



Admission, Discharge, Transfer (ADT)  
Notifications  
**Implementation Guide for Senders**

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# 1. Introduction

## 1.1 Purpose of Data Exchange Solution

*Supports sending notifications on the status of a patient's care transition(s) to every care team member interested in that patient.*

Admission, discharge, transfer (ADT) notifications are widely regarded as a keystone for improving patient care coordination through health information exchange. ADT notifications are sent when a patient is admitted to a hospital, transferred to another facility, or discharged from the hospital. Notifications are then sent to update physicians and care management teams on a patient's status, thus improving post-discharge transitions, prompting follow-up, improving communication among providers, and supporting patients with multiple or chronic conditions.

When a patient is admitted to a hospital, transferred, or discharged, an ADT notification is created by the hospital's electronic health record (EHR) system. The hospital EHR system sends the ADT notification to Michigan Health Information Network Shared Services (MiHIN), which operates the ADT Notification service.

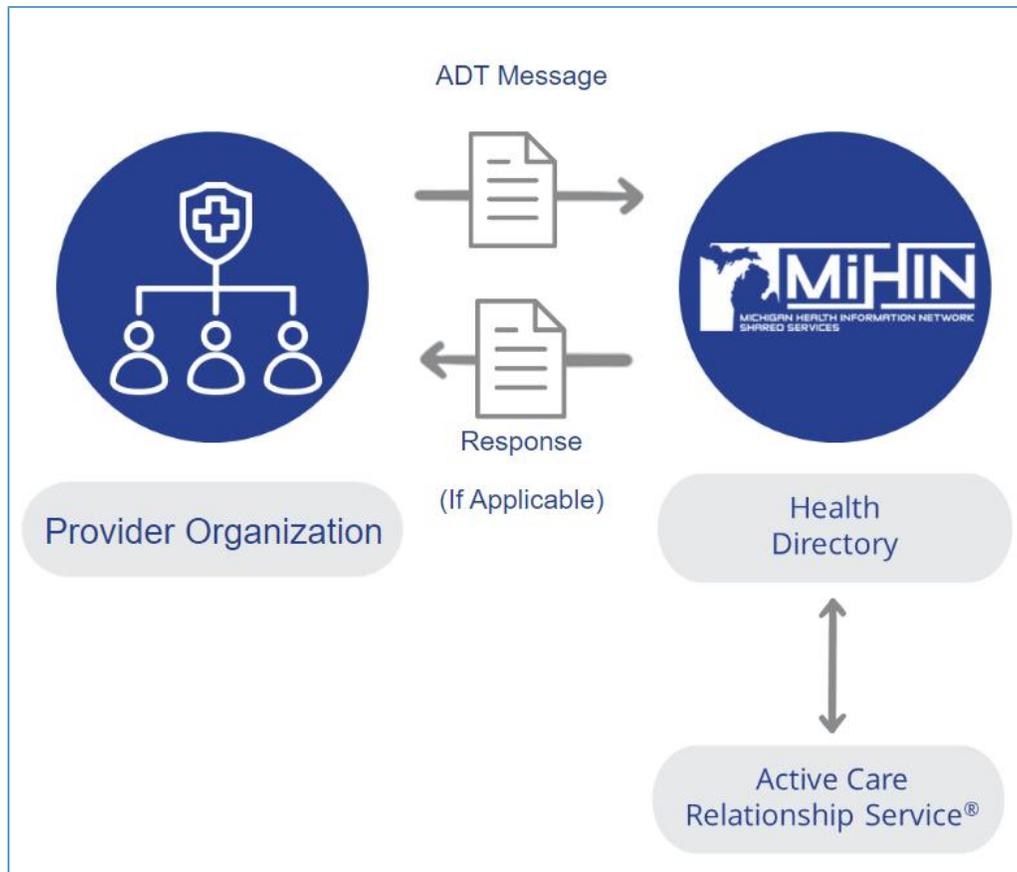
While participating organizations can be onboarded either as a sender or receiver of ADT messages, this guide will seek to focus on organizations that are submitting as sending organizations. For more information on the onboarding process for receiving organizations, please refer to the ADT Notifications Data Exchange Solution Implementation Guide for Receivers.

## 1.2 Message Content

For this data exchange solution, Message Content refers to a message conforming to HL7 2.5.1 standards identified as an ADT message type and any applicable message enrichments.

## 1.3 Data Flow

### 1.3.1 Functional Data Flow



**Figure 1. ADT Sender Data Flow Diagram**

1. Provider Organization sends the ADT message to MiHIN via established transport method.
2. MiHIN receives and processes the sent ADT message and returns an acknowledgement (ACK) or other applicable response to the provider organization to confirm receipt.

### 1.3.2 Actors

- **Actor:** Provider Organization
  - **Role:** Collects patient registration and movement information within their healthcare institution and forwards this information to MiHIN as the Health Information Network (HIN). Receives and ingests any applicable acknowledgments or responses sent from the HIN.

■ **Actor:** HIN (MiHIN)

- *Role:* Receives patient registration and movement information from the sending organization and processes and routes it to receiving organizations. May normalize data, create enrichments or add information to message Z-Segment before routing. Returns acknowledgements (ACKs) or other applicable responses messages to sending organizations to confirm receipt.

The data exchange solution summary is available online at:

<https://mihin.org/resourcehub/>

You can contact MiHIN at [www.mihin.org/requesthelp](http://www.mihin.org/requesthelp) for more information.

## 2. Onboarding

### 2.1 Prerequisites

Participating organizations will need to complete two onboarding tracks, in the following order:

1. Obtain, review, and execute legal agreements, then
2. Establish technical transport and testing.

#### 2.1.1 Universal Legal Prerequisites

The following legal documentation will need to be executed prior to kick-off or any connectivity being established between MiHIN and participating organizations.

- Statement of Work (SOW), where applicable
- MiHIN's Exhibit A Agreement (Found on the MiHIN Legal Portal)
- Participant Agreement (Found on the MiHIN Legal Portal)
- Must select the appropriate data exchange solution on the MiHIN Legal Portal in addition to the above agreements.

To initiate the legal onboarding contact, email [help@mihin.org](mailto:help@mihin.org).

#### 2.1.2 Technical Requirements

##### 2.1.2.1 Data Exchange Solution Requirements

The following data exchange solution implementations need to be conducted for ADT Notifications to function.

- There are no data exchange requirements necessary for the sending of ADT notifications.

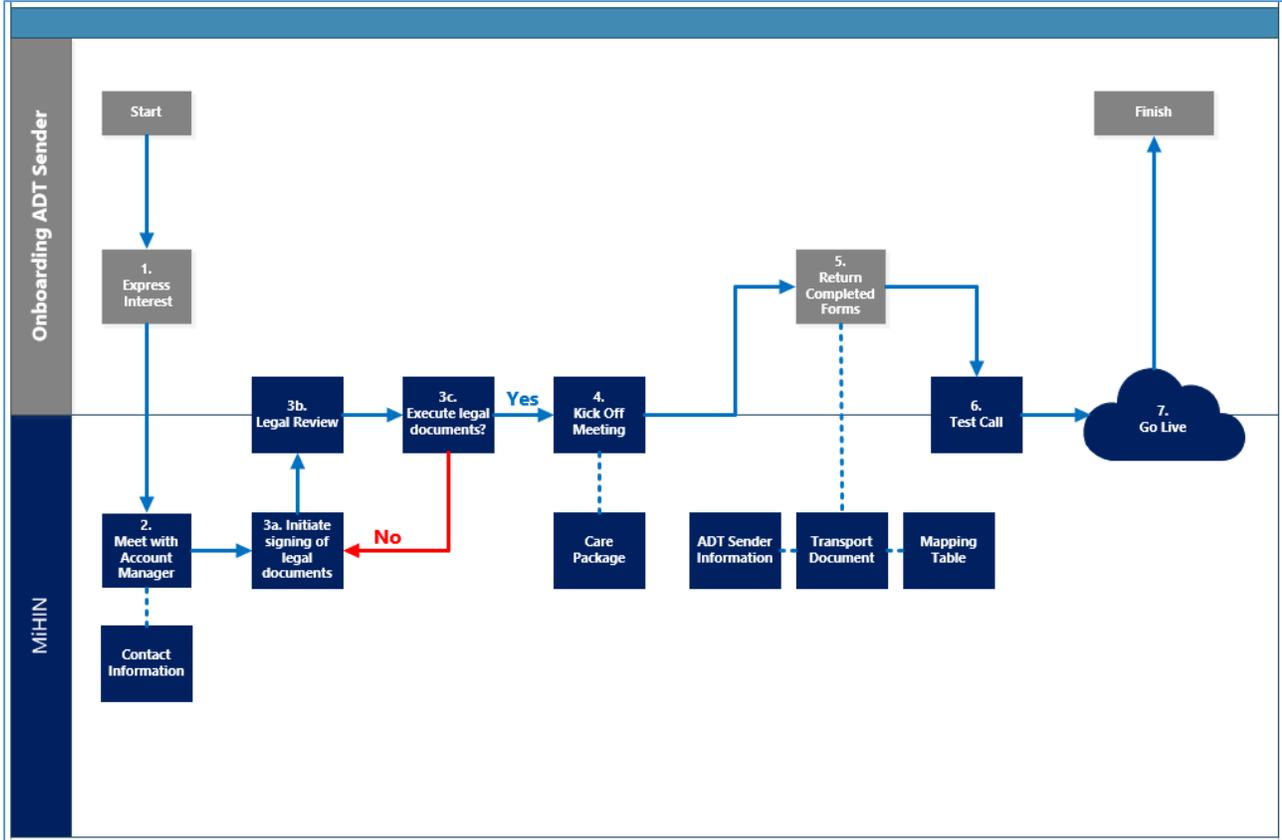
While there are no data exchange solution requirements to participate in sending ADTs, it should be noted that MiHIN automatically creates Real-Time ACRS® relationships for any sending organizations based on their sent ADT messages. If a sending organization also wishes to receive messages based on these relationships, then they will need to go through the onboarding process to receive messages as well. This process is covered in the ADT Notifications Data Exchange Solution Implementation Guide for Receivers.

