2   Health Care Claim (837P, 837I)

3.2.1 Re-Enveloping Instructions

Because the original ISA/GS headers from the provider are destined for a specific Payer, the submitter must wrap the filtered claims in new ISA/GS envelopes directed to CRISP.

- **ISA06 (Interchange Sender ID):** Use your CRISP-assigned Trading Partner ID.
- **ISA08 (Interchange Receiver ID):** Use the CRISP Receiver ID (e.g., CRISPMD).
- **GS02 (Application Sender):** Same as ISA06.
- **GS03 (Application Receiver):** Same as ISA08.
- **Transaction Integrity:** The internal loops (2000A through 2440) should remain identical to the original provider submission to preserve data fidelity, any compliance redaction excepted.

3.2.2 Specific Loop & Segment Overrides

Submitters must ensure that the following specific data elements are populated to facilitate state analysis.

A. **Payer Identification (Loop 2010BB/BC)**

- **Requirement:** The NM109 (Payer Identifier) must contain the Destination Payer ID (the entity the provider expects to pay the claim).
- *Note:* Do not populate this with the EHN's ID. We need to know who the payer is.

B. **Clearinghouse Traceability (Ref D9)**
  - **Context:** State agencies need to trace errors back to the specific batch processed by the Clearinghouse.
  - **Requirement:** Submitters must, if able, insert their internal Claim Control Number (CCN) into the Claim Header.
    - **Loop:** 2300
    - **Segment:** REF
    - **Qualifier:** D9 (Clearinghouse Trace Number)

3.2.3 Handling "In-Flight" Data (Pre-Adjudication)

CRISP acknowledges that these 837s are submitted prior to payer adjudication.

- **Paid Amount:** Fields related to "Paid Amount" or "Patient Responsibility" (usually found in 835s) and other data elements available only after final adjudication are not expected in these 837 files and so are not expected for submission.
- **COB Data:** Coordination of Benefits (Loop 2320) data should be included if present on the original claim but is not mandatory if the provider did not submit it.

4. Flat File Submissions

As an alternative to native X12N transaction batch submissions, EHNs may submit data using the flat file specification defined in this section. This layout adopts the relevant structural schema of the APCD-CDL™ Version 4.0.1 to leverage existing vendor capabilities, with specific modifications for transactional reporting.

Important Distinction: While the file structure follows the APCD-CDL, the data content must mirror the raw X12N transaction stream. Submitters are required to include all claim attempts (pre-adjudicated, in-flight, and rejected) rather than limiting submission to the fully adjudicated snapshots typically required by APCD-CDL standards.

4.1   General Requirements

1. **Delimiter:** All files must be pile-delimited (|) with variable field lengths. Do not submit fixed-width files or files using any delimiters other than pipes; such submissions will be rejected.
2. **No Text Qualifiers:** Data fields must not be enclosed in quotes (single or double). Any quote characters found at the start/end of a field will be treated as part of the data value.

3. **Forbidden Characters:** The delimiter character (|) and newline characters (CR or LF) must not appear within any data field. If any of these characters exist in source text (e.g., notes), replace it with a space, hyphen, or semicolon.
4. **Empty (null) fields:** Consecutive delimiters (||) must be used for all null values, and all fields must be represented and delimited in each row of a submitted file. Do not use NULL, empty string text, or other non-empty representations of missing or null values. For numeric fields, zeroes (0) should only be used if the true data value is zero, and not to indicate missing data.
5. **Padding:** Do not zero-pad alphanumeric fields to fill the maximum field length.
6. **Line termination:** Carriage return + line feed (CRLF)
   a. Note: Systems submitting Unix-style Line Feed (LF) only are accepted provided the termination is consistent throughout the file. Mixed termination files will be rejected.
7. **Encoding:** UTF-8 without BOM
8. **Headers / Trailers:** Every file must contain the required header and trailer records containing submission metadata as described below.

