University of Michigan Proprietary System for Opioid Overdose Surveillance (SOS)

Implementation Guide

Version 28
August 20, 2019

Document History

Date	Version	Sections Revised	Description	Modifier
01/15/19	1	All	Created Document	M. Gibbs
1/28/19	2	1	Updated Introduction	M. Gibbs
1/30/19	3	1	Updated Introduction	M. Gibbs
2/27/19	4	1	Updated Introduction	J. Young
3/11/19	5	3	Updated Onboarding and Specifications	J. Young
3/14/19	6	1	Updated Onboarding Information	J. Young
3/20/19	7	2	Updated Onboarding	J. Young
4/4/19	8	3	Updates Specifications	J. Young
4/11/19	9	1, 2, 9	Updated Introduction and Onboarding information, legal language	J. Young
4/12/19	10	1, 2, 3, 4, 9	Updated Introduction, Onboarding, Specifications, Static Definition – Message Level and Legal Advisory Language	J. Young
4/23/19	11	1, 2, 4	Updated Introduction, Specifications, and Static Definition – Message Level	K. Buckley
4/24/19	12	1, 2, 3, 4	Updated Introduction, Onboarding, Specifications, and Static Definition – Message Level	M. Gibbs
4/24/19	13	1, 2, 3	Updated Introduction, Onboarding and Specifications	J. Young
4/30/19	14	1, 2, 3	Update Introduction, Onboarding and Specifications	L. Weeks
5/01/19	15	1, 2, 3	Updated Introduction, Onboarding and Specifications	E. Rogers
5/01/19	16	1, 2, 3	Updated Introduction, Onboarding and Specifications	M. Gibbs

5/01/19	17	1, 2, 3	Updated Introduction, Onboarding and Specifications	J. Young
5/01/19	18	1, 2	Updated Introduction and Onboarding	E. Rogers
5/06/19	19	1, 2, 3	Updated Introduction, Onboarding, and Specifications	M. Gibbs
5/07/19	20	1, 2, 3	Updated Introduction, Onboarding and Specifications	E. Rogers
5/09/19	21	1	Updated Introduction	E. Rogers
5/15/19	22	1, 2, 3, 4	Updated Introduction, Onboarding, Specifications, Static Definition – Message Level	K. Buckley
5/20/19	23	3,6,7	Updated Specifications, Static Definition-Field Level, Vocabulary Tables	C. Sherrod
5/20/19	24	1, 2, 3, 4, 5, 6, 7, 8	Updated Introduction, Onboarding, Specifications, Static Definition	M. Gibbs
5/28/19	25	1, 2, 3, 4, 5, 6, 7, 8	Updated Introduction, Onboarding, Specifications, Static Definition	E. Rogers
6/3/19	26	Title, Acronyms and Abbreviations, 1.3	Changed title, removed acronyms, updated verbiage in data flow	M. Gibbs
7/10/19	27	All	Updated IG Format	C. Sherrod
8/20/19	28	1.1, 1.2, Figure 1, 2, 2.3, and 4	Updated verbiage and added tables	M. Gibbs

Table of Contents

Acronyms and Abbreviations Guide

ADT	Admission, Discharge, Transfer Notification
API	Application Programming Interface
CCD	Continuity of Care Document
CDA	Clinical Document Architecture
DQA	Data Quality Assurance
DSM	Direct Secure Messaging
EHR	Electronic Health Record
HL7	Health Level Seven
HD	Health Directory
MiHIN	Michigan Health Information Network Shared Services
NPI	National Provider Identifier
OID	Organization Identifier
PO	Participating Organization
SOM	State of Michigan
SOS	System for Opioid Overdose Surveillance
VPN	Virtual Private Network
XML	Extended Mark-Up Language

Definitions

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 and sent home. An ADT event also occurs when a patient arrives in care setting such as a health clinic or hospital.

ADT Message. A type of HL7 message generated by healthcare systems based upon ADT events; the HL7 ADT message type is used to send or receive patient demographic and/or healthcare encounter information, generated from source system(s). The HL7 ADT messages contain patient demographic, visit, insurance and diagnosis information.

ADT Notification. An electronic notification that a given patient has undergone an ADT event.

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.

Data Sharing Agreement. Any data sharing organization agreement signed by both MiHIN and participating organization

End Point. An instance of an electronic address or ESI.

Exhibit. A Use Case exhibit or a pilot activity exhibit.

Health Level 7 (HL7). An interface standard and specifications for clinical and administrative healthcare data developed by the American National Standards Institute. HL7 provides a method for disparate systems to send and receive clinical and administrative information in a normalized format with acknowledgement of receipt

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.

HIN Infrastructure Service. Certain services that are shared by numerous Use Cases. MiHIN Infrastructure Services include, but are not limited to, ACRS, HPD, Statewide Consumer Directory (SCD), and the Medical Information DIrect GATEway (MIDIGATE®).

HIN Services. The MiHIN infrastructure services and additional services and functionality provided by MiHIN allowing the participating organization to send, receive, find, or use information to or from MiHIN as further set forth in an exhibit.

Message. A mechanism for exchanging message content between the participating organization to MiHIN services, including finding and receiving.

Message Content. Information which is sent, received, found or used by a Participating Organization to or from MIHIN Services, including, but not limited to, PHI, common keys, de-identified data, metadata, Digital Credentials, and data schema. Message Content includes the Message Content Header.

Message Header. The MSH segment present in every 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. The HIN for the State of Michigan.

Patient Data. Any data about a patient or a consumer that is electronically filed in a participating organization or organization's systems or repositories. The data may contain protected health information, personal credit information, or personally identifiable information.

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

Trusted Data Sharing Organization. An organization that has signed any form of agreement with MiHIN for data sharing.

Use Case. A specific scenario or group of scenarios for sharing patient health information.

Use Case Exhibit. The legal agreement attached as an exhibit to the Master Use Case Agreement that governs participation in any specific Use Case.

Use Case Implementation Guide. The document providing technical specifications related to Message Content and transport of Message Content between participating organizations, MiHIN, and other data sharing organizations. Use Case Implementation Guides are made available via URLs in exhibits.

Use Case Summary. The document providing the executive summary, business justification and value proposition of a Use Case. Use Case summaries are provided by MIHIN upon request and are available via www.mihin.org.

1. Introduction

1.1 Purpose of Use Case

In 2016, a record number of Americans died from an opioid-related overdose.[1] Michigan alone has experienced a 28% increase in drug overdose deaths in just the past two years.[2] In response to this rapid increase, the University of Michigan Injury Prevention Center (U-M IPC) has created the University of Michigan Proprietary System for Opioid Overdose Surveillance (SOS) to collect overdose data from Emergency Departments (EDs) throughout the state. The data will be analyzed and matched to data provided by medical examiners and Emergency Medical Services (EMS). The SOS system will use the data streams to generate data briefs including demographic information and spatio-temporal summaries. The information can also be used to develop effective responses and prevention strategies to combat the opioid crisis.

For SOS to be widely effective and impactful, it is built upon an architecture that is scalable statewide. Through the Proprietary SOS Use Case, the Michigan Health Information Network Shared Services (MiHIN) statewide infrastructure acts as the hub to collect, parse, and distribute opioid overdose data that is contained in hospital Admission, Discharge, Transfer (ADT) notifications already passing through the network.

The Proprietary SOS Use Case improves opioid overdose surveillance by streamlining data flow and enabling statewide scalability to ultimately improve response and prevention strategies by using the statewide health information network and ADT notifications.

Note Related Use Case Requirements: Organizations entering this Use Case should simultaneously enter into the Admission, Discharge, Transfer (ADT) Use Case. This use serves as the foundational functionality that supports SOS.

1.2 Message Content

For this SOS Use Case, Message Content refers to an ADT Message and/or ADT Notification (All ADT event types except A08s) which has a Patient Class (PV1-2) of "Emergency Department" and conforms to HL7 2.5.1 standards and is identified as containing a specific diagnosis code (from the current national coding system) for opioid overdose. For the time being, ICD-10 diagnosis codes will be used.

[1] "System for Opioid Overdose Surveillance," University of Michigan, accessed February 8, 2019, https://injurycenter.umich.edu/system-for-opioid-overdose-surveillance-s-o-s/

[2] Ibid.

1.3 Data Flow and Actors

- *Actor:* SOS ADT Sender (Sending Organization)
  - *Role:* Collects patient visit and diagnosis information within hospital emergency departments. This information is sent in the form of an ADT message to MiHIN.
- *Actor:* MiHIN
  - *Role:* Receives ADT from an Organization participating in sending SOS ADTs. If the ADT contains an identified opioid-related diagnosis code, the message triggers a filtering process and is forwarded to U-M IPC. When applicable, all diagnosis codes not relevant to the SOS Use Case will be removed from the ADT Message prior to forwarding.
- *Actor:* U-M IPC (Receiving Organization)
  - *Role:* U-M IPC receives patient visit and diagnosis information (sent by MiHIN) from SOS ADT Sender. The ADT data is used for surveillance purposes.