##### 2.1.2.2 Other Technical Requirements

Sending organizations that are onboarding must be able to meet the following prerequisites for the ADT Data Exchange Solution to function:

- Organizations must be able to generate ADT notification messages based on patient encounters within the facilities in question that meet specifications listed in [Section 1.2](#) and [Section 3](#).
- Organization-generated ADT messages must be able to meet conformance thresholds described in [Section 2.3](#) through the submission of correctly formatted mapping tables during the implementation process.
- Organizations must be able to establish a VPN connection with MiHIN's HIE Platform and send ADT messages to the endpoints established for ADTs within that platform.
- Organizations must have and be able to populate ADT messages with valid and appropriately placed facility and organization OIDs that correspond with the information provided in their OID mapping tables.

## 2.2 ADT Sender Onboarding Process



**Figure 22. Onboarding Workflow Diagram for ADT Sender Organizations**

- Express interest in participating in the data exchange solution
- Execute legal documents
- Distribute care package documents

- Kick-off meeting with the Customer Success Team
- Exchange required documents
  - Onboarding Contact Form (If not already collected)
  - Transport Document
  - Completed Mapping Documents
    - OID Mapping
    - ADT Mapping Table
- Establish transport method/connectivity
  - LLP over IPsec VPN
  - DSM
  - REST API
  - SFTP
- Provide sample ADT messages and test
- Complete validation process
- Go live

## 2.3 Technical Connectivity Process

MiHIN considers itself “transport agnostic” and offers multiple options for organizations to establish technical connectivity to transport data to MiHIN. Organizations should select one or more connectivity methods for message transport based on their technical capabilities and should communicate the selection(s) to [www.mihin.org/requesthelp](http://www.mihin.org/requesthelp) early in the onboarding process. Currently the ONLY transport methods MiHIN accepts are:

- **LLP over IPsec VPN** – Lower-Layer Protocol over Internet Protocol Security Virtual Private Network
- **DSM** – Direct Secure Messaging
- **REST API** – Representational State Transfer Application Programming Interface
- **SFTP** – Secure File Transfer Protocol

For VPN connectivity, two VPNs are required. A primary VPN will facilitate regular traffic. A secondary will be established for fail-over purposes.

The following steps describe the technical onboarding process. However, MiHIN typically conducts onboarding kick-off meetings with new organizations to go through each of these steps in detail and answer any questions.

1. Prior to setting up the selected transport or sending any messages— test or otherwise— onboarding organizations will need to provide the following information so MiHIN can update its internal tables to recognize and properly process messages from the sender. This information is as follows:
  - a. Source connectivity information for the sending organization:
    - i. Source IP if sending via VPN or REST API
    - ii. Source DSM Address if sending via Direct Secure Messaging
  - b. Facility name(s) and the associated OID(s) that will be sending ADT notifications
  - c. Facility OID (or other unique identifier) location within generated ADT messages
  - d. OID identifying the managing organization of the sending facility(ies)
  - e. ACRS population name covering all facilities included within the ADT sending feed
  - f. ADT mapping table for normalization and conformance
2. The organization selects one or more supported transport methods and establishes connectivity with MiHIN. This step varies based on the method selected:
  - a. LLP over IPsec VPN – MiHIN's site-to-site VPN request form must be completed, sent to, and approved by MiHIN. Send a request via [www.mihin.org/requesthelp](http://www.mihin.org/requesthelp) to obtain the VPN request form. A pre-shared key is then exchanged between the organization and MiHIN to initialize the connection. The LLP over IPsec VPN is the most efficient transport for very high volumes of messages.
  - b. Direct Secure Messaging (DSM) – MiHIN accepts Direct Secure Messages from Health Internet Service Provider (HISPs) that have EHNAC-DTAAP (DirectTrust) accreditation. Test messages are sent to verify HISP connectivity (“ping pong”). The Message Header section in the test messages is verified for appropriate routing configuration.
  - c. Secure File Transfer Protocol (SFTP) – Organizations must have a MiHIN-hosted SFTP account provisioned for them with the appropriate submission and return folders for the ADT Notifications data exchange solution. MiHIN will configure file paths for all needed folders and provide login credentials for access.

- d. Representational State Transfer Application Programming Interface (REST API) – Organizations will need to provide their email address so that Cognito credentials can be created and distributed, as well as provide their source IP for whitelisting. Organizations connecting via this transport will need to contact MiHIN’s OAuth2 endpoint— listed in [Section 3.1](#)— and acquire a token that will be used to make a connection with MiHIN’s REST API URL endpoint, also listed in [Section 3.1](#). For more information on this process, see [Section 3.2.4](#).
3. Testing will differ depending on the transport mechanism selected:
    - a. **DSM and SFTP** – Testing will be conducted by having the onboarding facility(ies) send a test message to the pre-production endpoint specified in [Section 3.1](#). MiHIN will monitor inbound messages and confirm receipt. For DSM and SFTP transport methods, internal MiHIN staff perform this task by monitoring the DSM address or the SFTP submission folder and confirming receipt of sent messages.
    - b. **REST API** – For REST API transport, testing will be conducted by having the onboarding facility(ies) send a test message to the pre-production URL endpoint specified in [Section 3.1](#). MiHIN will monitor inbound traffic for sent messages and return responses will be sent back to the organization upon receipt. For an example of the response format returned for REST API, please see [Appendix A](#).
    - c. **LLP over IPSec VPN** - Testing will be conducted by having the onboarding facility(ies) send a test message to the re-production endpoint specified in [Section 3.1](#). MiHIN will monitor for inbound messages and confirm receipt by sending back an acknowledgment message (ACK) to the sending facility. Once ADT messages and associated ACKs have been received and confirmed, testing is considered complete.
  4. A go-live call will occur after testing is complete. During this process, configuration settings are promoted to the MiHIN production environment, and the onboarding facilities will generate and send production ADTs to the production endpoint specified in [Section 3.1](#). MiHIN will monitor for inbound traffic and return an acknowledgment upon receipt. Once ADTs and responses have been successfully received , the organization is considered live and in production.

Once the onboarding organization is live with their production ADT feed, they will work with MiHIN to bring their ADT messages into conformance. For more information on this process, please refer to [Appendix B](#).

## 3 Specifications

### 3.1 Overview

#### 3.1.1 Environments

- MiHIN Pre-Production
  - ADT IP Endpoint: 54.158.212.76:9000
  - ADT DSM Address Endpoint: [adt.preprod@direct.mihin.net](mailto:adt.preprod@direct.mihin.net)
  - ADT REST API Endpoint:  
[https://messages.preprod.mihin.services/send?message\\_type=adt](https://messages.preprod.mihin.services/send?message_type=adt)
  - Cognito oAuth2 Endpoint:  
<https://mitp-adt-hub-preprod.auth.us-east-1.amazonaws.com/oauth2/token>
  - ADT SFTP Submission Information
    - Server: sftp.preprod.mihin.services
    - Folder structure: oid/adt/upload
- MiHIN Production
  - ADT IP Endpoint: 3.235.81.34:10000
  - ADT DSM Endpoint: [adt@direct.mihin.net](mailto:adt@direct.mihin.net)
  - ADT REST API Endpoint:  
[https://messages.mihin.services/send?message\\_type=adt](https://messages.mihin.services/send?message_type=adt)
  - Cognito oAuth2 Endpoint: <https://mitp-adt-hub-prod.auth.us-east-1.amazonaws.com/oauth2/token>
  - ADT SFTP Submission Information
    - Server: sftp.mihin.services
    - Folder structure: oid/adt/upload

### 3.2 General Requirements

#### 3.2.1 Message and Event Types Supported

ADT messages version 2.5.1 with compatibility for version 2.3.1 messages are supported with this specification. The following event types are sent into MiHIN's FHIR® repository and available in the Longitudinal Record Viewer.

Event Types	
<b>A01</b>	ADT/ACK - Admit/Visit notification
<b>A03</b>	ADT/ACK - Discharge/End Visit
<b>A04</b>	ADT/ACK - Register a Patient
<b>A31</b>	ADT/ACK - Update Person Information
<b>A60</b>	ADT/ACK - Update Allergy Information

### 3.2.2 Date/Time Formatting

The number of characters populated (excluding the time zone specification) specifies the precision.

Example: |199904| specifies April 1999.

Example: |199904011503| specifies April 1<sup>st</sup>, 1999 at 1503

**Format:** YYYY[MM[DD[HH[MM[SS[.S[S[S[S]]]]]]]]][+/-ZZZZ].

Thus:

- a) Only the first four are used to specify a precision of "year"
- b) The first six are used to specify a precision of "month"
- c) The first eight are used to specify a precision of "day"
- d) The first ten are used to specify a precision of "hour"
- e) The first twelve are used to specify a precision of "minute"
- f) The first fourteen are used to specify a precision of "second"
- g) The first sixteen are used to specify a precision of "one tenth of a second"
- h) The first nineteen are used to specify a precision of "one ten thousandths of a second"

The time zone (+/-ZZZZ) is represented as +/-HHMM, offset from Coordinated Universal Time (UTC) (formerly Greenwich Mean Time (GMT)), where +0000 or -0000 both represent UTC (without offset). The specific data representations used in the HL7 encoding rules are compatible with ISO 8824- 1987(E). Note that if the time zone is not included; the time zone is assumed to be that of the local time zone of the sender. Also note that a DTM or

TS valued field with the HHMM part set to "0000" represents midnight of the night extending from the previous day to the day given by the YYYYMMDD part.

### *3.2.3 Message Acknowledgements*

HL7 message acknowledgments are a valuable tool for effective interface messaging and will be used routinely, unless the submitter is unable to support. The submitter will communicate their ability to receive messages acknowledgements in the Message Header (MSH) segment. The message acknowledgement will be communicated in the Message Acknowledgement (MSA) segment.