4.2   File 1: Claims (837P, 837I)

4.2.1   "Unwinding" 837 Transactions (Denormalization)

Standard X12 837 transactions are hierarchical (nested). A single file contains multiple batches, which contain multiple claims, each of which contain multiple service lines.

The Maryland flat file submission format is line-level granular. This means the atomic unit of a row is the **Service Line (Loop 2400)**.

- **Rule:** Every distinct Service Line (Loop 2400) in the input X12 file must result in exactly one row in the output flat file.
- **Result:** Data that exists at higher levels of the X12 hierarchy (e.g., Payer Name, Subscriber Address, Claim Diagnosis Codes) must be repeated (duplicated) on every single row associated with that claim.

4.2.1.1 Cascading Logic by Loop Level

Submitters should visualize the data flow as a cascade, where data elements from parent loops flow down to populate every child line.

- A. **The File & Batch Level (Loops 1000A/B)**
  - **Source**: Submitter/Receiver Headers (ISA/GS/1000A).
  - **Action**: This data (e.g., Submitter ID) applies to the entire file.
  - **Flat File Output**: Repeat this Data Submitter Code on every single row in the file.
- B. **The Subscriber & Patient Level (Loop 2000B / 2000C)**
  - **The X12 Logic**: X12 uses a "Parent/Child" relationship.

- o If the Patient is the Subscriber (Self), Loop 2000C is omitted.
- o If the Patient is a Dependent, Loop 2000C is present.
- **The Flat File Requirement**: The layout has distinct columns for Subscriber and Patient/Member. Both must always be populated if available.
- **Unwinding Logic**:
  - o Scenario 1 (Dependent): Map Loop 2000B to Subscriber fields. Map Loop 2000C to Patient fields.
  - o Scenario 2 (Self): Map Loop 2000B to Subscriber fields. Copy Loop 2000B data into the Patient fields.

C. **The Claim Header Level (Loop 2300)**
- **Source**: Diagnosis codes, Admission Dates, Total Charges, Payer Claim Control Number (ICN).
- **Action**: This data describes the "Event."
- **Flat File Output**: This data must appear on every service line row.
  - o *Example:* If a claim has 10 lines, the Principal Diagnosis Code must be repeated in the Principal Diagnosis column 10 times.

D. **The Provider Hierarchy (Loops 2010AA / 2310B / 2420A)**
- **Billing Provider (2010AA)**: Always applies to the whole claim. Repeat on every line.
- **Rendering Provider**: This can appear at the Header (2310B) or the Line (2420A).
  - o **Logic**: Check the Line Level (2420A) first.
  - o If present, use the Line Level provider for that specific row.
  - o If absent, "fall back" and inherit the Header Level (2310B) provider for that row.
  - o *Result:* The flat file column Rendering Provider NPI will effectively contain a mix of line-specific and header-default providers, but every row will be populated.

4.2.2 Handling Missing Granularity

Because 837s are transactional, some data elements present in the layout (which is built to accommodate post-adjudicated claims as well) may be missing.

- **Line Paid Amount:** If Line Paid Amount is missing (common in pre-adjudicated claims), leave the field null (consecutive pipes ||). Do not default to zero (0) unless the value is explicitly zero (e.g., a denied line).
- **Dates:** If a Service Line (Loop 2400) lacks a specific Date of Service (DTP*472), it must inherit the Date of Service from the Claim Header (Loop 2300 DTP*434).

4.2.3 File Layout Specification

To facilitate updates and provide granular mapping instructions, the complete field-level specifications for Flat File submissions are defined in the external **CRISP EHN 837 Submission Data Dictionary** available as an appendix to this guidance document. Submitters must utilize this Excel companion guide for constructing the header, detail, and trailer records. A complete sample submission is included in the data dictionary for reference.