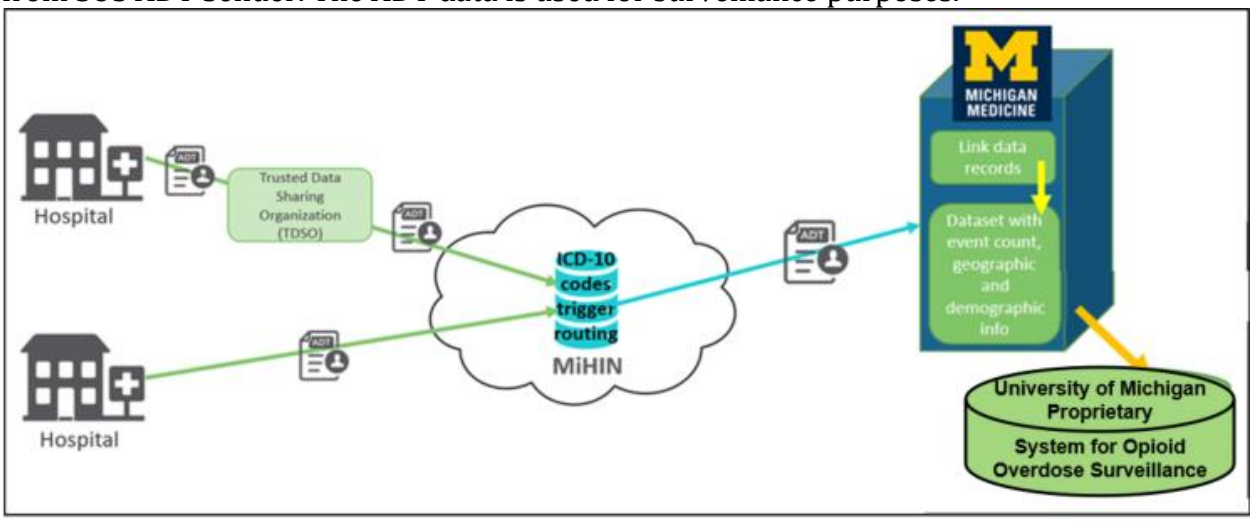

Figure 1. Organizations Sending Patient Diagnosis with Proprietary SOS Use Case

1. A patient visits the Emergency Department (ED) of a participating hospital, which sends an ADT notification message containing a diagnosis code for opioid overdose to MiHIN, either directly or through a Trusted Data Sharing Organization (TDSO)
2. MiHIN receives this ADT and identifies the notification message was routed from an organization participating in the SOS Use Case. If the notification message contains a diagnosis code for the SOS Use Case, MiHIN routes the ADT to the U-M IPC designated End Point. If the message does not have an applicable diagnosis code, the message does not get routed through the SOS data flow, or if the ADT message has a diagnosis code of interest and a diagnosis code not relating to opioid overdose, MiHIN will remove the unrelated diagnosis code prior to sending the ADT to U-M IPC.
3. U-M IPC receives the ADT message and links the message to data from Medical Examiners and Emergency Medical Services, using matching to create a dataset without duplicate records

4. U-M IPC pulls only demographic and location information from the ADT dataset to add each record's demographic information to the overall county data, and to an event count to the census block of the overdose location.
5. U-M IPC pushes the de-identified data to their system, which contributes to live data brief

2 Onboarding

The following guidelines describe the way in which an organization may onboard with MiHIN to send ADT notifications for the Proprietary SOS Use Case.

2.1 Prerequisites

Participating organizations must have completed legal and technical onboarding for the ADT Use Case before beginning onboarding for SOS. Participating organizations will then complete legal onboarding for SOS:

- Obtain, review, and execute legal agreements

2.1.1 Universal Legal Prerequisites

The first time an organization undergoes the legal onboarding process with MiHIN, the organization negotiates and enters into a data sharing agreement which then allows the Participating Organization (PO) to enter into one or more Use Cases via Use Case Exhibits (UCEs) or Pilot Activity Exhibits (PAEs).

Once an organization has entered into a data sharing agreement, the organization must sign the Master Use Case Agreement (MUCA) which then allows the PO to enter an unlimited number of UCEs or PAEs with MiHIN. A listing of MiHIN's Use Cases is available upon request.

To initiate the legal onboarding contact: legal@mihin.org.

2.2 Sending SOS ADT Notifications

The Proprietary SOS Use Case focuses on emergency care settings (hospital emergency departments) with patients being treated for opioid misuse. These emergency care providing organizations are classified as "SOS ADT Senders."

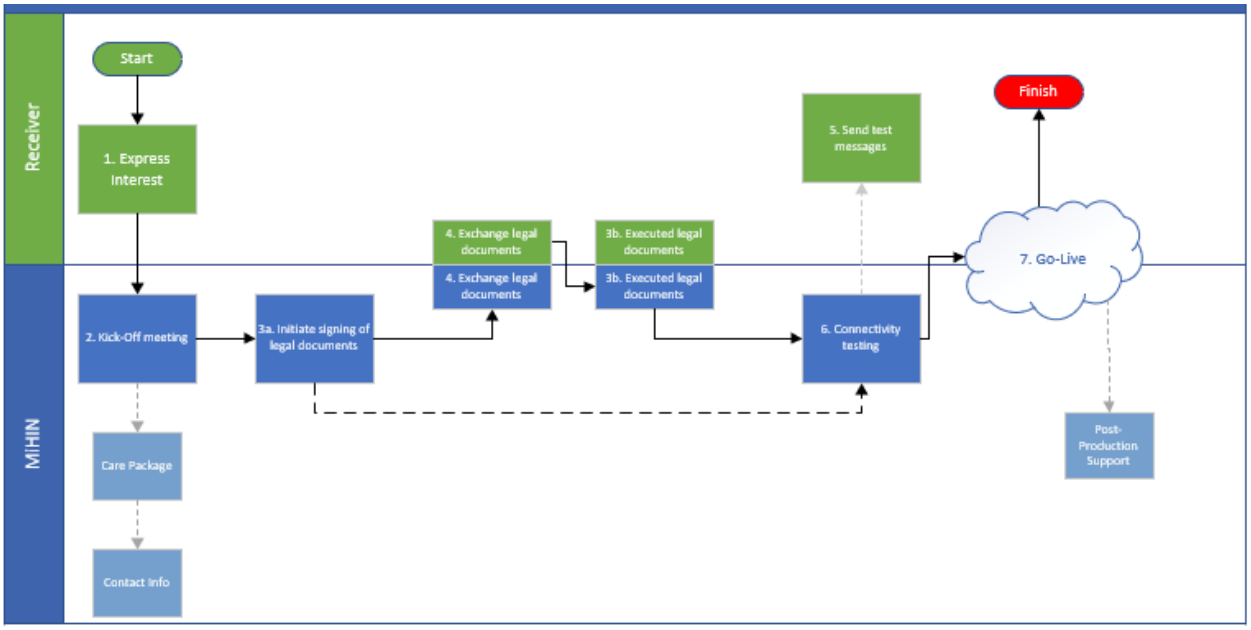

Figure 2. SOS ADT Sender Onboarding Flowchart

For SOS ADT senders, onboarding steps include:

- Express interest in participating in the Use Case
- Kick-off meeting
  - Distribute SOS "care package"
- Exchange and execute legal documents
  - Data Sharing Organization Agreement (if not already executed)
  - Master Use Case Agreement (if not already executed)
  - ADT Use Case Exhibit
  - SOS Use Case Exhibit
- Verify transport method/connectivity (e.g., via HIE, VPN, or Direct) and conduct connectivity testing
  - Provide sample ADT messages that meet SOS criteria and test
- Complete validation process
- Go live
  - Organizations cannot go live with SOS until they are in production with the ADT Use Case (SOS ADT senders must be past the data quality assurance (DQA) phase)

2.3 Receiving SOS ADT Notifications

The Proprietary SOS Use Case focuses on emergency care settings (hospital emergency departments) with patients being treated for opioid misuse. For SOS, U-M IPC is classified as the "SOS ADT Receiver."

2.3.1 SOS Receiver Onboarding Process

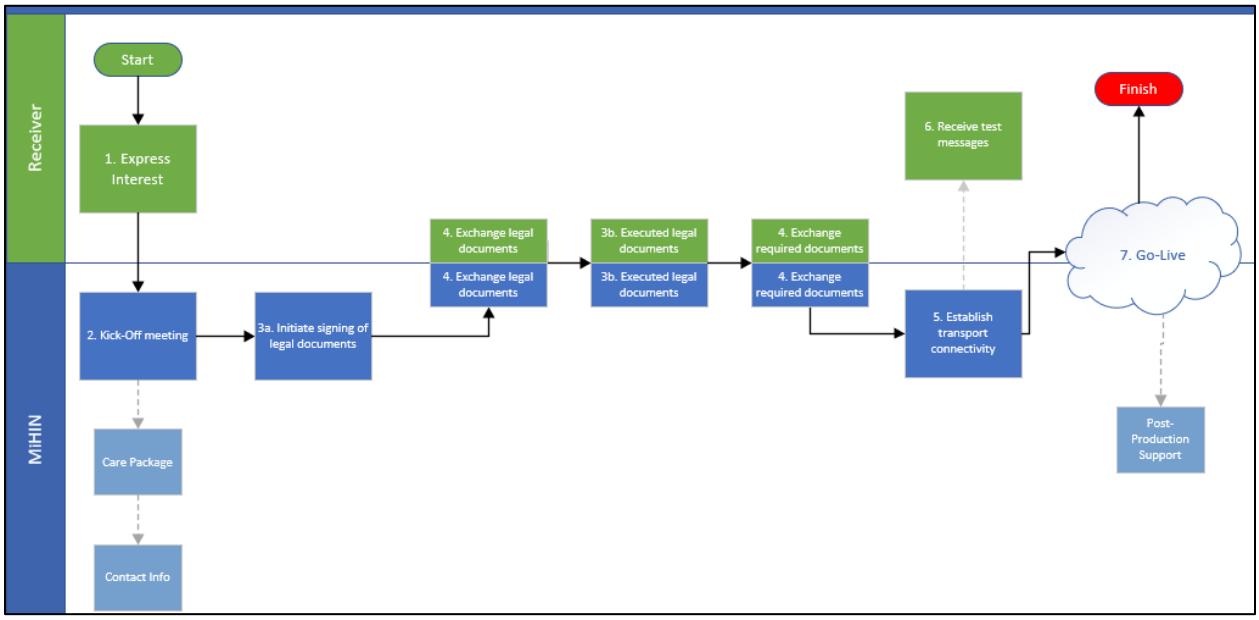

Figure 3. SOS ADT Receiver Onboarding Flowchart

For the SOS ADT Receiver, onboarding steps are as follows:

- Express interest in participating in the Use Case
- Kick-off meeting
  - Exchange contact information
  - Distribute SOS "care package"
- Execute legal documents
  - Data Sharing Organization Agreement (if not already executed)
  - Master Use Case Agreement (if not already executed)
  - ADT Use Case Exhibit
  - SOS Use Case Exhibit
- Establish transport method/connectivity (e.g., via HIE, VPN, or Direct)
  - Receive sample ADT messages through SOS routing and test
- Go live

3 Specifications

The following guidelines describe the way in which segment and field requirements apply to conformant messages.