Please note that not all transport methods utilize acknowledgements. In the case of Direct Secure Messaging or SFTP transport, no messages are sent to confirm receipt, but are rather checked by MiHIN staff to confirm receipt. In situations where REST API transport is used, a response message is returned, an example of which can be viewed in [Appendix A](#).

## 3.3 General Message Requirements

### *3.3.1 Sending Organization Requirements*

#### **3.3.1.1 Message Header Segment Requirements for Sending Organizations**

ADT senders populating the receiving facility OID in message header segments 5 and 6 should use MiHIN's OID, which is 2.16.840.1.113883.3.1481.

#### **3.3.1.2 Segment Requirements for Sending Organization**

Conformant ADT senders will adhere to the following usage requirements:

- Segments with usage code R will always be sent.
- Segments with usage code C will be sent conditionally, based upon fulfillment of the condition contained in the "Comments" column.
- Segments with usage code RE will be sent if information corresponding to the segment definition exists on the sending system.
- Segments with usage code CE will be sent conditionally, based upon fulfillment of the condition contained in the "Comments" column, if information corresponding to the segment definition exists on the sending system.

- Segments with usage code X, or whose segment ID does not appear in the static definition corresponding to the trigger event of the message will be ignored.

### **3.3.1.3 Segment Cardinality Requirements for Sending Organizations**

Conformant sending organizations will adhere to the following cardinality requirements for message segments:

- No fewer occurrences of each segment will be sent than the number indicated by the minimum cardinality of the segment in the message-level static definition corresponding to the trigger event of the message.
- Occurrences of each segment exceeding the number indicated by the maximum cardinality of the segment in the message-level static definition corresponding to the trigger event of the message will be ignored.

### **3.3.1.4 Field and Subfield Usage Requirements for Sending Organizations**

Conformant sending organizations will adhere to the following usage requirements for message fields, components, and subcomponents:

- Fields and subfields with usage code R will always be sent.
- Fields and subfields with usage code C will be sent conditionally, based upon fulfillment of the condition contained in the “Comments” column.
- Fields and subfields with usage code RE will be sent if the information corresponding to the field or subfield definition exists on the sending system.
- Fields and subfields with usage code CE will be sent conditionally, based upon fulfillment of the condition contained in the “Comments” column, if information corresponding to the field or subfield definition exists on the sending system.

### **3.3.1.5 Field and Subfield Cardinality Requirements for Sending Organizations**

Conformant sending organizations will adhere to the following usage requirements for message fields, components, and subcomponents:

- Fields and subfields with usage code R will always be sent.
- Fields and subfields with usage code C will be sent conditionally, based upon fulfillment of the condition contained in the “Comments” column.

- Fields and subfields with usage code RE will be sent if the information corresponding to the field or subfield definition exists on the sending system.
- Fields and subfields with usage code CE will be sent conditionally, based upon fulfillment of the condition contained in the “Comments” column, if information corresponding to the field or subfield definition exists on the sending system.
- Fields and subfields with usage code X, or whose field or subfield sequence number does not appear in the static definition of the field or subfield will be ignored.

### 3.3.2 Required Segments for ADT Messaging

Segment	Name	Description
MSH	Message Header	Information explaining how to parse and process the message information, including identification of message delimiters, sender, receiver, message type, timestamp, etc.
EVN	Event Type	Trigger event information for receiving application
PID	Patient Identification	Patient identifying and demographic information
PV1	Patient Visit	Information related to this visit at this facility including the nature of the visit, critical timing information, and a unique visit identifier.
OBX	Observation / Result	Clinical information and observations. This segment is repeatable.
DG1	Diagnosis	Admitting diagnosis and, optionally, working and final Diagnosis information. This segment is repeatable.
PR1	Procedures	Information relative to various types of procedures performed. This segment is repeatable.
IN1	Insurance	Information about insurance policy coverage information. This segment is repeatable.

### 3.4 Specific Segment and Field Definitions

Usage indicates whether the message element (segment, segment group, field, component, or subcomponent) is required, optional, or conditional in the corresponding message element.

R = Required
RA = Required Information if Available
CR = Conditionally Required
O = Optional

### 3.4.1 Message Header (MSH) Segment

The MSH Segment is used to define the intent, source, destination, and some specifics of the syntax of the message. This segment includes identification of message delimiters, sender, receiver, message type, timestamp, etc.

Filed	Name	Requirements	Comments
MSH:1	Field Separator	R	
MSH:2	Encoding Character	R	
MSH:3	Sending Application	O	
MSH:3.1	ADT Message Sending Application ID	O	
MSH:3.2	Sending Application Universal ID	O	
MSH:4.1	Sending Facility ID	CR	
MSH 4.2	Sending Facility OID	CR	
MSH:5	Receiving Application	O	
MSH:6	Receiving Facility	O	
MSH:7	Date/Time of Message	R	
MSH:8	Security	O	
MSH:9	Message Type	R	
MSH:9.1	Message Type - Type	R	
MSH:9.2	Message Type - Event	R	
MSH:10	Message Control ID	R	
MSH:11	Processing ID	R	
MSH:12	Version ID	R	
MSH:13	Sequence Number	O	
MSH:14	Continuation Number	O	
MSH:15	Ack Type	O	
MSH:16	Application Ack Type	O	

#### Example for A01 Admit transaction with Acknowledgment:

##### A01 Admit Transaction Example

```
MSH|^~\&|NEXTGEN PATIENT
GEN|2.16.840.1.113883.3.1097.205^2.16.840.1.113883.3.1097||1.2.4.9.8.61.123.456|202
50731083135||ADT^A01^ADT_A01|45597127|T|2.6
```

## A01 Admit Acknowledgement Example

```
"MSH|^~\&|||ADT_EVENT|20250723083228||ACK^A01^ACK|5204083228538916TM49
|P|2.5\rMSA|AA|1101584098|7af19d0f-64e7-4cae-b541-afc629392b83\r"
```

### 3.4.2 Event Type (EVN) Segment

The EVN segment is used to communicate trigger event information to receiving applications.

Field	Name	Requirements	Comments
EVN:1	Event Type Code	O	
EVN:2	Recorded Date/Time	R	
EVN:3	Date/Time Planned Event	O	
EVN:4	Event Reason Code	O	
EVN:5	Operator ID	O	
EVN:5.1	ID Number	O	
EVN:5.2	Last Name	O	
EVN:5.3	First Name	O	
EVN:6	Event Occurred	O	
EVN:7	Event Facility	O	

### Example that Shows Facility Identifier:

```
vMSH|^~\&|MS4ADT|2.16.840.1.113883.3.5044^2.16.840.1.113883.3.5044|EPIC704_GLH
CCHS|101|20250827141926||ADT^A04|332340202|P|2.3||||||\r
EVN|||ADT_EVENT|E111053^TAYLOR^CORINNE^A^^^^^COV^^^^^ECC\r
```

### 3.4.3 Patient Identification (PID) Segment

The PID Segment is used as the primary means of communicating patient identification information. This segment contains pertinent patient identifying and demographic information.

Segment	Name	Requirements	Comments
PID:1	Sequence Number	R	
PID:2	Patient ID	RA	
PID:3.1	Patient ID (Internal ID)	R	

Segment	Name	Requirements	Comments
PID:3.2	Patient Identifier List Check Digit	O	
PID:3.3	Patient Identifier List Code identifying check digit	O	
PID.3.4	Patient Identifier MRN Assigning Authority (Identifier System)	R	
PID.3.5	Patient Identifier MRN Identifier Type Code	R	
PID.3.6	Patient Identifier MRN Assigning Facility	O	
PID.4.1	Alternate Patient ID- PID	O	
PID.4.4	Patient MRN (Alt Patient ID) Assigning Authority	O	
PID.4.6	Patient MRN (Alt Patient ID) Assigning Facility	O	
PID:5	Patient Name	R	
PID:5.1	Patient Name Last (Family)	R	
PID:5.2	Patient Name First (Given)	R	
PID:5.3	Patient Name Middle (Second and Further Given)	O	
PID:5.4	Patient Name Suffix	O	
PID:5.5	Patient Name Prefix	O	
PID:5.6	Patient Name Degree	O	
PID:6	Mother's Maiden Name	O	
PID:7	Date/Time of Birth	R	
PID:8	Administrative Sex	R	
PID:9	Patient Alias	O	
PID:10	Race	RA	
PID:11	Patient Address	R	
PID:11.1	Address Line 1	R	
PID:11.2	Address Line 2	RA	
PID:11.3	City	R	
PID:11.4	State	R	
PID:11.5	ZIP Code	R	

Segment	Name	Requirements	Comments
PID:11.6	Country	O	
PID:11.7	Type	O	
PID:11.8	Other Geographic Designation	O	
PID:11.9	County	O	
PID:11.10	Census Tract	O	
PID:12	County Code	O	
PID:13	Phone Number- Home	RA	
PID:13.1	Telephone Number	O	
PID:13.2	Telecommunication use code	O	
PID:13.3	Telecommunication Equipment Type	O	
PID:13.4	Email Address	O	
PID:13.5	Country Code	O	
PID:13.6	Area/City Code	O	
PID:13.7	Home Phone Number	O	
PID:13.8	Home Extension	O	
PID:13.9	Home Any Text	O	
PID:13.10	Extension Prefix	O	
PID:13.11	Speed Dial Code	O	
PID:13.12	Unformatted Telephone Number	O	
PID:14	Phone Number – Business	O	
PID:14.1	Telephone Number	O	
PID:14.2	Telecommunication use code	O	
PID:14.3	Telecommunication Equipment Type	O	
PID:14.4	Email Address	O	
PID:14.5	Country Code	O	
PID:14.6	Area/City Code	O	
PID:14.7	Business Phone Number	O	
PID:14.8	Business Extension	O	
PID:14.9	Business Any Text	O	

