MDHHS Drug Poisoning Surveillance System

Implementation Guide

Version 5
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Document History

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Acronyms and Abbreviations Guide

ACRS®	Active Care Relationship Service®
ADT	Admission, Discharge, Transfer
API	Application Programming Interface
CK	Common Key
CKS	Common Key Service
DQA	Data Quality Assurance
DSM	Direct Secure Messaging
DSO	Data Sharing Organization
EHR	Electronic Health Record
HIE	Health Information Exchange
HIN	Health Information Network
HL7	Health Level Seven
HPD	Health Provider Directory
MDHHS	Michigan Department of Health and Human Services
MiHIN	Michigan Health Information Network Shared Services
MOPSS	Michigan Opioid and Poisoning Surveillance System
MUCA	Master Use Case Agreement
OID	Object Identifier
PO	Participating Organization
TDSO	Trusted Data Sharing Organization
UCA	Use Case Agreement
UCS	Use Case Summary

VPN	Virtual Private Network

Definitions

Attribution. The connection between a consumer and their health care providers. One definition of attribution is "assigning a provider or providers, who will be held accountable for a member based on an analysis of that member's claim data." The attributed provider is deemed responsible for the patient's cost and quality of care, regardless of which providers deliver the service.

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 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 HIPAA; (d) a relationship with a health provider asserted by a consumer and approved by the health provider; or (e) any person or 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 ACRS.

Active Care Relationship Service (ACRS). The MiHIN infrastructure service that contains records for those TDSOs, their participating organizations 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 care setting such as a health clinic or hospital.

ADT Message. A type of HL7 message generated by healthcare systems based upon 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 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.

C32. HITSP Summary Documents Using HL7 Continuity of Care Document Component - http://www.hitsp.org/ConstructSet_Details.aspx?&PrefixAlpha=4&PrefixNumeric=32.

C62. The HITSP Unstructured Document Component is provided for the capture and storage of patient identifiable, unstructured document content, such as text, PDF, and images rendered in PDF. It is based on the Cross-Enterprise Sharing of Scanned Documents (XDS-SD) profile from IHE - http://www.hitsp.org/ConstructSet_Details.aspx?&PrefixAlpha=4&PrefixNumeric=62

Conforming Message. A message that is in a standard format that strictly adheres to the implementation guide for its applicable use case.

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

Electronic Address. A string that identifies the transport protocol and end point address for communicating electronically with a recipient. A recipient may be a person, organization or other entity that has designated the electronic address as the point at which it will receive electronic messages. Examples of an electronic address include a secure email address (Direct via secure SMTP) or secure URL (SOAP / XDR / REST / FHIR). Communication with an electronic address may require a digital certificate or participation in a trust bundle.

Electronic CQM (eCQM). CQMs that are specified in a standard electronic format and are designed to use data from Health IT systems for measurement.

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 ESI.

Exhibit. Collectively, a use case exhibit or a pilot activity exhibit.

Health Directory. The statewide shared service established by MiHIN that contains contact information on health providers, electronic addresses, end points, and ESI, as a

resource for authorized users to obtain contact information and to securely exchange health information.

Health Level 7 (HL7). An interface standard and specifications for clinical and administrative healthcare data developed by the Health Level Seven 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 health care to an individual; or the past, present, or future payment for the provision of health care 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 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.

Information Source. Any organization that provides information that is added to a MiHIN infrastructure service.

Master Use Case Agreement (MUCA). Legal document covering expected rules of engagement across all use cases. Trusted data sharing organizations sign master use case agreement one time, then sign use case exhibits for participation in specific use cases.

Meaningful Use. Using certified 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.

Message. A mechanism for exchanging message content between the participating organization to MiHIN 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 MiHIN services. Message content includes the message content header.

Message Header ("MSH") or Message Content 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 MiHIN for the State of Michigan.

MiHIN Infrastructure Service. Certain services that are shared by numerous use cases. MiHIN infrastructure services include, but are not limited to, Active Care Relationship Service (ACRS), Health Directory, Statewide Consumer Directory (SCD), and the Medical Information DIrect GATEway (MIDIGATE®).