3.1 Sending Organization Requirements

SOS ADT Senders must adhere to MiHIN conformance standards to participate in this Use Case. All required segments listed in this document must be populated and included data must adhere to referenced data tables.

3.1.1 Segment Requirements for Sending Organization

Each HL7 message sent to MiHIN will conform to the static definition given in the subsection of Section 4, "Static Definition – Message Level," corresponding to the trigger event of the message.

3.1.2 Segment Usage Requirements for Sending Organization

Conformant SOS 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

3.1.2.1 Segment Cardinality Requirements for Sending Organization

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.

3.1.3 Field and Subfield Requirements for Sending Organization

Each segment of each HL7 message sent to MiHIN will conform to the static definition given in the subsection of Section 5, "Static Definition – Segment Level," corresponding to the trigger event of the message.

3.1.3.1 Field and Subfield Usage Requirements for Sending Organization

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

3.1.3.2 Field and Subfield Cardinality Requirements for Sending Organization

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

- No fewer occurrences of each field or subfield will be sent than the number indicated by the minimum cardinality of the field in the static definition of the segment in which the field or subfield occurs.
- Occurrences of each field or subfield above the number indicated by the maximum cardinality of the field or subfield in the static definition of the segment in which the field or subfield occurs will be ignored.

3.1.4 Mapping Tables

MiHIN requires a set of mapping tables (from ADT Senders) to document data definitions for specific fields. Changes within mappings may need to be updated to maintain conformance. This will be completed as part of onboarding to the Admission, Discharge, Transfer (ADT) Use Case, a prerequisite for onboarding to the SOS Use Case.

3.1.5 Conformance Reporting

SOS ADT Senders will be measured on three tiers of conformance. To review conformance requirements, please see the following link: https://www.bcbsm.com/providers/value-partnerships/hospital-pay-for-performance.html

3.2 Receiving Organization Requirements

3.2.1 Segment Requirements for Receiving Organization

Each HL7 message sent by MiHIN will conform to the static definition given in the subsection of Section 4, "Static Definition – Message Level," corresponding to the trigger event of the message.

3.2.2 Segment Usage Requirements for Receiving Organization

U-M IPC will adhere to the following usage requirements for message segments as a conformant receiving organization.

- Segments with usage code R or C will always be accepted and stored.
- Segments with usage code RE or CE will always be accepted and stored if received. Failure to receive a segment with usage code RE or CE will not be treated as an error by the receiving 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, may be ignored if received.

3.2.2.1 Segment Cardinality Requirements for Receiving Organization

U-M IPC will adhere to the following cardinality requirements for message segments as a conformant receiving organization.

- No fewer occurrences of each segment should be expected 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.
- No more occurrences of each segment should be expected than the number indicated by the maximum cardinality of the segment in the message-level static definition corresponding to the trigger event of the message. Occurrences exceeding the maximum may be ignored if received.

3.2.3 Field and Subfield Requirements for Receiving Organization

Each segment of each HL7 message sent by MiHIN will conform to the static definition given in the subsection of Section 5, "Static Definition – Segment Level," corresponding to the trigger event of the message.

3.2.3.1 Field and Subfield Usage Requirements for Receiving Organization

U-M IPC will adhere to the following usage requirements for message fields and subfields as a conformant receiving organization.

- Fields and subfields with usage code R and C will always be accepted and stored.
- Fields and subfields with usage code RE and CE will always be accepted and stored if received. Failure to receive a field or subfield with usage code RE will not be treated as an error by the receiving 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 may be ignored if received.

3.2.3.2 Field Cardinality Requirements for Sending Organization

Conformant receiving organizations will adhere to the following cardinality requirements for message fields.[3]

- No fewer occurrences of each field should be expected than the number indicated by the minimum cardinality of the field in the static definition of the segment in which the field occurs.
- No more occurrences of each field will be sent than the number indicated by the maximum cardinality of the field in the static definition of the segment in which the field occurs. Occurrences exceeding the maximum may be ignored if received.

3.2.4 Acknowledgment Message Requirements for Receiving Organization

For each message received, a receiving organization will return an HL7 acknowledgment message formatted according to the requirements in Sections 4, 5, and 6 below. An ERR segment will be returned for each usage and cardinality error recorded because of applying the rules in Section 3.2, "Receiving Organization Requirements."

[3] Cardinality requirements for subfields – components and subcomponents – are covered by the field usage requirements in the previous section; by the HL7 Version 2 encoding rules, subfields may not have cardinality greater than 1.

4 Static Definition – Message Level[4]

Each HL7 message sent to MiHIN will conform to the static definition given in the subsection below corresponding to the trigger event of the message.

4.1 ADT (Patient Administration) Message – Trigger Events A01, A04, A05, A13, A14, A28, A31

The definitions in the table below shall be conformed to by all the HL7 source messages sending the following ADT trigger events:

- A01 (admit/visit notification)
- A04 (register a patient)
- A05 (pre-admit a patient)
- A13 (cancel discharge / end visit)
- A14 (pending admit)
- A28 (add person information)
- A31 (update person information)

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
PID	Patient identification	R	1..1	3	
[PD1]	Additional demographics	RE	0..1	3	
[{ NK1 }]	Next of kin / associated parties	X	0..0	3	
PV1	Patient visit	R	1..1	3	
[PV2]	Patient visit - additional info.	X	0..0	3	
[{ DB1 }]	Disability information	X	0..0	3	
[{ OBX }]	Observation / result	RE	0..2	7	Patient height and weight
[{ AL1 }]	Allergy information	X	0..0	3	
[{ DG1 }]	Diagnosis information	RE	0..99	6	
[DRG]	Diagnosis related group	X	0..0	6	
[{ PR1	Procedures	RE	0..99	6	

[4] The language and material in this section has been adapted from original material created by HL7. MiHIN received permission to share and adapt HL7 writing in 2018. If you have any questions, please feel free to write to MiHIN. If you would like to see the original source material, please visit http://www.hl7.org/index.cfm

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
[{ ROL }]	Role	X	0..0	12	
}]					
[{ GT1 }]	Guarantor	X	0..0	6	
[					
{ IN1	Insurance	R	0..99	6	
[IN2]	Insurance additional info.	X	0..0	6	
[{ IN3 }]	Insurance add'l info - cert.	X	0..0	6	
}					
]					
[ACC]	Accident information	X	0..0	6	
[UB1]	Universal bill information	X	0..0	6	
[UB2]	Universal bill 92 information	X	0..0	6	

4.2 ADT (Patient Administration) Message – Trigger Events A02, A21, A22, A23, A25, A26, A27, A29, A32, A33

The definitions in the table below shall be conformed to by all HL7 source messages sending the following ADT trigger events:

- A02 (transfer a patient)
- A21 (patient goes on a "leave of absence")
- A22 (patient returns from a "leave of absence")
- A23 (delete a patient record)
- A25 (cancel pending discharge)
- A26 (cancel pending transfer)
- A27 (cancel pending admit)
- A29 (delete person information)
- A32 (cancel patient arriving – tracking)
- A33 (cancel patient departing – tracking)

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
PID	Patient identification	R	1..1	3	
[PD1]	Additional demographics	RE	0..1	3	
PV1	Patient visit	R	1..1	3	
[PV2]	Patient visit - additional info.	X	0..0	3	

[{ DB1 }]	Disability information	X	0..0	3	
[{ OBX }]	Observation / result	RE	0..2	7	Patient height and weight

4.3 ADT (Patient Administration) Message – Trigger Event A03

The definitions in the table below shall be conformed to by all HL7 source messages sending ADT trigger event A03 (discharge / end visit).

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
PID	Patient identification	R	1..1	3	
[PD1]	Additional demographics	RE	0..1	3	
PV1	Patient visit	R	1..1	3	
[PV2]	Patient visit - additional info.	X	0..0	3	
[{ DB1 }]	Disability information	X	0..0	3	
[{ DG1 }]	Diagnosis information	RE	0..99	6	
[DRG]	Diagnosis related group	X	0..0	6	
[{ PR1	Procedures	RE	0..99	6	
[{ ROL }]	Role	X	0..0	12	
}]					
[{ OBX }]	Observation / result	RE	0..2	7	Patient height and weight
[					
{ IN1	Insurance	R	0..99	6	
[IN2]	Insurance additional info.	X	0..0	6	
[{ IN3 }]	Insurance add'l info - cert.	X	0..0	6	
}					
]					

4.4 ADT (Patient Administration) Message – Trigger Events A06, A07

The definitions in the table below shall be conformed to by all HL7 source messages sending ADT trigger events A06 (change an outpatient to an inpatient) and A07 (change an inpatient to an outpatient).