Segment	Name	Requirements	Comments
PID:14.10	Extension Prefix	O	
PID:14.11	Speed Dial Code	O	
PID:14.12	Unformatted Telephone Number	O	
PID:15	Primary Language	O	
PID:16	Marital Status	O	
PID:17	Religion	O	
PID:18	Patient Account Number	O	
PID:19	SSN Number - Patient	RA	
PID:20	Driver's License Number - Patient	O	
PID:21	Mother's Identifier	O	
PID:22	Ethnic Group	RA	
PID:23	Birthplace	O	
PID:24	Multiple Birth Indicator	O	
PID:25	Birth Order	O	
PID:26	Citizenship	O	
PID:27	Veterans Military Status	O	
PID:28	Nationality	O	
PID:29	Patient Death Date/Time	RA	
PID:30	Patient Death Indicator	RA	
PD1:1	Living Dependency	O	
PD1:2	Living Arrangement	O	
PD1:3	Patient Primary Facility	O	
PD1:4	Patient Primary Care Provider	RA	
PD1:4.1	ID	RA	
PD1:4.2	Last Name	RA	
PD1:4.3	First Name	RA	
PD1:5	Student Indicator	O	
PD1:6	Handicap	O	
PD1:7	Living Will Code	O	

Segment	Name	Requirements	Comments
PD1:8	Organ Donor Code	O	
PD1:9	Separate Bill	O	
PD1:10	Duplicate Patient	O	
PD1:11	Publicity Code	O	
PD1:12	Protection Indicator	O	

**Example PID Segment that Shows a Male Patient with Multiple Patient Identifiers and Multiple Race Codes:**

PID | 1 | 5092 | PATID12245^5^M11^ADT1^MR^CKS~000005092^^^SS~eeh57suinjwb  
d3mwoejsspss4xdt7p5raasdclly6^^^CKS | | Hamilton^Dolores | | 19610430 | F | | 2106  
-3^White^HL70005 | 973 Park Street^^Flint^MI^48506 | | | | | 000005092 | | N^Not  
Hispanic or Latino^HL70189 | | | | | 20301129003700+0000 | N

**3.4.4 Patient Visit**

Field	Name	Requirement	Comment
PV1:1	Sequence Number	O	
PV1:2	Patient Class	R	
PV1:3	Assigned Patient Location	O	
PV1:4	Admission Type	RA	
PV1:5	Preadmit Number	O	
PV1:6	Prior Patient Location	O	
PV1:7	Attending Doctor	RA	
PV1:7.1	ID	RA	
PV1:7.2	Last Name	RA	
PV1:7.3	First Name	RA	
PV1.7.14	Attending Physician Location ID	RA	
PV1:8	Referring Doctor	RA	
PV1:8.1	ID	RA	
PV1:8.2	Last Name	RA	
PV1:8.3	First Name	RA	
PV1.8.14	Referring Physician Location ID	RA	
PV1:9	Consulting Doctor	RA	
PV1:9.1	ID	RA	
PV1:9.2	Last Name	RA	
PV1:9.3	First Name	RA	

PV1.9.14	Consulting Physician Location ID	RA	
PV1:10	Hospital Service	RA	
PV1:11	Temporary Location	O	
PV1:12	Preadmit Test Indicator	O	
PV1:13	Re-admission Indicator	O	
PV1:14	Admit Source	RA	
PV1:15	Ambulatory Status	O	
PV1:16	VIP Indicator	O	
PV1:17	Admitting Doctor	RA	
PV1:17.1	ID	RA	
PV1:17.2	Last Name	O	
PV1:17.3	First Name	O	
PV1:17.14	Admitting Provider Location ID	RA	
PV1:18	Patient Type	RA	
PV1.19.1	Visit Number (Unique Encounter Code)	R	
PV1.19.2	Visit Number check digit	O	
PV1.19.3	Visit Number check digit scheme	O	
PV1.19.4	Visit Number Identifier System (Assigning authority)	O	
PV1.19.5	Visit Number Identifier Type - 'VN'	O	
PV1:20	Financial Class	O	
PV1:21	Charge Price Indicator	O	
PV1:22	Courtesy Code	O	
PV1:23	V	O	
PV1:24	Contract Code	O	
PV1:25	Contract Effective Date	O	
PV1:26	Contract Amount	O	
PV1:27	Contract Period	O	
PV1:28	Interest Code	O	
PV1:29	Transfer to Bad Debt Code	O	
PV1:30	Transfer to Bad Debt Date	O	
PV1:31	Bad Debt Agency Code	O	
PV1:32	Bad Debt Transfer Amount	O	
PV1:33	Bad Debt Recover Amount	O	
PV1:34	Delete Account Indicator	O	
PV1:35	Delete Account Date	O	
PV1:36	Discharge Disposition	RA	
PV1:37	Discharge To Location	RA	
PV1:38	Diet Type	O	

PV1:39	Servicing Facility	O	
PV1:40	Bed Status	O	
PV1:41	Account Status	R	
PV1:42	Pending Location	O	
PV1:43	Prior Temporary Location	O	
PV1:44	Admit Date/Time	RA	
PV1:45	Discharge Date/Time	RA	
PV1:46	Current Patient Balance	O	
PV1:47	Total Charges	O	
PV1:48	Total Adjustment	O	
PV1:49	Total Payments	O	
PV1:50	Alternate Visit ID	O	
PV1:51	Visit Indicator	O	
PV1:52	Other Healthcare Providers	RA	
PV1:52.1	ID	RA	
PV1:52.2	Last Name	RA	
PV1:52.3	First Name	RA	
PV1:52.14	Other Provider Location ID	RA	

**Example PV1 Segment for an Inpatient Visit:**

```
PV1|1|||E|||112345^Familyname^Givenname^^^DR^MD^^NEMedCtr&1234567
890&NPI|||M
ED|||7|||2222_001^^^GreaterNorthMedCtr&4356012945&NPI^VN|||
|||||201 908171200
```

*3.4.5 Merge Patient Information (MRG) Segment*

Field	Name	Requirement	Comment
MRG:1	Prior Patient Identifier List	O	
MRG:2	Prior Alternate Patient ID	O	
MRG:3	Prior Patient Account Number	O	
MRG:4	Prior Patient ID	O	
MRG:5	Prior Visit Number	O	
MRG:6	Prior Alternate Visit ID	O	
MRG:7	Prior Patient Name	O	

**Example MRG Segment for an Inpatient Visit:**

```
MRG|100002253^^^VN^Windward|||1000538722
```

### 3.4.6 Next of Kin (NK1) Segment

Field	Name	Requirement	Comments
NK1:1	Set ID	O	
NK1:2	Next of Kin Name	O	
NK1:2.1	Last Name	O	
NK1:2.2	First Name	O	
NK1:2.3	Middle Name	O	
NK1:3	Next of Kin Relationship to Patient	O	
NK1:4	Next of Kin Address	O	
NK1:4.1	Address Line 1	O	
NK1:4.2	Address Line 2	O	
NK1:4.3	City	O	
NK1:4.4	State	O	
NK1:4.5	ZIP Code	O	
NK1:4.6	Country	O	
NK1:4.7	Type	O	
NK1:4.8	Other Geographic	O	
NK1:4.9	County/Parish	O	
NK1:4.10	Census Tract	O	
NK1:5	Next of Kin Phone Number	O	
NK1:6	Next of Kin Employer Phone Number	O	
NK1:7	Contact Role	O	
NK1:8	Start Date	O	
NK1:9	End Date	O	
NK1:10	Next of Kin Job Title	O	
NK1:11	Next of Kin Job Code/Class	O	
NK1:12	Next of Kin Employee Number	O	
NK1:13	Organization Name	O	
NK1:14	Marital Status	O	
NK1:15	Sex	O	
NK1:16	Date of Birth	O	
NK1:17	Living Dependency	O	
NK1:18	Ambulatory Status	O	
NK1:19	Citizenship	O	
NK1:20	Primary Language	O	

NK1:21	Living Arrangement	O	
NK1:22	Privacy Type	O	
NK1:23	Protection Indicator	O	
NK1:24	Student Indicator	O	
NK1:25	Religion	O	
NK1:26	Mother's Maiden Name	O	
NK1:27	Nationality	O	
NK1:28	Ethnic Group	O	
NK1:29	Contact Reason	O	
NK1:30	Contact Person Name	O	
NK1:31	Contact Phone	O	
NK1:32	Contact Address	O	
NK1:33	NK1 Identifiers	O	
NK1:34	Job Status	O	
NK1:35	Race	O	
NK1:36	Handicap	O	
NK1:37	Contact Person Social Security Number	O	
NK1:38	Next of Kin Birth Place	O	
NK1:39	VIP Indicator	O	

**Example NK1 Segment for an Inpatient Visit:**

NK1 | 1 | ADTTEST^JILLIAN | SPO | | | | C

*3.4.7 Observation/Result (OBX) Segment*

Field	Name	Requirement	Comments
OBX:1	Set ID	O	
OBX:2	Value Type	RA	
OBX-3.1	Observation Identifier Code	O	
OBX-3.2	Observation Identifier Display	O	
OBX-3.3	Observation Identifier System	RA	
OBX:4	Observation Sub-ID	O	
OBX:5	Observation Value	RA	
OBX:6	Units	O	
OBX:7	References Ranges	O	

OBX:8	Abnormal Flags	O	
OBX:9	Probability	O	
OBX:10	Nature of Abnormal Test	O	
OBX:11	Observation Results Status	RA	
OBX:12	Effective Date of Reference Range	O	
OBX:13	User Defined Access Checks	O	
OBX:14	Date/Time of the Observation	O	
OBX:15	Producer's ID	O	
OBX:16	Responsible Observer	O	
OBX:17	Observation Method	O	
OBX:18	Date/Time of the Analysis	O	