4.2.3.1 Dictionary Structure

The Data Dictionary is organized by tab (File Type) and defines the exact layout for the Medical Claims (MC) files as well as required header (HD) and trailer (TR) records. The columns in the dictionary are defined as follows:

Figure 5: Data Dictionary Layout

Column Name	Definition
Element	The unique data element identifier (e.g., MC001). This corresponds to the field's ordinal position in the pipe-delimited row.
Element Name	The standard business name for the data field.
Type	The required data type: • **char/varchar:** Alphanumeric text (UTF-8). • **int:** Whole numbers (no decimals). • **dec:** Decimal numbers • **date:** YYYYMMDD format.
Max Length	The maximum allowable character count. Fields exceeding this length will cause file rejection.
Description	The definition of the data element and specific population rules (e.g., "Report the unique Payer Claim Control Number").
X12 Mapping	The specific ASC X12N TR3 Loop and Segment source for the data (e.g., 2300 CLM01). *Note:* Use this column to identify the exact source field from your EDI stream to map into the flat file. Different values are provided for institutional (I) and professional (P) transactions as appropriate.
Notes	This column contains additional field-specific submission guidance, overrides, formatting rules, and logic for unwinding hierarchies as needed.

4.2.3.2 Record Structure Overview

Every file submitted must follow a standard four-part structure as follows:

- **Row 1: Column Header Row (Schema Definition)**
  The first line of the file must contain the element identifiers of the detail record (e.g., MC) as defined in the data dictionary.
  - **Purpose:** This row establishes the maximum column count for the ingestion engine.
  - **Format:** Pipe-delimited text matching the dictionary Element ID values.
  - **Note:** These headers correspond to the detail records (Row 3+), *not* the control header (Row 2).
  - **Reference Tab:** See the "Medical Claims (MC)" tab in the Data Dictionary.
- **Row 2: Control Header Record (HD)**
  The second line must be the **Control Header (HD)**.
  - **Purpose:** Identifies the Submitter, Payer, and File Type for submission validation.
  - **Format:** Pipe-delimited text matching the dictionary data element values.
  - **Note:** Jagged row warning: this record contains significantly fewer fields than the Header Row (Row 1). Submitters must not pad this row with extra delimiters to match the width of the detail records. Terminate the row immediately after the final HD field (Version Number) with a standard CRLF.
  - **Reference Tab:** See the "Header" tab in the Data Dictionary.
- **Row 3 through N: Detail Records**
  These rows contain the transactional data (MC). They will align perfectly with the Column Headers in Row 1.
  - **Purpose:** Each row represents one "unwound" service line or transaction event.
  - **Format:** Pipe-delimited text matching the dictionary data element values.
  - **Reference Tab:** See the "Medical Claims (MC)" tab in the Data Dictionary.
- **Final Row: Control Trailer (TR)**
  The last line is the Control Trailer (TR).
  - **Purpose:** Contains control totals to verify file completeness.
  - **Format:** Pipe-delimited text matching the dictionary data element values.
  - **Note:** Jagged row warning: like the HD record, this row is shorter than the detail records. Do not pad with extra pipes.
  - **Reference Tab:** See the "Trailer" tab in the Data Dictionary.

Important Note on Nulls: As stated above, if a data element listed in the Excel dictionary is not available or not applicable to a specific transaction, the field must be represented by an empty space between delimiters (e.g., |value||value|). Do not omit the delimiter itself.

5. CRISP-EHN Agreements

CRISP and each EHN will enter into a standardized data use agreement.

6. CRISP Reporting and Disclosures

CRISP will report to the State metrics and other required reporting as directed by the State.

CRISP provides Accounting and Disclosures for data accessed in our environment, including data collected under this technical submission guidance.

Appendices

A. CRISP EHN 837 Flat File Data Submission Dictionary

Appendix A. CRISP EHN 837 Flat File Data Submission Dictionary

The flat file EHN 837 Data Submission Dictionary is available online at:

<<www.crisphealth.org/ehn>>