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
PID	Patient identification	R	1..1	3	
[PD1]	Additional demographics	RE	0..1	3	
[MRG]	Merge Information	RE	0..1	3	
[{ NK1 }]	Next of kin / associated parties	X	0..0	3	
PV1	Patient visit	R	1..1	3	
[PV2]	Patient visit - additional info.	X	0..0	3	
[{ DB1 }]	Disability information	X	0..0	3	
[{ OBX }]	Observation / result	RE	0..2	7	Patient height and weight
[{ AL1 }]	Allergy information	X	0..0	3	
[{ DG1 }]	Diagnosis information	RE	0..99	6	
[DRG]	Diagnosis related group	X	0..0	6	
[{ PR1	Procedures	RE	0..99	6	
[{ ROL }]	Role	X	0..0	12	
}]					
[{ GT1 }]	Guarantor	X	0..0	6	
[					
{ IN1	Insurance	R	0..99	6	
[IN2]	Insurance additional info.	X	0..0	6	
[{ IN3 }]	Insurance add'l info - cert.	X	0..0	6	
}					
]					
[ACC]	Accident information	X	0..0	6	
[UB1]	Universal bill information	X	0..0	6	

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
[UB2]	Universal bill 92 information	X	0..0	6	

4.5 ADT (Patient Administration) Message – Trigger Events A09, A10, A11, A15

The definitions in the table below shall be conformed to by all HL7 source messages sending the following ADT trigger events:

- A09 (patient departing – tracking)
- A10 (patient arriving – tracking)
- A11 (cancel admit / visit notification)
- A15 (pending transfer)

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
PID	Patient identification	R	1..1	3	
[PD1]	Additional demographics	RE	0..1	3	
PV1	Patient visit	R	1..1	3	
[PV2]	Patient visit - additional info.	X	0..0	3	
[{ DB1 }]	Disability information	X	0..0	3	
[{ OBX }]	Observation / result	RE	0..2	7	Patient height and weight
[{ DG1 }]	Diagnosis information	RE	0..99	6	

4.6 ADT (Patient Administration) Message – Trigger Event A12

The definitions in the table below shall be conformed to by all HL7 source messages sending ADT trigger event A12 (cancel transfer).

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
PID	Patient identification	R	1..1	3	
[PD1]	Additional demographics	RE	0..1	3	
PV1	Patient visit	R	1..1	3	
[PV2]	Patient visit - additional info.	X	0..0	3	

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
[{ DB1 }]	Disability information	X	0..0	3	
[{ OBX }]	Observation / result	RE	0..2	7	Patient height and weight
[DG1]	Diagnosis information	RE	0..1	6	

4.7 ADT (Patient Administration) Message – Trigger Event A17

The definitions in the table below shall be conformed to by all HL7 source messages sending ADT trigger event A17 (swap patients).

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
PID	Patient identification	R	1..1	3	1st patient ("swap-from") information
[PD1]	Additional demographics	RE	0..1	3	
PV1	Patient visit	R	1..1	3	
[PV2]	Patient visit - additional info.	X	0..0	3	
[{ DB1 }]	Disability information	X	0..0	3	
[{ OBX }]	Observation / result	RE	0..2	7	Patient height and weight
PID	Patient identification	R	1..1	3	2nd patient ("swap-to") information
[PD1]	Additional demographics	RE	0..1	3	
PV1	Patient visit	R	1..1	3	
[PV2]	Patient visit - additional info.	X	0..0	3	
[{ DB1 }]	Disability information	X	0..0	3	
[{ OBX }]	Observation / result	RE	0..2	7	Patient height and weight

4.8 ADT (Patient Administration) Message – Trigger Event A20

The definitions in the table below shall be conformed to by all HL7 source messages sending ADT trigger event A20 (bed status update).

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
NPU	Non-patient update	R	1..1	3	

4.9 ADT (Patient Administration) Message – Trigger Events A24, A37

The definitions in the table below shall be conformed to by all HL7 source messages sending ADT trigger event A24 (link patient information) and A37 (unlink patient information).

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
[{ SFT }]	Software segment	RE	0..99	2	Implemented beginning in HL7 V2.5
EVN	Event type	R	1..1	3	
PID	Patient identification	R	1..1	3	Patient's first ID to link (A24) or unlink (A37) (same person as that of second patient ID)
[PD1]	Additional demographics	RE	0..1	3	
[PV1]	Patient visit	RE	1..1	3	Linkage may take place outside a visit context
[{ DB1 }]	Disability information	X	0..0	3	
PID	Patient identification	R	1..1	3	Patient's second ID to link (A24) or unlink (A37) (same person as that of first patient ID)
[PD1]	Additional demographics	RE	0..1	3	
[PV1]	Patient visit	RE	1..1	3	Linkage may take place outside a visit context
[{ DB1 }]	Disability information	X	0..0	3	

4.10 ACK (Acknowledgment) Message

Receiving organization s shall send an acknowledgment message reply to each message received from MiHIN. The definitions in the table below shall be conformed to by all HL7 acknowledgment messages.

Segment	Description	Usage	Cardinality	HL7 Chapter	Comments
MSH	Message header	R	1..1	2	
MSA	Message acknowledgment	R	1..1	2	
[{ ERR }]	Error	RE	0..99	2	

5 Static Definition – Segment Level[5]

For more information on this subsection, please see the ADT Use Case Implementation Guide: https://mihin.org/wp-content/uploads/2019/05/Microsoft-Word-MiHIN-UCIG-ADT-Notifications-v46-05-09-19.pdf

6 Static Definition – Field Level[6]

6.1 MSH (Message Header) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the MSH (message header) segment.

A summary table of usages, cardinalities and element names of all fields in the MSH segment is provided in Section 5.1, "MSH (Message Header) Segment."

MSH-1 Field Separator

This field, whose data type is ST (string), contains the top-level delimiter for HL7 elements within segments. HL7 Version 2.x processing rules require that the field separator be a single unique printable character, and that the field separator not be duplicated by any of the encoding characters in MSH-2 (see below).

MSH-2 Encoding Characters

This field, whose data type is ST (string), contains the component separator (secondary element delimiter), repetition separator, escape character, and subcomponent separator (tertiary element delimiter). HL7 Version 2.x processing rules require that each of the four encoding characters be a single unique printable character, and that none of the encoding characters duplicate the field separator.

MSH-3 Sending Application

[5] The language and material in this section has been adapted from original material created by HL7. MiHIN received permission to share and adapt HL7 writing in 2018. If you have any questions, please feel free to write to MiHIN. If you would like to see the original source material, please visit http://www.hl7.org/index.cfm

[6] The language and material in this section has been adapted from original material created by HL7. MiHIN received permission to share and adapt HL7 writing in 2018. If you have any questions, please feel free to write to MiHIN. If you would like to see the original source material, please visit http://www.hl7.org/index.cfm

This field contains the identifier of the application that generated the current message instance. The data type of MSH-3-sending application is HD, whose components are defined as follows:

Cmp	DT	Usage	TBL#	Element Name	Comments
1	IS	R	0361	Namespace ID	A string containing the name and/or other distinguishing information about the application instance.
2	ST	RE		Universal ID	MiHIN expects the sender to use a registered for this component. The OID used in this component should represent the application instance (e.g., the installation and version of a particular vendor's ADT or clinical departmental system) that is generating the message.
3	ID	CE	0301	Universal ID Type	If Component 2 is defined, this component will contain ISO.

MSH-4 Sending Facility

This field contains the identifiers of the facility and system that generated the current message instance. The data type of MSH-4-sending facility is HD, whose components are defined as follows:

Cmp	DT	Usage	TBL#	Element Name	Comments
1	IS	R	0362	Namespace ID	MiHIN expects the sender to use a registered OID for this component. The OID used in this component should represent the hospital that is sending the message. For example, if a patient is seen at Lansing Central Hospital and it is part of the Lansing Hospital System which has a unified EHR, the Lansing Central Hospital OID would go here.
2	ST	RE		Universal ID	MiHIN expects the sender to use a registered OID for this component. The OID used in this component should represent the system containing the hospital that is sending the message. For example, if a patient is seen at Lansing Central Hospital and it is part of the Lansing Hospital System which has a unified EHR, the Lansing Hospital System OID would go here.
3	ID	CE	0301	Universal ID Type	If either Component 1 or Component 2 is defined, this component will contain ISO.

MSH-5 Receiving Application

This field contains the identifier of the application to which the current message instance is directed. The data type of MSH-5-receiving application is HD, whose components are defined as follows:

Cmp	DT	Usage	TBL#	Element Name	Comments
1	IS	R	0361	Namespace ID	A string containing the name and/or other distinguishing information about the application instance. When sending to MiHIN, use the literal string Transitions of Care Notification.
2	ST	RE		Universal ID	MiHIN expects the sender to use a registered OID for this component. When sending production messages to MiHIN, use the OID value 2.16.840.1.113883.3.1481.1.2.2. When sending test messages to MiHIN, use the OID value 2.16.840.1.113883.3.1481.2.2.2. When sending development messages to MiHIN, use the OID value 2.16.840.1.113883.3.1481.3.2.2.
3	ID	CE	0301	Universal ID Type	If Component 2 is defined, this component will contain ISO.

MSH-6 Receiving Facility

This field contains the identifier of the facility to which the current message instance is directed. The data type of MSH-6-receiving facility is HD, whose components are defined as follows:

Cmp	DT	Usage	TBL#	Element Name	Comments
1	IS	R	0362	Namespace ID	A string containing the name and/or other distinguishing information about the receiving facility. When sending to MiHIN, use the literal string "Michigan Health Information Network."
2	ST	RE		Universal ID	MiHIN expects the sender to use a registered OID for this component. When sending to MiHIN, use the value 2.16.840.1.113883.3.1481.
3	ID	CE	0301	Universal ID Type	If Component 2 is defined, this component will contain ISO.