**Example repeating OBX Segment for an Inpatient Visit:**

OBX|1|CE|ACCRELATEDVI||No|||||F

### 3.4.8 Patient Allergy Information (AL1) Segment

Field	Name	Requirement	Comments
AL1:1	Set ID	O	
AL1:2	Allergy Type	RA	
AL1:2.1	Allergy Type Identifier	RA	
AL1:3	Allergy Code	O	
AL1:3.1	Identifier	RA	
AL1:3.2	Description	O	
AL1:3.3	Name of Coding System	RA	
AL1.4.1	Allergy Severity Code	RA	
AL1.4.2	Allergy Severity Code Display	O	
AL1.4.3	Allergy Severity Code System	RA	
AL1:5	Allergy Reaction	O	
AL1:6	Identification Date	O	

**Example repeating AL1 Segment for an Inpatient Visit:**

AL1|1|Drug Allergy|07055^Sulfa^KDC|MO|Hives|

### 3.4.9 Diagnosis (DG1) Segment

Field	Name	Requirement	Comments
DG1:1	Set ID	RA	
DG1:2	Diagnosis Coding Method	RA	

DG1:3	Diagnosis Code	RA	
DG1:3.1	Identifier	RA	
DG1:3.2	Description	RA	
DG1:3.3	Name of Coding System	RA	
DG1:4	Diagnosis Description	O	
DG1:5	Diagnosis Date and Time	O	
DG1:6	Diagnosis Type	RA	
DG1:7	Major Diagnostic Category (MDB)	O	
DG1:8	Diagnostic Related Group	O	
DG1:9	DRG Approval Indicator	O	
DG1:10	DRG Group Review Code	O	
DG1:11	Outlier Type	O	
DG1:12	Outlier Days	O	
DG1:13	Outlier Cost	O	
DG1:14	Grouper Version and Type	O	
DG1:15	Diagnosis Priority	O	
DG1:16	Diagnosing Clinician	O	
DG1:17	Diagnosis Classification	O	
DG1:18	Confidential Indicator	O	
DG1:19	Attestation Date/Time	O	

**Example DG1 Segment:**

DG1 | 1 | | R50^FEVER OF OTHER AND UNKNOWN ORIGIN^I10 | | W (Working diagnosis from ICD10)

DG1 | 2 | | 16932000^NAUSEA AND VOMITING^SCT | | W (Working diagnosis from SNOMED-CT)

DG1 | 1 | | J14^PNEUMONIA DUE TO HEMOPHILUS INFLUENZA^I10 | | 201812271700 | F (Final diagnosis from ICD10)

**3.4.10 Procedure (PR1) Segment**

Field	Name	Requirement	Comments
PR1:1	Set ID - PR1	O	
PR1:2	Procedure Coding Method	O	
PR1:3	Procedure Code	O	
PR1:3.1	Identifier	RA	

PR1:3.2	Text	O	
PR1:3.3	Name of Coding System	RA	
PR1:3.4	Alternate Identifier	O	
PR1:3.5	Alternate Text	O	
PR1:3.6	Name of Alternate Coding System	O	
PR1:4	Procedure Description	O	
PR1:5	Procedure Date/Time	O	
PR1:6	Procedure Functional Type	O	
PR1:7	Procedure Minutes	O	
PR1:8	Anesthesiologist	O	
PR1:8.1	Identifier	O	
PR1:8.2	Last Name	O	
PR1:8.3	First Name	O	
PR1:8.4	Middle Name	O	
PR1:8.5	Suffix	O	
PR1:8.6	Prefix	O	
PR1:8.7	Degree	O	
PR1:8.8	Source Table	O	
PR1:8.9	Assigning Authority	O	
PR1:8.9.1	Namespace ID	O	
PR1:8.9.2	Universal ID	O	
PR1:8.9.3	Universal ID Type	O	
PR1:8.10	Name Type Code	O	
PR1:8.11	Identifier Check Digit	O	
PR1:8.12	Check Digit Scheme	O	
PR1:8.13	Identifier Type Code	O	
PR1:9	Anesthesia Code	O	
PR1:10	Anesthesia Minutes	O	
PR1:11	Surgeon	O	
PR1:11.1	Identifier	O	
PR1:11.2	Last Name	O	
PR1:11.3	First Name	O	
PR1:11.4	Middle Name	O	
PR1:11.5	Suffix	O	
PR1:11.6	Prefix	O	
PR1:11.7	Degree	O	
PR1:11.8	Source Table	O	
PR1:11.9	Assigning Authority	O	
PR1:11.9.1	Namespace ID	O	
PR1:11.9.2	Universal ID	O	

PR1:11.9.3	Universal ID Type	0	
PR1:11.10	Name Type Code	0	
PR1:11.11	Identifier Check Digit	0	
PR1:11.12	Check Digit Scheme	0	
PR1:11.13	Identifier Type Code	0	
PR1:12	Procedure Practitioner	0	
PR1:12.1	Identifier	0	
PR1:12.2	Last Name	0	
PR1:12.3	First Name	0	
PR1:12.4	Middle Name	0	
PR1:12.5	Suffix	0	
PR1:12.6	Prefix	0	
PR1:12.7	Degree	0	
PR1:12.8	Source Table	0	
PR1:12.9	Assigning Authority	0	
PR1:12.9.1	Namespace ID	0	
PR1:12.9.2	Universal ID	0	
PR1:12.9.3	Universal ID Type	0	
PR1:12.10	Name Type Code	0	
PR1:12.11	Identifier Check Digit	0	
PR1:12.12	Check Digit Scheme	0	
PR1:12.13	Identifier Type Code	0	
PR1:13	Consent Code	0	
PR1:13.1	Identifier	0	
PR1:13.2	Text	0	
PR1:13.3	Name of Coding System	0	
PR1:13.4	Alternate Identifier	0	
PR1:13.5	Alternate Text	0	
PR1:13.6	Name of Alternate Coding System	0	
PR1:14	Procedure Priority	0	
PR1:15	Associated Diagnosis Code	0	
PR1:15.1	Identifier	0	
PR1:15.2	Text	0	
PR1:15.3	Name of Coding System	0	
PR1:15.4	Alternate Identifier	0	
PR1:15.5	Alternate Text	0	
PR1:15.6	Name of Alternate Coding System	0	
PR1:16	Procedure Code Modifier	0	
PR1:16.1	Identifier	0	
PR1:16.2	Text	0	

PR1:16.3	Name of Coding System	O	
PR1:16.4	Alternate Identifier	O	
PR1:16.5	Alternate Text	O	
PR1:16.6	Name of Alternate Coding System	O	
PR1:17	Procedure DRG Type	O	
PR1:18	Tissue Type Code	O	
PR1:18.1	Identifier	O	
PR1:18.2	Text	O	
PR1:18.3	Name of Coding System	O	
PR1:18.4	Alternate Identifier	O	
PR1:18.5	Alternate Text	O	
PR1:18.6	Name of Alternate Coding System	O	
PR1:19	Procedure Identifier	O	
PR1:19.1	Entity Identifier	RA	
PR1:19.2	Namespace ID	RA	
PR1:19.3	Universal ID	O	
PR1:19.4	Universal ID Type	O	
PR1:20	Procedure Action Code	O	

**Example Repeating PR1 Segment for an Inpatient Visit:**

PR1|1|||202401301106|D|||||1||1|0||U

**3.4.11 Guarantor (GT1) Segment**

Field	Name	Requirement	Comments
GT1:1	Set ID - GT1	O	
GT1.2.1	Guarantor Number	RA	
GT1.2.2	Guarantor Number - System	RA	
GT1:3	Guarantor Name	O	
GT1:3.1	Last Name	O	
GT1:3.2	First Name	O	
GT1:3.3	Middle Name	O	
GT1:3.4	Prefix	O	
GT1:3.5	Suffix	O	
GT1:3.6	Degree	O	
GT1:4	Guarantor Spouse Name	O	
GT1:5	Guarantor Address	O	
GT1:5.1	Address Line 1	O	

GT1:5.2	Address Line 2	0	
GT1:5.3	City	0	
GT1:5.4	State	0	
GT1:5.5	ZIP	0	
GT1:5.6	Country	0	
GT1:5.7	Type	0	
GT1:5.8	Other Geographic	0	
GT1:5.9	County/Parish	0	
GT1:6	Guarantor Phone Number - Home	0	
GT1:7	Guarantor Phone Number - Business	0	
GT1:8	Guarantor Date of Birth	0	
GT1:9	Guarantor Sex	0	
GT1:10	Guarantor Type	0	
GT1:11	Guarantor Relationship	0	
GT1:12	Guarantor SSN	0	
GT1:13	Guarantor Date - Begin	0	
GT1:14	Guarantor Date - End	0	
GT1:15	Guarantor Priority	0	
GT1:16	Guarantor Employer Name	0	
GT1:17	Guarantor Employer Address	0	
GT1:17.1	Address Line 1	0	
GT1:17.2	Address Line 2	0	
GT1:17.3	City	0	
GT1:17.4	State	0	
GT1:17.5	ZIP	0	
GT1:17.6	Country	0	
GT1:17.7	Type	0	
GT1:17.8	Other Geographic	0	
GT1:17.9	County/Parish	0	
GT1:18	Guarantor Employer Phone	0	
GT1:19	Guarantor Employee ID Number	0	
GT1:20	Guarantor Employment Status	0	
GT1:21	Guarantor Organization	0	
GT1:21.1	Organization Name	0	
GT1:21.2	Organization Name Type Code	0	
GT1:21.3	ID Number	0	
GT1:21.4	Check Digit	0	
GT1:21.5	Check Digit Scheme	0	