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

Negative Acknowledgment (NAK or NACK). "Not acknowledged" and is used to negatively acknowledge or to reject previously received message content or to indicate some kind of error.

Notice. A message transmission that is not message content and which may include an acknowledgement of receipt or error response, such as an ACK or 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 MiHIN infrastructure service that primarily relates to a person.

Pilot Activity. The activities set forth in the applicable exhibit and typically includes sharing message content through early trials of a new use case that is still being defined and is still under development and which may include participating organization feedback to MiHIN to assist in finalizing a use case and use case and use case exhibit upon conclusion of the pilot activity.

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

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. Examples of use include consuming into workflow, reporting, storing, or analysis. Send/Receive/Find/Use (SRFU) activities must comply with Applicable Laws & Standards or State Administrative Code as that term is defined in this agreement and the data sharing agreement.

Service Interruption. A party is unable to send, receive or find message content for any reason, including the failure of network equipment or software, scheduled or unscheduled maintenance, general Internet outages, and events of force majeure.

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.

Specifications. Specifications provide a standard set of service interfaces that enable the exchange of interoperable health information among the health information exchanges.

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 MiHIN for data sharing.

Use Case. (a) A use case agreement previously executed by a participating organization; or (b) the use case summary, use case exhibit and a use case implementation guide that participating organization or TDSO must follow to share specific message content with the MiHIN.

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 (UCIG). The document providing technical specifications related to message content and transport of message content between participating organization, MiHIN, and other TDSOs. 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 via the MiHIN website at www.mihin.org.

1. Introduction

1.1 Purpose of Use Case

Prescription drug and opioid abuse is a growing national health emergency that impacts every community in Michigan. From 1999 to 2016, the total number of overdose deaths involving any type of opioid increased more than 17 times in Michigan, from 99 to 1,689.[1] On July 17, 2018, Sparrow Forensic Pathology Services, a division of Sparrow Hospital, released its first quarter numbers of drug-related deaths in five Michigan counties: Eaton, Ingham, Ionia, Isabella, and Shiawassee. Summarily, total drug-related deaths have increased 20% compared to the same time in 2017. Further, opioid-related deaths are up 17.9% from the same time last year.[2]

In response, the Michigan Department of Health and Human Services (MDHHS) has issued new administrative rules which will require, upon request, health care providers and facilities to report prescription and illicit drug poisonings to MDHHS. The rule is intended to help inform the public health surveillance and response efforts to the substantial increase in cases of prescription and illicit drug overdoses in Michigan. MDHHS will use reported data for planning and targeting of resources for prevention, intervention, and treatment to populations and geographic locations of high need.

To minimize reporting burdens and obtain timelier, more actionable data, MDHHS and MiHIN will develop a surveillance system to collect information on prescription and illicit drug poisoning events that capitalizes on existing information feeds. ***The system will leverage existing Admission, Discharge, Transfer (ADT) message feeds from participating hospitals to identify events with a diagnosis code (from the nation's current diagnosis coding system) related to drug overdoses and poisonings.*** MiHIN Rhapsody will filter incoming ADT messages (by ADT event types) that contain any of the 2,111 identified ICD-10-CM codes and will route those messages to MDHHS, based on their delivery preferences.

Note Related Use Case Requirements: Organizations entering this use case should simultaneously enter into the Admission, Discharge, Transfer (ADT) Notifications use case. This use serves as the foundational functionality that supports MDHHS's drug poisoning surveillance system.

1.2 Message Content

Message Content refers to an ADT Message and/or ADT Notification (A01, A02, A03, A04, A05, A06, A07, A08, A11, A12 and A13) conforming to HL7 2.5.1 standards and identified as

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[1] Department Of Health And Human Services Bureau Of Epidemiology And Population Health Division Of Environmental Health, "Reporting Of Poisonings Due To The Use Of Prescription Or Illicit Drugs Emergency Rules," (2018), accessed June 19, 2019, https://www.michigan.gov/documents/opt/Reporting_of_Poisonings_Due_to_Use_of_Prescription_and_Illicit_637072_7.pdf

[2] Ibid, page 1.

containing specific diagnosis codes (from the current national coding system) for prescription and illicit drug poisonings.