MSH-7 Date/Time of Message

This field, whose data type is TS, contains the date and time when the sending system built the message.

MSH-9 Message Type

This field, whose data type is CM, contains the message type and trigger event of the message. Its components are defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ID	R	0076	Message Type	Always ADT
2	ID	R	0003	Trigger Event	The three-character trigger event code for the current message instance
3	ID	X	0301	Message Structure	

MSH-10 Message Control ID

This field, whose data type is ST, contains a unique identifier for the message.

MSH-11 Processing ID

This field is of data type PT. Its components are defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ID	R	0103	Processing ID	Must contain P for all production messages. May contain D for debugging messages or T for training messages.
2	ST	RE	0207	Universal ID	Must be empty, signifying current (real-time) processing.

MSH-12 Version ID

This field is of data type VID. Its components are defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ID	R	0104	Version ID	The HL7 version by whose rules the current message instance was generated.
2	CE	X		Internationalization Code	
3	CE	X		Internal Version ID	

6.2 SFT (Software) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the SFT (software) segment. Systems using HL7 versions previous to Version 2.5 will not be expected to send the SFT segment.

A summary table of usages, cardinalities and element names of all fields in the SFT segment is provided in Section 5.2, "SFT (Software) Segment."

SFT-1 Software Vendor Organization

This field, whose data type is XON, contains name and other identifying information for the vendor of the software that created the current message instance. Its components are defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		Organization Name	Name of the vendor of the software that created the current message instance.
2	IS	X	0204	Organization Name Type Code	
3	NM	X		ID Number	
4	NM	X		Check Digit	
5	ID	X	0061	Code Identifying the Check Digit Scheme Employed	
6	HD	X	0363	Assigning Authority	

7	IS	X	0203	Identifier Type Code	
8	HD	X		Assigning Facility ID	
9	ID	X		Name Representation Code	

SFT-2 Software Certified Version or Release Number

This field, whose data type is ST, contains the latest version or release number of the software that created the current message instance.

SFT-3 Software Product Name

This field, whose data type is ST, contains the name of the software that created the current message instance.

SFT-4 Software Binary ID

This field, whose data type is ST, contains a unique checksum or other identifier that distinguishes the version of the software that created the current message instance from similar versions of the same software and from other products of the same vendor.

6.3 EVN (Event Type) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the EVN (event type) segment.

A summary table of usages, cardinalities and element names of all fields in the EVN segment is provided in Section 5.3, "EVN (Event Type) Segment."

EVN-2 Recorded Date/Time

This field, whose data type is TS, contains the date and time when the event that triggered the creation of the current message instance was recorded in the creating system.

EVN-7 Event Facility

This field identifies the actual facility where the event occurred, as distinct from the facility identified in MSH-4-sending facility.

The data type of EVN-7-event facility is HD, whose components are defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		ID	The full, unique identifier value for the patient.
2	ST	X		Check Digit	

3	ID	X	0061	Code Identifying the Check Digit Scheme Employed	
4	HD	RE	0063	Assigning Authority	The system, organization, agency or department that created this patient identifier.
5	IS	RE	0203	Identifier Type Code	What kind of identifier this is: local, facility, state or national, Social Security, Medicare, etc.
6	HD	RE		Assigning Facility	The place or location where the identifier was first assigned to the patient.

PID-3 Patient Identifier List

This field, which allows for up to 99 occurrences, contains at least the identifier for the patient at the institution or facility at which the event occurred. It is recommended that any other identifiers for the patient be sent in additional occurrences of PID-3-patient identifier list rather than in fields PID-2-patient ID, PID-4-alternate patient ID-PID, or PID-19-SSN number-patient, all of which were deprecated as of HL7 Version 2.3.1.

The data type of PID-3-patient identifier list is CX, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		ID	The full, unique identifier value for the patient.
2	ST	X		Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.
3	ID	X	0061	Code Identifying the Check Digit Scheme Employed	
4	HD	RE	0063	Assigning Authority	The system, organization, agency or department that created this patient identifier.
5	IS	RE	0203	Identifier Type Code	What kind of identifier this is: local, facility, state or national, Medicare, etc.
6	HD	RE		Assigning Facility	The place or location where the identifier was first assigned to the patient.

PID-4 Alternate Patient ID – PID

The historical intent of this field is to contain one or more identifiers for the patient other than the principal patient identifier carried in PID-3. It is recommended that identifiers for the patient be sent in occurrences of PID-3-patient identifier list rather than in fields PID-2-patient ID, PID-4-alternate patient ID-PID, or PID-19-SSN number-patient, all of which were deprecated as of HL7 Version 2.3.1.

The data type of PID-4-alternate patient ID-PID is CX, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		ID	The full, unique identifier value for the patient.

2	ST	X		Check Digit	
3	ID	X	0061	Code Identifying the Check Digit Scheme Employed	
4	HD	RE	0063	Assigning Authority	The system, organization, agency or department that created this patient identifier.
5	IS	RE	0203	Identifier Type Code	What kind of identifier this is: local, facility, state or national, Social Security, Medicare, etc.
6	HD	RE		Assigning Facility	The place or location where the identifier was first assigned to the patient.

PID-5 Patient Name

This field contains all of the names by which the patient is known in the system that generated the current message instance. Each name is sent in a separate repetition of PID-5-patient name.

If known, the patient's legal name is to be sent in the first repetition of PID-5-patient name. If the patient's legal name is not known, the first repetition of PID-5-patient name is to be left empty.

The data type of PID-5-patient name is XPN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		Family name & last name prefix	Last name of the patient. If the last name contains a prefix such as de or von that is excluded from alphabetization in the locale of the sending system, the last name prefix is restated in the second subcomponent of this component.
2	ST	R		Given Name	First name of the patient.
3	ST	RE		Middle Initial or Name	Multiple middle initials or names are separated by spaces.
4	ST	RE		Suffix	E.g., JR or III.
5	ST	RE		Prefix	E.g., DR.
6	IS	RE	0360	Degree	
7	ID	RE	0200	Name Type Code	
8	ID	X	4000	Name Representation Code	

PID-7 Date/Time of Birth

This field, whose data type is TS, contains the date and time of the patient's birth as precisely as is recorded on the system from which the current message instance was sent. Minimum required precision is YYYYMMDD or YYYYMMDDMMSS.

PID-8 Sex

This field contains the administrative sex of the patient. Its value is taken from HL7 Table 0001, Sex.

PID-10 Race

This field contains a code and text specifying the patient's race. The data type of this field is CE, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Identifier	The standard code for the patient's race, preferably from the CDC race code set.
2	ST	RE		Text	The human-readable term for the patient's race, which must correspond to the value in Component 1 (Identifier) if any.
3	ST	RE		Name of Coding System	Name (usually abbreviated) of the code set from which the code in Component 1 and the text in Component 2 are taken.
4	ST	X		Alternate Identifier	
5	ST	X		Alternate Text	

PID-11 Patient Address

This field contains the location of the patient's residence or mail delivery location. The data type of this field is XAD, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Street Address	If the street address portion of the patient's address is one line, it is sent in this component. If the street address portion of the patient's address is two lines, the first line is sent in this component.
2	ST	RE		Other Designation	If the street address portion of the patient's address is one line, this component is empty. If the street address portion of the patient's address is two lines, the second line is sent in this component.
3	ST	RE		City	
4	ST	RE		State or Province	
5	ST	RE		ZIP or Postal Code	
6	ID	RE		Country	If sent, this will be a code from the ISO 3166 table of three-character country designators.
7	ID	RE	0190	Address Type	
8	ST	RE		Other Geographic Designation	
9	IS	RE	0289	County/Parish Code	
10	IS	RE	0288	Census Tract	
11	ID	RE	4000	Address Representation Code	

PID-13 Phone Number – Home

This field contains the telephone number of the patient's residence. The data type of this field is XTN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		[NNN] [(999)]999-999 [X99999] [B99999] [C any text]	The body of the telephone number can be sent in this component. Preferred usage is to break out the components of the telephone number in components 5-9.
2	ID	RE	0201	Telecommunications use code	
3	ID	RE	0202	Telecommunications equipment type	
4	ST	RE		Email Address	
5	NM	RE		Country Code	
6	NM	RE		Area/City Code	
7	NM	RE		Phone Number	
8	NM	RE		Extension	
9	ST	RE		Any Text	

PID-14 Phone Number – Business

This field contains the telephone number of the patient's workplace. The data type of this field is XTN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		[NNN] [(999)]999-999 [X99999] [B99999] [C any text]	The body of the telephone number can be sent in this component. Preferred usage is to break out the components of the telephone number in components 5-9.
2	ID	RE	0201	Telecommunications use code	
3	ID	RE	0202	Telecommunications equipment type	
4	ST	RE		Email Address	
5	NM	RE		Country Code	
6	NM	RE		Area/City Code	
7	NM	RE		Phone Number	
8	NM	RE		Extension	
9	ST	RE		Any Text	

PID-19 SSN Number - Patient

This field contains the last four digits of the patient's Social Security Number. Data in this field are used to improve the quality of matching between records containing similar patient identification criteria. This can be the last four of the SS# or in full nine digit format XXX-XX-XXXX.