GT1:21.6	Assigning Authority	0	
GT1:21.7	Identifier Type Code	0	
GT1:21.8	Assigning Facility	0	
GT1:22	Guarantor Billing Hold Flag	0	
GT1:23	Guarantor Credit Rating Code	0	
GT1:24	Guarantor Death Date/Time	0	
GT1:25	Guarantor Death Indicator	0	
GT1:26	Guarantor Charge Adjustment Code	0	
GT1:27	Guarantor House Annual Income	0	
GT1:28	Guarantor Household Size	0	
GT1:29	Guarantor Employer ID Number	0	
GT1:30	Guarantor Marital Status Code	0	
GT1:31	Guarantor Hire Effective Date	0	
GT1:32	Employment Stop Date	0	
GT1:33	Living Dependency	0	
GT1:34	Ambulatory Status	0	
GT1:35	Citizenship	0	
GT1:36	Primary Language	0	
GT1:37	Living Arrangement	0	
GT1:38	Privacy Type	0	
GT1:39	Protection Indicator	0	
GT1:40	Student Indicator	0	
GT1:41	Religion	0	
GT1:42	Mother's Maiden Name	0	
GT1:43	Nationality	0	
GT1:44	Ethnic Group	0	
GT1:45	Contact Person Name	0	
GT1:46	Contact Person Phone	0	
GT1:47	Contact Reason	0	
GT1:48	Contact Relationship	0	
GT1:49	Job Title	0	
GT1:50	Job Code	0	
GT1:51	Guarantor Employer Organization Name	0	
GT1:52	Handicap	0	
GT1:53	Job Status	0	

GT1:54	Guarantor Financial Class	O	
GT1:55	Guarantor Race	O	
GT1:56	Guarantor Birth Place	O	
GT1:57	VIP Indicator	O	

### Example Repeating GT1 Segment for an Inpatient Visit:

GT1 | 1 | 4462108 | FATHER^AMBCIDER | | 3 TESTING TRAIL^^ANN  
 ARBOR^MI^48105^US^^WASHTENAW | (734)555-1212^P^H | | 19720901 | M | P/F | FAT

### 3.4.12 Insurance (IN1) Segment

Field	Name	Requirement	Comments
IN1:1	Set ID - IN1	O	
IN1.2.1	Insurance Plan ID	RA	
IN1.2.2	Insurance Plan ID Text	RA	
IN1.2.3	Insurance System	RA	
IN1:3	Insurance Company ID	O	
IN1:3.1	ID	RA	
IN1:3.2	Code Identifying the Check Digit Scheme Employed	O	
IN1:3.3	Assigning Authority	O	
IN1:3.4	Identifier Type Code	RA	
IN1:3.5	Assigning Facility	RA	
IN1:4	Insurance Company Name	RA	<p>The following values can be sent to represent Self Pay individuals:</p> <ul style="list-style-type: none"> <li>• "SELF PAY"</li> <li>• "SELF-PAY"</li> <li>• "SELPAY"</li> <li>• "HIPAASELFPAY"</li> <li>• "self pay"</li> <li>• "self-pay"</li> <li>• "selfpay"</li> <li>• "hipaaselfpay"</li> </ul> <p>*Please note that</p>

			capitalization is factored
IN1:5	Insurance Company Address	0	
IN1:5.1	Street Address	0	
IN1:5.2	Other Designation	0	
IN1:5.3	City	0	
IN1:5.4	State or Province	0	
IN1:5.5	ZIP or Postal Code	0	
IN1:5.6	Address Type	0	
IN1:5.7	Other Geographic Designation	0	
IN1:5.8	Country/Parish Code	0	
IN1:5.9	Census Tract	0	
IN1:6	Insurance Comp Contact Person	0	
IN1:7	Insurance Company Phone Number	0	
IN1:8	Group Number	0	
IN1:9	Group Name	0	
IN1:10	Insured's Group Employer ID	0	
IN1:11	Insured's Group Employer Name	0	
IN1:12	Plan Effective Date/Time	0	
IN1:13	Plan Expiration Date	0	
IN1:14	Authorization Information	0	
IN1:14.1	Authorization Number	0	
IN1:14.2	Date	0	
IN1:14.3	Source	0	
IN1:15	Plan Type	0	
IN1:16	Name of Insured	0	
IN1:16.1	Last Name	0	
IN1:16.2	First Name	0	
IN1:16.3	Middle Name	0	
IN1:16.4	Suffix	0	
IN1:16.5	Prefix	0	
IN1:16.6	Degree	0	
IN1:17	Insured's Relationship to Patient	0	

IN1:18	Insured's Date of Birth	O	
IN1:19	Insured's Address	O	
IN1:19.1	Address Line 1	O	
IN1:19.2	Address Line 2	O	
IN1:19.3	City	O	
IN1:19.4	State	O	
IN1:19.5	ZIP	O	
IN1:19.6	Country	O	
IN1:19.7	Type	O	
IN1:19.8	Other Geographic	O	
IN1:19.9	County/Parish	O	
IN1:20	Assignment of Benefits	O	
IN1:21	Coordination of Benefits	O	
IN1:22	Coordination of Benefits Priority	O	
IN1:23	Notice of Admission Code	O	
IN1:24	Notice of Admission Date	O	
IN1:25	Report of Eligibility Code	O	
IN1:26	Report of Eligibility Date	O	
IN1:27	Release Information Code	O	
IN1:28	Pre-admit Certification (PAC)	O	
IN1:29	Verification Date/Time	O	
IN1:30	Verification By	O	
IN1:31	Type of Agreement Code	O	
IN1:32	Billing Status	O	
IN1:33	Lifetime Reserve Days	O	
IN1:34	Delay Before Life Reserve Day	O	
IN1:35	Company Plan Code	O	
IN1:36	Policy Number	O	
IN1:37	Policy Deductible	O	
IN1:38	Policy Limit - Maximum Amount	O	
IN1:39	Policy Limit - Maximum Days	O	
IN1:40	Room Rate - Semi-Private	O	
IN1:41	Room Rate - Private	O	
IN1:42	Insured's Employment Status	O	

IN1:43	Insured's Sex	O	
IN1:44	Insured's Employer Address	O	
IN1:45	Verification Status	O	
IN1:46	Prior Insurance Plan ID	O	
IN1:47	Coverage Type	O	
IN1:48	Handicap	O	
IN1:49	Insured's ID Number	O	
IN1:50	Signature Code	O	
IN1:51	Signature Code Date	O	
IN1:52	Insured's Birth Place	O	
IN1:53	VIP Indicator	O	
IN2:1	Insured's Employee ID	O	
IN2:2	Insured's SSN	O	
IN2:3	Insured's Employer ID and Name	O	
IN2:3.1	Employer ID	O	
IN2:3.2	Employer Name	O	
IN2:4	Employer Information Data	O	
IN2:5	Mail Claim Party	O	
IN2:6	Medicare Health Insurance Card Number	O	
IN2:7	Medicaid Case Name	O	
IN2:8	Medicaid Case Number	O	
IN2:9	Champus Sponsor Name	O	
IN2:10	Champus ID Number	O	
IN2:11	Dependent of Champus Recipient	O	
IN2:12	Champus Organization	O	
IN2:13	Champus Station	O	
IN2:14	Champus Service	O	
IN2:15	Champus Rank/Grade	O	
IN2:16	Champus Status	O	
IN2:17	Champus Retire Date	O	
IN2:18	Champus Non-Avail Cert on File	O	
IN2:19	Baby Coverage	O	
IN2:20	Combine Baby Bill	O	

IN2:21	Blood Deductible	0	
IN2:22	Special Coverage Approval Number	0	
IN2:23	Special Coverage Approval Title	0	
IN2:24	Non-Covered Insurance Code	0	
IN2:25	Payor ID	0	
IN2:26	Payor Sub ID	0	
IN2:27	Eligibility Source	0	
IN2:28	Room Coverage Type/Amount	0	
IN2:28.1	Room Type	0	
IN2:28.2	Amount Type	0	
IN2:28.3	Coverage Amount	0	
IN2:29	Policy Type/Amount	0	
IN2:29.1	Policy Type	0	
IN2:29.2	Amount Class	0	
IN2:29.3	Amount	0	
IN2:30	Daily Deductible	0	
IN2:31	Living Dependency	0	
IN2:32	Ambulatory Status	0	
IN2:33	Citizenship	0	
IN2:34	Primary Language	0	
IN2:35	Living Arrangement	0	
IN2:36	Privacy Type	0	
IN2:37	Protection Indicator	0	
IN2:38	Student Indicator	0	
IN2:39	Religion	0	
IN2:40	Mother's Maiden Name	0	
IN2:41	Nationality	0	
IN2:42	Ethnic Group	0	
IN2:43	Marital Status	0	
IN2:44	Insured Employment Start	0	
IN2:45	Insured Employment Stop	0	
IN2:46	Job Title	0	
IN2:47	Job	0	
IN2:48	Job Status	0	

IN2:49	Employer Contact Person	O	
IN2:50	Employer Contact Phone	O	
IN2:51	Employer Contact Reason	O	
IN2:52	Insured Contact Person	O	
IN2:53	Insured Contact Phone	O	
IN2:54	Insured Contact Reason	O	
IN2:55	Relationship to Patient Start Date	O	
IN2:56	Relationship to Patient Stop Date	O	
IN2:57	Insurance Company Contact Reason	O	
IN2:58	Insurance Company Contact Phone	O	
IN2:59	Policy Scope	O	
IN2:60	Policy Source	O	
IN2:61	Patient Member Number	O	
IN2:62	Guarantor Relation to Insured	O	
IN2:63	Insured Home Phone Number	O	
IN2:64	Insured Employer Phone Number	O	
IN2:65	Military Handicapped Program Code	O	
IN2:66	Suspend Flag	O	
IN2:67	Copay Limit Flag	O	
IN2:68	Stop Loss Limit Flag	O	
IN2:69	Insured Organization Name and ID	O	
IN2:70	Insured Employer Organization Name/ID	O	
IN2:71	Race	O	
IN2:72	Patient Relationship to Insured	O	

**Example Repeating IN1 Segment for an Inpatient Visit:**

IN1 | 1 | 1772^STATE HEALTH

## 3.5 Transport Specifications

### 3.5.1 Sending via REST API

Those senders interested in the REST API method should follow these steps and specifications:

1. Onboarding organizations will need to provide an email address that Cognito credentials can be provided to. They will also need to provide their source IP so it may be whitelisted.
2. MiHIN will have the CognitoUser configured on their end of the connection.
3. MiHIN will send the Cognito credentials— specifically the *clientId* and *secret*— to the authorized user via the provided email address. Each will be sent via a separate email for security purposes.
4. The organization will participate in the Rest API Server Test scheduled with MiHIN to ensure conformity to these specifications and connectivity. The organization will need to make a call to MiHIN's OAuth2 endpoint and have a token assigned to be used for the forthcoming API call. OAuth2 endpoints for pre-production and production are listed in [section 3.1](#).