For the time being, only ICD-10-CM diagnosis codes will be used. At MDHHS's discretion additional triggering criteria may be introduced to increase the sensitivity and specificity in the catchment of relevant drug poisoning referrals. MDHHS will update and publish these criteria on a regular basis.
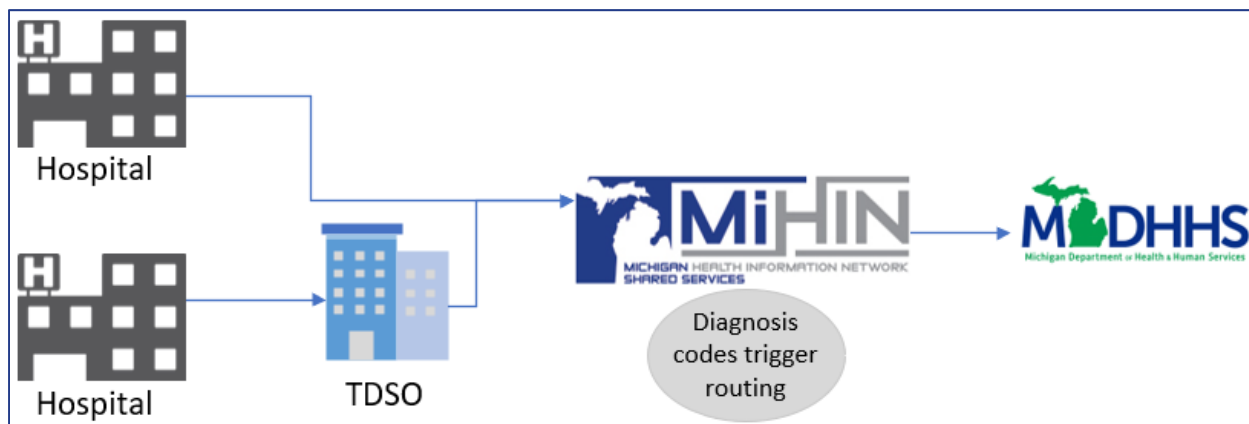
1.3 Data Flow and Actors

Figure 1. Organizations Sending Patient Diagnosis

1. A patient visits a participating hospital, which sends an ADT notification containing a diagnosis code (for prescription and illicit drug overdoses) to MiHIN, either directly or through a Trusted Data Sharing Organization (TDSO)
2. MiHIN receives this ADT and identifies that the notification was routed from a participating ADT sender. MiHIN also identifies that the notification contains a diagnosis code of interest for the MDHHS's drug poisoning surveillance system.
   a. If the ADT notification does not have an applicable diagnosis code, it does not get routed to MDHHS
   b. MiHIN also parses out the DG1 data that does not specifically relate to the most current national disease coding system
3. MiHIN routes the ADT notification to MDHHS's designated end-point
4. MDHHS receives the ADT notification

1.3.1 Use Case Summary

The use case summary will be competed and provided upon completion of the Exhibit.

2 Standard Overview

2.1 Message Format

The current ADT message formats supported by the IIS are HL7 v2.5.1 (preferred) and HL7 v2.3.1

2.2 Message Example

Below are some sample messages that will be used for this use case. Some messages contain the persona patient's common key (highlighted section). MiHIN can provide further ADT message examples upon request.

A01

MSH|^~\&|Sending Application Sending Facility Child OID^Sending Facility Parent OID^ISO| MDSS^2.16.840.1.114222.4.3.2.2.3.161.1.6377^ISO| |20181221101416-1092|ADT^A01|216376926218813918475|T|2.5.1

EVN|A01||20181221101416-1092

PID|1|000-00-1155^^^1^SSN^1~ah7xja71gb4bdznumnupokdyn68twz2sdfflxm6p^CKS||Munson^Christy^H||19790827|F||2106-3|2021 Plain Oak Lane^^Dearborn^MI^4812o||(313)555-7701||eng|S|||000-00-1155|||2106-3^White^CDCREC