PID-20 Driver's License Number – Patient

This field contains the patient's driver's license number if available. The data type of this field is DLN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		License Number	

Cmp	DT	Usage	TBL#	Element Name	Comments
2	IS	RE	0333	Issuing State, Province, Country	If a country code is sent, this will be a code from the ISO 3166 table of three-character country designators.
3	DT	RE		Expiration Date	

PID-21 Mother's Identifier

This field contains identifiers for the patient's mother. It must be populated if the age of the patient is 1 month or less.

The data type of PID-21-mother's identifier is CX, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		ID	The full, unique identifier value for the patient.
2	ST	X		Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.
3	ID	X	0061	Code Identifying the Check Digit Scheme Employed	
4	HD	RE	0063	Assigning Authority	The system, organization, agency or department that created this patient identifier.
5	IS	RE	0203	Identifier Type Code	What kind of identifier this is: local, facility, state or national, Medicare, etc.
6	HD	RE		Assigning Facility	The place or location where the identifier was first assigned to the patient.

PID-22 Ethnic Group

This field contains a code and text specifying the patient's membership, or lack thereof, in a particular ethnic group. The data type of this field is CE, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Identifier	The standard code specifying the patient's membership, or lack thereof, in an ethnic group, preferably from the CDC race code set.
2	ST	RE		Text	The human-readable term for the patient's ethnic group, which must correspond to the value in Component 1 (Identifier) if any.
3	ST	RE		Name of Coding System	Name (usually abbreviated) of the code set from which the code in Component 1 and the text in Component 2 are taken.
4	ST	X		Alternate Identifier	
5	ST	X		Alternate Text	
6	ST	X		Name of Alternate Coding System	

PID-24 Multiple Birth Indicator

If it is known whether the patient (generally a neonate) is one of a number of multiple concurrent births (e.g., twins or triplets), this field, whose data type is ID, contains a

value from HL7 Table 0136, Yes/No Indicator: Y if the patient is part of a multiple birth or N if the patient is not part of a multiple birth.

PID-25 Birth Order

If the value of PID-24-multiple birth indicator is Y, this field, whose data type is NM, contains an integer indicating the order of this patient in the multiple birth: 1 if the first born, 2 if the second born, etc.

PID-29 Patient Death Date and Time

If the patient is deceased, this field, whose data type is TS, contains the date and time of the patient's death as precisely as is recorded on the system from which the current message instance was sent.

PID-30 Patient Death Indicator

This field, whose data type is ID, indicates whether the patient is deceased. Its value is taken from HL7-defined Table 0136, Yes/no indicator.

6.5 PD1 (Additional Demographics) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the PD1 (additional demographics) segment.

A summary table of usages, cardinalities and element names of all fields in the PD1 segment is provided in Section 5.5, "PD1 (Additional Demographics) Segment."

PD1-4 Patient Primary Care Provider Name & ID No.

If the patient's primary care provider is known, identifying information for that provider is sent in this field.

The data type of this field is XCN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		ID Number	The full, unique identifier value for the provider. Use of NPI is recommended.
2	ST	R		Family name & last name prefix	Last name of the provider. If the last name contains a prefix such as de or von that is excluded from alphabetization in the locale of the sending system, the last name prefix is restated in the second subcomponent of this component.
3	ST	RE		Given Name	First name of the provider.
4	ST	RE		Middle Initial or Name	Multiple middle initials or names are separated by spaces.
5	ST	RE		Suffix	E.g, JR or III.
6	ST	RE		Prefix	E.g. DR.
7	IS	RE	0360	Degree	
8	IS	RE	0297	Source Table	

Cmp	DT	Usage	TBL#	Element Name	Comments
9	HD	RE	0363	Assigning Authority	The creator of the authoritative identification record from which this provider's ID number and name data are derived.
10	ID	RE	0200	Name Type Code	
11	ST	RE		Identifier Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.

6.6 PV1 (Patient Visit) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the PV1 (patient visit) segment.

A summary table of usages, cardinalities, and element names of all fields in the PV1 segment is provided in Section 5.6, "PV1 (Patient Visit) Segment."

PV1-2 Patient Class

This field designates the type of visit, such as inpatient (I) or outpatient (O) for which the patient is registered.

The data type of field PV1-2-patient class is IS. It contains a value from user-defined Table 0004, Patient Class.

PV1-3 Assigned Patient Location

For an inpatient, this field designates the patient's location in the medical center. The data type of this field is PL, which is defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		ID Number	The full, unique identifier value for the provider. Use of NPI is recommended.
2	ST	R		Family name & last name prefix	Last name of the provider. If the last name contains a prefix such as de or von that is excluded from alphabetization in the locale of the sending system, the last name prefix is restated in the second subcomponent of this component.
3	ST	RE		Given Name	First name of the provider.
4	ST	RE		Middle Initial or Name	Multiple middle initials or names are separated by spaces.
5	ST	RE		Suffix	E.g. JR or III.
6	ST	RE		Prefix	E.g. DR.
7	IS	RE	0360	Degree	
8	IS	R	0297	Source Table	Always valued 0010 to designate user-defined Table 0010, Physician ID, as the source of values for this field.
9	HD	RE	0363	Assigning Authority	The creator of the authoritative identification record from which this provider's ID number and name data are derived.
10	ID	RE	0200	Name Type Code	

Cmp	DT	Usage	TBL#	Element Name	Comments
11	ST	RE		Identifier Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.

PV1-8 Referring Doctor

This field contains information for a single referring physician. Repetitions of this field may contain identifying information for the same physician in different master files or source systems. However, this field is not to be used to send information for multiple referring physicians.

The data type of this field is XCN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		ID Number	The full, unique identifier value for the provider. Use of NPI is recommended.
2	ST	R		Family name & last name prefix	Last name of the provider. If the last name contains a prefix such as de or von that is excluded from alphabetization in the locale of the sending system, the last name prefix is restated in the second subcomponent of this component.
3	ST	RE		Given Name	First name of the provider.
4	ST	RE		Middle Initial or Name	Multiple middle initials or names are separated by spaces.
5	ST	RE		Suffix	E.g. JR or III.
6	ST	RE		Prefix	E.g. DR.
7	IS	RE	0360	Degree	
8	IS	R	0297	Source Table	Always valued 0010 to designate user-defined Table 0010, Physician ID, as the source of values for this field.
9	HD	RE	0363	Assigning Authority	The creator of the authoritative identification record from which this provider's ID number and name data are derived.
10	ID	RE	0200	Name Type Code	
11	ST	RE		Identifier Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.

PV1-9 Consulting Doctor

This field contains information for one or more consulting physicians. Repetitions of this field may contain identifying information for the same or different physicians in different master files or source systems.

The data type of this field is XCN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		ID Number	The full, unique identifier value for the provider. Use of NPI is recommended.
2	ST	R		Family name & last name prefix	Last name of the provider. If the last name contains a prefix such as de or von that is excluded from alphabetization in the locale of the sending system, the last name prefix is

Cmp	DT	Usage	TBL#	Element Name	Comments
					restated in the second subcomponent of this component.
3	ST	RE		Given Name	First name of the provider.
4	ST	RE		Middle Initial or Name	Multiple middle initials or names are separated by spaces.
5	ST	RE		Suffix	E.g. JR or III.
6	ST	RE		Prefix	E.g. DR.
7	IS	RE	0360	Degree	
8	IS	R	0297	Source Table	Always valued 0010 to designate user-defined Table 0010, Physician ID, as the source of values for this field.
9	HD	RE	0363	Assigning Authority	The creator of the authoritative identification record from which this provider's ID number and name data are derived.
10	ID	RE	0200	Name Type Code	
11	ST	RE		Identifier Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.

PV1-10 Hospital Service

This field, whose data type is IS, contains a code for the treatment or type of surgery that was assigned to the patient with the most recent patient movement. When present, it is populated with a value from user-defined Table 0069, Hospital Service.

PV1-14 Admit Source

This field, whose data type is IS, contains a code indicating from where the patient intake occurred. When present, it is populated with a value from user-defined Table 0023, Admit Source.

PV1-17 Admitting Doctor

This field contains information for a single admitting physician. Repetitions of this field may contain identifying information for the same physician in different master files or source systems. However, this field is not to be used to send information for multiple admitting physicians.

The data type of this field is XCN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		ID Number	The full, unique identifier value for the provider. Use of NPI is recommended.
2	ST	R		Family Name and Last Name Prefix	Last name of the provider. If the last name contains a prefix such as de or von that is excluded from alphabetization in the locale of the sending system, the last name prefix is restated in the second subcomponent of this component.
3	ST	RE		Given Name	First name of the provider.
4	ST	RE		Middle Initial or Name	Multiple middle initials or names are separated by spaces.

Cmp	DT	Usage	TBL#	Element Name	Comments
5	ST	RE		Suffix	E.g. JR or III.
6	ST	RE		Prefix	E.g. DR.
7	IS	RE	0360	Degree	
8	IS	R	0297	Source Table	Always valued 0010 to designate user-defined Table 0010, Physician ID, as the source of values for this field.
9	HD	RE	0363	Assigning Authority	The creator of the authoritative identification record from which this provider's ID number and name data are derived.
10	ID	RE	0200	Name Type Code	
11	ST	RE		Identifier Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.

PV1-18 Patient Type

This field, whose data type is IS, contains a site-specific code specifying the patient type. When present, it is populated with a value from user-defined Table 0018, Patient Type.

PV1-36 Discharge Disposition

This field, whose data type is IS, contains a site-specific code indicating the status and/or location (e.g., home, expired) applicable to the patient at the time of discharge. When present, it is populated with a value from user-defined Table 0112, Discharge Disposition.

PV1-37 Discharged to Location

This field, when populated, contains the identifier of the facility to which the patient was discharged.