These tokens are obtained by calling the following URLs. Users must ensure they use tokens from the correct environment when making calls to the corresponding environment endpoint, specifically:

a. **Pre-Production** –

- i. Token: <https://mitp-adt-hub-preprod.auth.us-east-1.amazoncognito.com/oauth2/token> used for:
- ii. Endpoint: [https://messages.preprod.mihin.services/send?message\\_type=ccda](https://messages.preprod.mihin.services/send?message_type=ccda)

b. **Production** –

- i. Token: <https://mitp-adt-hub-prod.auth.us-east-1.amazoncognito.com/oauth2/token> used for:
- ii. Endpoint: [https://messages.mihin.services/send?message\\_type=ccda](https://messages.mihin.services/send?message_type=ccda)

5. During testing, organizations will request the appropriate token and then send test ADTs to the specified endpoint. Response messages will be returned based on confirmation of receipt. Examples of these responses are listed in [Appendix A](#).

### 3.5.1.1 ADT Sender API REST Specifications

#### *Authentication*

- CognitoUser is hosted by MiHIN
- Use MiHIN-provided Cognito credentials
  - *ClientID*
  - *Secret*
- Credentials are used to call MiHIN's OAuth2 endpoint, which returns a token that is then used for the REST API call.

#### *Expected Payload*

- HL7 Standard 2.5.1 ADT Message

## 4. Production Support

	Severity Levels			
	1	2	3	4

<b>Description</b>	A critical production system is down or does not function at all, and there is no circumvention or workaround for the problem; a significant number of users are affected, and a production business system is inoperable.	More than 90% of messages received and delivered successfully, but some messages are not delivered/received with required accuracy. Service component severely restricted in one of the following ways: <ul style="list-style-type: none"> <li>• High impact risk or actual occurrence of patient care affected or operational impairment</li> <li>• Business critical service has a partial failure for multiple TDSOs</li> <li>• A critical service is online however, operating in a degraded state and having a significant impact on multiple TDSOs</li> </ul>	Service component restricted in one of the following ways: <ul style="list-style-type: none"> <li>• A component is not performing as documented or there are unexpected results</li> <li>• Business critical service has failed for two or more TDSOs</li> <li>• A critical service is usable however, a workaround is available or less significant features are unavailable</li> </ul>	No operational impact to MiHIN. A non-critical service component is malfunctioning, causing minimal impact, or a test system is down.
<b>Initiation Method</b>	<i>Call (844) 454-2443 and submit a ticket online at <a href="http://www.mihin.org/requesthelp">www.mihin.org/requesthelp</a></i>	<i>Call (844) 454-2443 and submit a ticket online at <a href="http://www.mihin.org/requesthelp">www.mihin.org/requesthelp</a></i>	<b>Submit</b> a ticket online at <a href="http://www.mihin.org/requesthelp">www.mihin.org/requesthelp</a>	<b>Submit</b> a ticket online at <a href="http://www.mihin.org/requesthelp">www.mihin.org/requesthelp</a>
<b>Initial Response</b>	Within <b>30 minutes</b>	Within <b>30 minutes</b>	Within <b>3 business hours</b>	Within <b>6 business hours</b>
<b>Resolution Goal</b>	<2 hours Restore Time from 7 am – 6 pm EST Monday-Friday and <4 hours nights, weekends and holidays	<4 hours Restore Time from 7 am- 6 pm EST Monday-Friday and <8 hours nights, weekends and holidays	<12 hours Restore Time from 7 am -6 pm EST Monday –Friday and <24 hours nights, weekends and holidays.	Within <b>5 business days</b>

If you have questions, please contact the MiHIN Help Desk:

- [www.mihin.org/requesthelp](http://www.mihin.org/requesthelp)
- Phone: (884) 454-2443
- Monday – Friday 8:00 AM – 5:00 PM (Eastern)

## 5. Legal Advisory Language

This reminder applies to all use cases covering the exchange of electronic health information:

The Data Sharing Agreement (DSA) establishes the legal framework under which participating organizations can exchange messages through the MiHIN Platform, and sets forth the following approved reasons for which messages may be exchanged:

- a. By health care providers for Treatment, Payment and/or Health Care Operations consistent with the requirements set forth in HIPAA
- b. Public health activities and reporting as permitted by HIPAA and other Applicable Laws and Standards
- c. To facilitate the implementation of “Meaningful Use” criteria as specified in the American Recovery and Reinvestment Act of 2009 and as permitted by HIPAA
- d. Uses and disclosures pursuant to an Authorization provided by the individual who is the subject of the Message or such individual’s personal representative in accordance with HIPAA
- e. By Data Sharing Organizations for any and all purposes, including but not limited to pilot programs and testing, provided that such purposes are consistent with Applicable Laws and Standards
- f. For any additional purposes as specified in any use case, provided that such purposes are consistent with Applicable Laws and Standards

Under the DSA, “**Applicable Laws and Standards**” means all applicable federal, state, and local laws, statutes, acts, ordinances, rules, codes, standards, regulations and judicial or administrative decisions promulgated by any governmental or self-regulatory agency, including the State of Michigan, the Michigan Health Information Technology Commission, or the Michigan Health and Hospital Association, as any of the foregoing may be amended, modified, codified, reenacted, promulgated or published, in whole or in part, and in effect from time to time. “Applicable Laws and Standards” includes but is not limited to HIPAA; the federal Confidentiality of Alcohol and Drug Abuse Patient Records statute, section 543 of the Public Health Service Act, 42 U.S.C. 290dd-2, and its implementing regulation, 42 CFR Part 2; the Michigan Mental Health Code, at MCLA §§ 333.1748 and 333.1748a; and the Michigan Public Health Code, at MCL § 333.5131, 5114a.

It is each participating organization’s obligation and responsibility to ensure that it is aware of Applicable Laws and Standards as they pertain to the content of each message sent, and that its delivery of each message complies with the Applicable Laws and Standards. This means, for example, that if a use case is directed to the exchange of

physical health information that may be exchanged without patient authorization under HIPAA, the participating organization must not deliver any message containing health information for which an express patient authorization or consent is required (e.g., mental or behavioral health information).

**Disclaimer:** The information contained in this implementation guide was current as of the date of the latest revision in the Document History in this guide. However, Medicare and Medicaid policies are subject to change and do so frequently. HL7 versions and formatting are also subject to updates. Therefore, links to any source documents have been provided within this guide for reference. MiHIN applies its best efforts to keep all information in this guide up-to-date. It is ultimately the responsibility of the participating organization and sending facilities to be knowledgeable of changes outside of MiHIN's control.

## 6. Appendices

### 6.1 Appendix A – Message Examples

#### 6.1.1 Example REST API Response Message

*from log group*

*/aws/api-gateway/adt-hub-api-in-usqhin-prod*

*requestId: 05be2753-d197-4969-8697-165590a3957d, ip: 52.204.176.226, caller: -, user: -, requestTime: 27/Aug/2025:17:00:52 +0000, httpMethod: POST, resourcePath: /send, status: 200, protocol: HTTP/1.1, responseLength: 71*

### 6.2 Appendix B – Conformance Reporting Information

For more information on conformance for Medication Reconciliation CCDAs and the use of the MIGateway module concerning this process please refer to the Conformance Reporting User Guide which can be found here: <https://mihin.org/resourcehub/>

### 6.3 Appendix C – External Information

#### **Hospital Pay-for-Performance Documentation**

<https://www.bcbsm.com/providers/network/value-partnerships/>

## 7. Acronyms and Abbreviations

<b>ACR</b>	Active Care Relationship	<b>HIPPA</b>	Health Insurance Portability and Accountability Act
<b>ACRS</b>	Active Care Relationship Service	<b>ISO</b>	International Organization for Standardization
<b>ADT</b>	Admission, Discharge, Transfer	<b>MDHHS</b>	Michigan Department of Health and Human Services
<b>CEHRT</b>	Certified Electronic Health Record Technology	<b>MIGateway®</b>	Medical Information Direct Gateway
<b>CHAMPS</b>	Community Health Automated Medicaid Processing System	<b>MiHIN</b>	Michigan Health Information Network Shared Services
<b>CMS</b>	Centers for Medicare & Medicaid Services	<b>MSH</b>	Message Header
<b>DQA</b>	Data Quality Assurance	<b>NPI</b>	National Provider Identifier
<b>DSM</b>	Direct Secure Messaging	<b>OID</b>	Organization Identifier
<b>EHR</b>	Electronic Health Record	<b>PI</b>	Promoting Interoperability
<b>EHR-MIPP</b>	Electronic Health Record Medicaid Incentive Payment Program	<b>PO</b>	Participating Organization
<b>EOB</b>	Explanation of Benefit	<b>RAS</b>	Registration and Attestation System
<b>ESI</b>	Electronic Service Information	<b>REST API</b>	Representational State Transfer Application Programming Interface
<b>FHIR®</b>	Fast Healthcare Interoperability Resources	<b>SOM</b>	State of Michigan

<b>HIN</b>	Health Information Network	<b>TDSO</b>	Trusted Data Sharing Organization
<b>HL7®</b>	Health Level Seven®	<b>VPN</b>	Virtual Private Network

## 8. Definitions

**Active Care Relationship (ACR).** (a) For health providers, a patient who has been seen by a provider within the past 24 months, or is considered part of the health provider's active patient population they are responsible for managing, unless notice of termination of that treatment relationship has been provided to Michigan Health Information Network Shared Services (MiHIN); (b) for payers, an eligible member of a health plan; (c) an active relationship between a patient and a health provider for the purpose of treatment, payment and/or healthcare operations consistent with the requirements set forth in Health Insurance Portability and Accountability Act (HIPAA); (d) a relationship with a health provider asserted by a consumer and approved by the health provider; or (e) any person or Trusted Data Sharing Organization (TDSO) authorized to receive message content under an exhibit which specifies that an ACR may be generated by sending or receiving message content under that exhibit. ACR records are stored by MiHIN in the Active Care Relationship Service<sup>®</sup> (ACRS<sup>®</sup>).

**Active Care Relationship Service<sup>®</sup> (ACRS<sup>®</sup>).** The Michigan Health Information Network Shared Services infrastructure service that contains records for those Trusted Data Sharing Organizations, their participating organizational participants or any health providers who have an active care relationship with a patient.

**Admission, Discharge, Transfer (ADT).** An event that occurs when a patient is admitted to, discharged from, or transferred from one care setting to another care setting or to the patient's home. For example, an ADT event occurs when a patient is discharged from a hospital. An ADT event also occurs when a patient arrives in a care setting such as a health clinic or hospital.

**ADT Message.** A type of Health Level Seven<sup>®</sup> (HL7<sup>®</sup>) message generated by healthcare systems based upon Admission, Discharge, Transfer (ADT) events and the HL7 "Electronic Data Exchange in Healthcare" standard. The HL7 ADT message type is used to send and receive patient demographic and healthcare encounter information, generated by source system(s). The ADT messages contain patient demographic, visit, insurance, and diagnosis information.

**ADT Notification.** An electronic notification that a given patient has undergone an Admission, Discharge, Transfer (ADT) event. An ADT Notification is not a complete ADT Message.

**Applicable Laws and Standards.** In addition to the definition set forth in the Data Sharing Agreement, the federal Confidentiality of Alcohol and Drug Abuse Patient Records statute, section 543 of the Public Health Service Act, 42 U.S.C. 290dd-2, and its implementing regulation, 42 CFR Part 2; the Michigan

Mental Health Code, at MCLA §§ 333.1748 and 333.1748a; and the Michigan Public Health Code, at MCL § 333.5131, 5114a.

**Caregiver.** An individual such as a health professional or social worker.

**Care Package.** The collection of documents sent to organizations that include implementation guides, connectivity documents, and other forms that require completion to facilitate the onboarding process.

**Data Sharing Agreement.** Any data sharing organization agreement signed by both Michigan Health Information Network Shared Services (MiHIN) and a participating organization. Data sharing organization agreements include but are not limited to: Qualified Data Sharing Organization Agreement, Virtual Qualified Data Sharing Organization Agreement, Consumer Qualified Data Sharing Agreement, Sponsored Shared Organization Agreement, State Sponsored Sharing Organization Agreement, Direct Data Sharing Organization Agreement, Simple Data Sharing Organization Agreement, or other data sharing organization agreements developed by MiHIN.

**Direct Secure Messaging (DSM).** Direct Secure Messages from Health Internet Service Provider (HISPs) that have EHNAC-DTAAP (DirectTrust) accreditation.

**Electronic Medical Record or Electronic Health Record (EMR/EHR).** A digital version of a patient's paper medical chart.

**Electronic Service Information (ESI).** All information reasonably necessary to define an electronic destination's ability to receive and use a specific type of information (e.g., discharge summary, patient summary, laboratory report, query for patient/provider/healthcare data). ESI may include the type of information (e.g. patient summary or query), the destination's electronic address, the messaging framework supported (e.g. SMTP, HTTP/SOAP, XDR, REST, FHIR), security information supported or required (e.g. digital certificate), and specific payload definitions (e.g., CCD C32 V2.5). In addition, ESI may include labels that help identify the type of recipient (e.g. medical records department).

**End Point.** An instance of an electronic address or Electronic Service Information.

**Fast Healthcare Interoperability Resource® (FHIR®).** A standard for exchanging healthcare information electronically. It's a set of rules and specifications developed by HL7 for representing and sharing healthcare data, enabling different systems to communicate and exchange information seamlessly.

**Health Level Seven® (HL7®).** An interface standard and specifications for clinical and administrative healthcare data developed by the Health Level Seven (HL7) organization and approved by the American National Standards Institute (ANSI). HL7 provides a method for disparate systems to communicate clinical and administrative information in a normalized format with acknowledgement of receipt.

**Health Information.** Any information, including genetic information, whether oral or recorded in any form or medium, that (a) is created or received by a health provider, public health authority, employer, life insurer, school or university, or healthcare clearinghouse; and (b) relates to the past, present, or future physical or mental health or condition of an individual; the provision of healthcare to an individual; or the past, present, or future payment for the provision of healthcare to an individual.

**Health Information Network (HIN).** An organization or group of organizations responsible for coordinating the exchange of protected health information (PHI) in a region, state, or nationally.

**Health Plan.** An individual or group plan that provides or pays the cost of medical care (as “group health plan” and “medical care” are defined in section 2791(a)(2) of the Public Health Service Act, 42 U.S.C. 300gg-91(a)(2)). Health plan further includes those entities defined as a health plan under HIPAA, 45 C.F.R 160.103.

**Health Professional.** Means (a) any individual licensed, registered, or certified under applicable Federal or State laws or regulations to provide healthcare services; (b) any person holding a nonclinical position within or associated with an organization that provides or coordinates healthcare or healthcare related services; and (c) people who contribute to the gathering, recording, processing, analysis or communication of health information. Examples include, but are not limited to, physicians, physician assistants, nurse practitioners, nurses, medical assistants, home health professionals, administrative assistants, care managers, care coordinators, receptionists and clerks.

**Health Provider.** Means facilities/hospitals, health professionals, health plans, caregivers, pharmacists/other qualified professionals, or any other person or organization involved in providing healthcare.

**Health Insurance Portability and Accountability Act (HIPAA).** United States legislation that provides data privacy and security provisions for safeguarding medical information.

**Information Source.** Any organization that provides information that is added to a Michigan Health Information Network Shared Services infrastructure service.

**Message.** A mechanism for exchanging message content between the participating organization to Michigan Health Information Network Shared Services, including query and retrieve.

**Message Content.** Information, as further defined in an Exhibit, which is sent, received, found or used by a participating organization to or from Michigan Health Information Network Shared Services. Message content includes the message content header.

**Message Header (“MSH”) or Message Content Header.** The Message Header (MSH) segment present in every Health Level Seven® (HL7®) message type that defines the Message’s source, purpose, destination, and certain syntax specifics such as delimiters (separator characters) and character sets. It is always the first segment in the HL7 message, with the only exception being HL7 batch messages.

**Michigan Health Information Network Shared Services (MiHIN).** The health information network for the state of Michigan.

**MiHIN Services.** The Michigan Health Information Network Shared Services (MiHIN) infrastructure services and additional services and functionality provided by MiHIN allowing participating organizations to send, receive, find, or use information to or from MiHIN as further set forth in an exhibit.

**Notice.** A message transmission that is not message content and may include an acknowledgement of receipt or error response, such as an Acknowledgement (ACK) or Negative Acknowledgement (NACK).

**Patient Data.** Any data about a patient or a consumer that is electronically filed in a participating organization or participating organization participant’s systems or repositories. The data may contain protected health information (PHI), personal credit information (PCI), and/or personally identifiable information (PII).

**Person Record.** Any record in a Michigan Health Information Network Shared Services infrastructure service that primarily relates to a person.

**Promoting Interoperability.** Using certified electronic health record (EHR) technology to improve quality, safety and efficiency of healthcare, and to reduce health disparities as further contemplated by Title XIII of the American Recovery and Reinvestment Act of 2009.

**Provider Community.** A healthcare provider with an active care relationship with the applicable patient.

**Representational State Transfer Application Programming Interface (REST API).** A set of rules for building web services that allow systems to communicate with each other over the internet.

**Send/Receive/Find/Use (SRFU).** Means sending, receiving, finding, or using message content. Sending involves the transport of message content. Receiving involves accepting and possibly consuming or storing message content. Finding means querying to locate message content. Using means any use of the message content other than sending, receiving and finding.

**Source System.** A computer system, such as an electronic health record system, at the participating organization, that sends, receives, finds or uses message content or notices.

**Statewide Consumer Directory (SCD).** A Michigan Health Information Network Shared Services infrastructure service that helps organizations provide tools to consumers, which allow the consumers to manage how their protected health information (PHI) can be shared and used. The SCD is essentially a Software Development Kit (SDK) with a robust set of Application Programming Interfaces (API) that can be used by consumer-facing applications that enable consumers to take an active role in viewing and editing their preferences for how their health information is shared.

**Transactional Basis.** The transmission of message content or a notice within a period of time of receiving message content or notice from a sending or receiving party as may be further set forth in a specific exhibit.

**Transitions of Care.** The movement of a patient from one setting of care (e.g., hospital, ambulatory primary care practice, ambulatory specialty care practice, long-term care, rehabilitation facility) to another setting of care and can include transfers within a healthcare organization.

**Trusted Data Sharing Organization (TDSO).** An organization that has signed any form of agreement with Michigan Health Information Network Shared Services for data sharing.

**Implementation Guide (UCIG).** The document providing technical specifications related to message content and transport of message content between a participating organization, Michigan Health Information Network Shared Services, and other Trusted Data Sharing Organizations. UCIG are made available via URLs in exhibits.

**Summary.** The document providing the executive summary, business justification and value proposition of a use case. Use case summaries are provided by Michigan Health

Information Network Shared Services (MiHIN) upon request and via the MiHIN website at <https://mihin.org/use-case-categories/>.

**View Download Transmit (VDT).** A requirement for Promoting Interoperability with the objective to provide patients with the ability to view online, download and transmit their health information within a certain period of the information being available to an eligible professional.