The data type of field PV1-37-discharged to location is CM. Its components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	IS	RE	0113	Discharge Location	
2	TS	RE		Effective Date	

PV1-44 Admit Date/Time

When present, this field, whose data type is TS, contains the date and time when the patient was admitted (if the patient is an inpatient) or when the current encounter began (if the patient is an outpatient).

PV1-45 Discharge Date/Time

When present, this field, whose data type is TS, contains the date and time when the patient was discharged (if the patient was an inpatient and has been discharged) or when the current encounter ended (if the patient was an outpatient and the current encounter is complete).

6.7 OBX (Observation / Result) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the OBX (observation / result) segment.

A summary table of usages, cardinalities and element names of all fields in the OBX segment is provided in Section 5.7, "OBX (Observation / Result) Segment."

OBX-2 Value Type

This field, whose data type is ID, contains the data type of the information carried in field OBX-5-observation value.

When present, field OBX-2-value type is populated with a value from HL7 Table 0125, Value Type. This field will be populated in all occurrences of the OBX segment except those in which field OBX-11-Observation Result Status is valued X, indicating that no value was obtained for the observation.

OBX-3 Observation Identifier

This field contains a code that classifies the information carried in field OBX-5-observation value. The data type of field OBX-3-observation identifier is CE, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Identifier	The standard code specifying the kind of information, preferably from the LOINC code set. For height and weight, this must be a LOINC code (either for reported or measured).
2	ST	RE		Text	The human-readable term for the kind of information, which must correspond to the value in Component 1 (Identifier) if any.
3	ST	RE		Name of Coding System	Name (usually abbreviated) of the code set from which the code in Component 1 and the text in Component 2 are taken.
4	ST	X		Alternate Identifier	
5	ST	X		Alternate Text	
6	ST	X		Name of Alternate Coding System	

OBX-5 Observation Value

This field contains the actual value whose data type is given in field OBX-2-value type and whose classification is given in field OBX-3-observation identifier. Its formatting follows the rules of the HL7 standard for the data type carried in OBX-2 and the HL7 version carried in field MSH-12-version ID.

OBX-6 Units

This field contains the units of measure for the observation carried in field OBX-5-observation value. The data type of field OBX-6-units is CE, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Identifier	The standard code specifying the units of measure, preferably from ISO Standard 2955-1983.
2	ST	RE		Text	The human-readable term for the units of measure, which must correspond to the value in Component 1 (Identifier) if any.
3	ST	RE		Name of Coding System	Name (usually abbreviated) of the code set from which the code in Component 1 and the text in Component 2 are taken.
4	ST	X		Alternate Identifier	
5	ST	X		Alternate Text	
6	ST	X		Name of Alternate Coding System	

OBX-11 Observation Result Status

This field, whose data type is ID, indicates the processing or release stage of the observation. It is populated with a value from HL7 Table 0085, Observation Result Status Codes Interpretation.

OBX-14 Date/Time of the Observation

This field, whose data type is TS, indicates the date and time when the observation occurred, as precisely as available from the system that sent the current message instance.

6.8 DG1 (Diagnosis Information) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the DG1 (diagnosis information) segment.

A summary table of usages, cardinalities and element names of all fields in the DG1 segment is provided in Section 5.8, "DG1 (Diagnosis Information) Segment."

DG1-2 Diagnosis Coding Method

This field indicates the coding system from which the code in field DG1-3-diagnosis code-DG1 was obtained.

Field DG1-2-diagnosis coding method, whose data type is ID, has been deprecated by HL7 in favor of the third component (Name of Coding System) of DG1-3. If present, DG1-2 is populated with a value from HL7 Table 0053, Diagnosis Coding Method.

DG1-3 Diagnosis Code – DG1

This field contains the symbolic term, such as an ICD-9 code, assigned to this diagnosis.

The data type of DG1-3-diagnosis code is CE, whose components are defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Identifier	The standard code specifying the diagnosis.
2	ST	RE		Text	The human-readable term for the diagnosis, which must correspond to the value in Component 1 (Identifier) if any. Use this component in preference to field DG1-4-diagnosis description, which has been deprecated by HL7.
3	ST	RE		Name of Coding System	Name (usually abbreviated) of the code set from which the code in Component 1 and the text in Component 2 are taken. Use this component in preference to field DG1-2-diagnosis coding method, which has been deprecated by HL7.
4	ST	X		Alternate Identifier	
5	ST	X		Alternate Text	
6	ST	X		Name of Alternate Coding System	

DG1-4 Diagnosis Description

This field contains the human-readable term for the diagnosis.

Field DG1-4-diagnosis description, whose data type is ST, has been deprecated by HL7 in favor of the second component (Text) of DG1-3.

DG1-5 Diagnosis Date/Time

This field, whose data type is TS, indicates the date and time when the diagnosis was determined, as precisely as available from the system that sent the current message instance.

DG1-6 Diagnosis Type

This field, whose data type is IS, contains a code indicating the stage of the diagnosis, such as admitting (A), working (W) or final (F). When present, it is populated from user-defined Table 0052, Diagnosis Type.

6.9 PR1 (Procedures) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the PR1 (procedures) segment.

A summary table of usages, cardinalities, and element names of all fields in the PR1 segment is provided in Section 5.9, “PR1 (Procedures) Segment.”

PR1-2 Procedure Coding Method

This field indicates the coding system from which the code in field PR1-3-procedure code was obtained.

Field PR1-2-procedure coding method, whose data type is ID, has been deprecated by HL7 in favor of the third component (Name of Coding System) of PR1-3. If present, PR1-2 is populated with a value from HL7 Table 0089, Procedure Coding.

PR1-3 Procedure Code

This field contains the symbolic term, such as a CPT code, assigned to this procedure.

The data type of PR1-3-procedure code is CE, whose components are defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Identifier	The standard code specifying the procedure. Populated with a value from user-defined Table 0088, Procedure Code.
2	ST	RE		Text	The human-readable term for the procedure, which must correspond to the value in Component 1 (Identifier) if any. Use this component in preference to field PR1-4-procedure description, which has been deprecated by HL7.
3	ST	RE		Name of Coding System	Name (usually abbreviated) of the code set from which the code in Component 1 and the text in Component 2 are taken. Use this component in preference to field PR1-2-procedure coding method, which has been deprecated by HL7.
4	ST	X		Alternate Identifier	
5	ST	X		Alternate Text	
6	ST	X		Name of Alternate Coding System	

PR1-4 Procedure Description

This field contains the human-readable term for the procedure.

Field PR1-4-procedure description, whose data type is ST, has been deprecated by HL7 in favor of the second component (Text) of PR1-3.

PR1-5 Procedure Date/Time

This field, whose data type is TS, indicates the date and time when the procedure was performed, as precisely as available from the system that sent the current message instance.

PR1-8 Anesthesiologist

This field contains information for a single anesthesiologist associated with the procedure. Repetitions of this field may contain identifying information for the same

anesthesiologist in different master files or source systems. However, this field is not to be used to send information for multiple anesthesiologists.

Field PR1-8-anesthesiologist has been deprecated by HL7 in favor of the ROL segment.

The data type of this field is XCN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		ID Number	The full, unique identifier value for the provider.
2	ST	R		Family name & last name prefix	If the last name contains a prefix such as de or von that is excluded from alphabetization in the locale of the sending system, the last name prefix is restated in the second subcomponent of this component.
3	ST	RE		Given Name	
4	ST	RE		Middle Initial or Name	Multiple middle initials or names are separated by spaces.
5	ST	RE		Suffix	e.g., JR or III.
6	ST	RE		Prefix	e.g., DR.
7	IS	RE	0360	Degree	
8	IS	R	0297	Source Table	Always valued 0010 to designate user-defined Table 0010, Physician ID, as the source of values for this field.
9	HD	RE	0363	Assigning Authority	The creator of the authoritative identification record from which this provider's ID number and name data are derived.
10	ID	RE	0200	Name Type Code	
11	ST	RE		Identifier Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.

PR1-11 Surgeon

This field contains information for a single surgeon associated with the procedure. Repetitions of this field may contain identifying information for the same surgeon in different master files or source systems. However, this field is not to be used to send information for multiple surgeons.

Field PR1-8-surgeon has been deprecated by HL7 in favor of the ROL segment.

The data type of this field is XCN, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		ID Number	The full, unique identifier value for the provider.
2	ST	R		Family name & last name prefix	If the last name contains a prefix such as de or von that is excluded from alphabetization in the locale of the sending system, the last name prefix is restated in the second subcomponent of this component.
3	ST	RE		Given Name	
4	ST	RE		Middle Initial or Name	Multiple middle initials or names are separated by spaces.

Cmp	DT	Usage	TBL#	Element Name	Comments
5	ST	RE		Suffix	e.g., JR or III.
6	ST	RE		Prefix	e.g., DR.
7	IS	RE	0360	Degree	
8	IS	R	0297	Source Table	Always valued 0010 to designate user-defined Table 0010, Physician ID, as the source of values for this field.
9	HD	RE	0363	Assigning Authority	The creator of the authoritative identification record from which this provider's ID number and name data are derived.
10	ID	RE	0200	Name Type Code	
11	ST	RE		Identifier Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.

6.10 IN1 (Insurance) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the IN1 (insurance) segment.

A summary table of usages, cardinalities and element names of all fields in the IN1 segment is provided in Section 5.10, "IN1 (Insurance) Segment."

IN1-1 Set ID – IN1

This is the ordinal number of this occurrence of the AL1 segment within the current message instance. The first occurrence is labeled 1, the second 2, and so on.

If the patient is paying out of pocket rather than using insurance, then, in the first occurrence of the IN1 segment, the term SELF-PAY must appear in the second component of IN1-2-Insurance Plan ID. This is necessary to suppress the sending of message information to insurance carriers.

IN1-2 Insurance Plan ID

This field contains a unique identifier for the insurance plan.

The data type of this field is CE, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Identifier	The symbolic identifier of the insurance plan.
2	ST	RE		Text	The human-readable name of the insurance plan, which must correspond to the value in Component 1 (Identifier) if any. If the patient is paying out of pocket rather than using insurance, then, in the first occurrence of the IN1 segment, the term SELF-PAY must appear in this component. This is necessary to suppress the sending of message information to insurance carriers.
3	ST	X		Name of Coding System	
4	ST	X		Alternate Identifier	

Cmp	DT	Usage	TBL#	Element Name	Comments
5	ST	X		Alternate Text	
6	ST	X		Name of Alternate Coding System	

IN1-3 Insurance Company ID

This field contains a unique identifier for the insurance company. MiHIN will work with the ADT sending organizations to map contents of IN1-3-insurance company ID to insurance companies across the state for accurate delivery.

The data type of this field is CX, whose components are as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		ID	The full, unique identifier value for the insurance company.
2	ST	X		Check Digit	Restatement of the check digit portion, if any, of the ID number in component 1.
3	ID	X	0061	Code Identifying the Check Digit Scheme Employed	
4	HD	RE	0063	Assigning Authority	The system, organization, agency, or department that created this insurance company identifier.
5	IS	RE	0203	Identifier Type Code	Indicates that this is an insurance company identifier and, if applicable, more precisely indicates what kind of insurance company identifier this is: local, facility, state or national, Medicare, etc.
6	HD	RE		Assigning Facility	The place or location where the identifier was first assigned to the patient.

IN1-4 Insurance Company Name

This field, whose data type is XON, contains name and other identifying information for the insurance company. MiHIN will work with the ADT sending organizations to map contents of IN1-4-insurance company name to insurance companies across the state for accurate delivery.

Its components are defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		Organization Name	Name of the insurance company.
2	IS	X	0204	Organization Name Type Code	
3	NM	X		ID Number	
4	NM	X		Check Digit	
5	ID	X	0061	Code Identifying the Check Digit Scheme Employed	
6	HD	X	0363	Assigning Authority	
7	IS	X	0203	Identifier Type Code	
8	HD	X		Assigning Facility ID	

Cmp	DT	Usage	TBL#	Element Name	Comments
9	ID	X		Name Representation Code	

IN1-36 Policy Number

This field, whose data type is ST, contains the individual policy number of the insured to uniquely identify this patient's plan. For special types of insurance numbers, there are also special fields in the IN2 segment for Medicaid, Medicare, CHAMPUS (i.e., IN2-8-Medicaid case number, IN2-6-Medicare health insurance card number, and IN2-10-Military ID number). However, HL7 recommends that IN1-36-policy number be filled even when the patient's insurance number is also passed in one of these other fields.

6.11 NPU (Non-Patient Update) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the NPU (non-patient update) segment.

A summary table of usages, cardinalities, and element names of all fields in the NPU segment is provided in Section 5.11, "NPU (Non-Patient Update) Segment."

NPU-1 Bed Location

This field designates the location of the bed in the medical center. The data type of this field is PL, which is defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	IS	RE	0302	Point of Care	Entries in user-defined Table 0302 are defined at the medical center. No suggested values are provided by HL7.
2	IS	RE	0303	Room	Entries in user-defined Table 0303 are defined at the medical center. No suggested values are provided by HL7.
3	IS	RE	0304	Bed	Entries in user-defined Table 0304 are defined at the medical center. No suggested values are provided by HL7.
4	HD	RE		Facility	
5	IS	RE	0306	Location Status	
6	IS	RE	0305	Person Location Type	
7	IS	RE	0307	Building	Entries in user-defined Table 0307 are defined at the medical center. No suggested values are provided by HL7.
8	IS	RE	0308	Floor	Entries in user-defined Table 0308 are defined at the medical center. No suggested values are provided by HL7.
9	ST	RE		Location Description	

NPU-2 Bed Status

This field, whose data type is IS, indicates the occupancy status of the bed. It is populated with a value from user-defined Table 0116, Bed Status.

6.12 MSA (Message Acknowledgment) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the MSA (message acknowledgment) segment.

A summary table of usages, cardinalities, and element names of all fields in the MSA segment is provided in Section 5.12, "MSA (Message Acknowledgment) Segment."

MSA-1 Acknowledgment Code

This field, whose data type is ID, indicates whether the receiver was able to persist and process the message successfully. It is populated with a value from HL7-defined Table 0008, Acknowledgment Code.

MSA-2 Message Control ID

This field, whose data type is ST, contains the value of MSH-10-message control ID in the message received from the originating system. It allows an association to be maintained between this acknowledgment response and the message it is acknowledging.

6.13 ERR (Error) Segment Fields

The detailed field definitions below will be conformed to by all HL7 messages sending the ERR (error) segment.

A summary table of usages, cardinalities, and element names of all fields in the ERR segment is provided in Section 5.13, "ERR (Error) Segment."

ERR-1 Error Code and Location

Each occurrence of this field designates at what segment, field, repetition and/or component in the originating message an error occurred, and the nature of the error.

Field ERR-1-error code and location was deprecated in HL7 Version 2.5 in favor of fields ERR-2 through ERR-12, which allow errors to be specified with greater precision and detail. However, ERR-1 must be present if the HL7 version as specified in MSH-12-version ID is prior to 2.5.

The data type of this field is ELD, which is defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	RE		Segment ID	Present if and only if the error corresponded to an element of the originating message.
2	NM	CE		Segment Sequence	If and only if component 1 is sent, this component indicates to what occurrence of the segment the error corresponded. It should contain the value of the Set ID field (if present, generally field 1) of the segment.
3	NM	CE		Field Position	If and only if component 1 is sent, this component indicates to what field (if any) the error corresponded.
4	CE	R	0357	Code Identifying Error	This component is sent as three subcomponents, separated by the subcomponent separator. The first component is the appropriate code from Table 0357, Message Error Condition Codes; the second component is the corresponding description from Table 0357; the third component is the string literal HL70357.

ERR-2 Error Location

This field indicates the location(s) in the received message at which the indicated error occurred. For errors occurring at one or more specific locations, field ERR-2-error location must be present if the HL7 version as specified in field MSH-12-version ID is 2.5 or later.

The data type of this field is ERL, which is defined as follows.

Cmp	DT	Usage	TBL#	Element Name	Comments
1	ST	R		Segment ID	
2	NM	R		Segment Sequence	This component indicates to what occurrence of the segment the error corresponded. It should contain the value of the Set ID field, if present. If the error corresponds to a segment that contains no Set ID field and occurs only once, this component should contain 1.
3	NM	CE		Field Position	This component indicates to what field (if any) the error corresponded.
4	NM	CE		Field Repetition	If component 3 is populated and the element at the field position indicated by component 3 contains multiple occurrences, this component contains an integer corresponding to the ordinal occurrence in which the error occurred.
5	NM	CE		Component Number	If component 3 is populated and the element at the field position indicated by component 3 contains multiple components, this component contains an integer corresponding to the ordinal position of the component in which the error occurred.
6	NM	CE		Sub-Component Number	If component 5 is populated and the element at the component position indicated by

Cmp	DT	Usage	TBL#	Element Name	Comments
					component 5 contains multiple subcomponents, this component contains an integer corresponding to the ordinal position of the subcomponent in which the error occurred.

ERR-3 HL7 Error Code

This field, whose data type is CNE, contains a code specifying the nature of the error. It must be present if the HL7 version indicated in field MSH-12-version ID is 2.5 or later.

The value in this field is taken from HL7 Table 0357, Message Error Condition Codes.

ERR-4 Severity

This field, whose data type is ID, contains a code specifying whether the error is informational, warning or fatal. It must be present if the HL7 version indicated in field MSH-12-version ID is 2.5 or later.

The value in this field is taken from HL7 Table 0516, Error Severity.

7 HL7 Vocabulary Tables[7]

Please see the ADT Use Case Implementation Guide for the HL7 Vocabulary Tables: https://mihin.org/wp-content/uploads/2019/05/Microsoft-Word-MiHIN-UCIG-ADT-Notifications-v46-05-09-19.pdf

[7] The language and material in this section has been adapted from original material created by HL7. MiHIN received permission to share and adapt HL7 writing in 2018. If you have any questions, please feel free to write to MiHIN. If you would like to see the original source material, please visit http://www.hl7.org/index.cfm

8 Troubleshooting

8.1 Production Support

MiHIN's Severity Matrix can be found at:

https://mihin.org/wp-content/uploads/2018/08/MiHIN-Severity-Matrix-v3-08-01-18.pdf

If you are experiencing difficulties or have questions, please contact the MiHIN Help Desk:

- www.mihin.org/requesthelp
- Phone: (517) 336-1430
- Monday – Friday 8:00 AM – 5:00 PM (Eastern)

9 Legal Advisory Language

This reminder applies to all UCEs or PAEs covering the exchange of electronic health information:

The data sharing agreement establishes the legal framework under which PO can exchange messages through the HIN 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; and
f. **For any additional purposes as specified in any UCE or PAE, provided that such purposes are consistent with Applicable Laws and Standards**.

Under these agreements, "***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

agency, including the State of Michigan, or the Michigan Health Information Technology Commission 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 which is enforceable against a Party. Without limiting the generality of the foregoing, "Applicable Laws and Standards" includes 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 PO'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 UCE is directed to the exchange of physical health information that may be exchanged without patient authorization under HIPAA, the PO 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 will apply 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.