PV1|I||E|||7731587169^Norris^Dan

DG1||I10|T40.601A| Poisoning by unspecified narcotics, accidental (unintentional), initial encounter ^20181221101416-1092|A|

PR1|1||99221^New or Established Patient Initial Hospital Inpatient Care^CPT-4|||20181221101416-1092||||||||||T40.601A^Poisoning by unspecified narcotics, accidental (unintentional), initial encounter^I10

A03

MSH|^~\&|Sending Application| Sending Facility Child OID^Sending Facility Parent OID|MDSS^2.16.840.1.114222.4.3.2.2.3.161.1.6377||20190326094161-2167|ADT^A03|221883627218813918475|T|2.5.1

EVN|A03||20190326094161-2167

PID|1|000-00-1173^^^1^SSN^ ^^^^||Ballard^Ethan^D.||19970714|M||2058-6|1794 S Telegraph Road^^Bloomfield^MI^48302||(248)555-3826||eng|S|||000-00-1173|||2058-6^African American^CDCREC

PV1|I||E|||7572417153^Santiago^Tara

DG1||I10| F11.250 | Opioid dependence with opioid-induced psychotic disorder with Delusions^|20190326094161-2167|F|

PR1|1||99221^New or Established Patient Initial Hospital Inpatient Care^CPT-4|||20190326094161-2167||||||||||| F11.250 ^ Opioid dependence with opioid-induced psychotic disorder with Delusions^I10

A04

MSH|^~\&|Sending Application| Sending Facility Child OID^Sending Facility Parent OID | MDSS^2.16.840.1.114222.4.3.2.2.3.161.1.6377|20181012124241-1080||ADT^A04|229577116273813771625|T|2.3

EVN|A04|20181012124241-1080

PID|1||000-00-1156^^^1^SSN^ ^^^^||ORVILLE^JONATHAN^P.||19920616|m||2500-7|500 Glenn Parkway NE^^Blacklick^OH^43004||(614)555-2801||eng|S|||000-00-1156|||2186-5

PV1|1|I|E|^^Jackson Hospital ^1.2.3.4.5.9.99.999.9999.1433|||6507058579^Guentherson^Thomas

DG1|1|I10|T40.2X1A|Poisoning by other opioids, accidental (unintentional), initial encounter|20181012121856-1130|A

PR1|1||99284^Emergency Department Visit New^CPT-4||20181012||||||||||| T40.2X1A ^ Poisoning by other opioids, accidental (unintentional), initial encounter^I10

IN1|1| 2374826512| Blue Marks Heath| 400 South Halfort Drive^Detroit^MI^48126|||1027|||||||||Orville^Jonathan^Paul|SEL|19920616|500 Glenn Parkway NE^^Blacklick^OH^43004

3 Onboarding Process

3.1 Prerequisites

Participating organizations must have completed legal and technical onboarding for the ADT Use Case before participating in automated referrals of drug poisonings to the MDHHS drug poisoning surveillance system. Once participating organizations are in production with sending ADT messages to MiHIN, the organization will automatically be opted-in to participate in automated drug poisoning surveillance as participation is a requirement set by the State of Michigan administrative rules.

- Obtain, review, and execute legal agreements

3.1.1 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.

3.2 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 put in a service request at www.mihin.org/requesthelp. Currently MiHIN accepts the following transport methods:

- LLP over IPsec VPN – Lower-Layer Protocol over Internet Protocol Security Virtual Private Network
- DSM – Direct Secure Messaging

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

3.3 Technical Onboarding

3.3.1 ADT-Drug Poisoning Surveillance System Sender

The Drug Poisoning Surveillance use case focuses on ADTs from hospitals containing diagnosis codes regarding patients being treated for prescription and illicit drug overdoses. The hospitals that are in production with sending ADTs are classified as "ADT Senders." Given the fact that hospitals and providers are required to report prescription and illicit

drug poisonings to the State of Michigan, any hospital that is in production with the ADT Use Case will automatically be opted-into sending ADTs as automated reports meeting State of Michigan administrative rules requiring submission of suspected drug poisoning referrals.
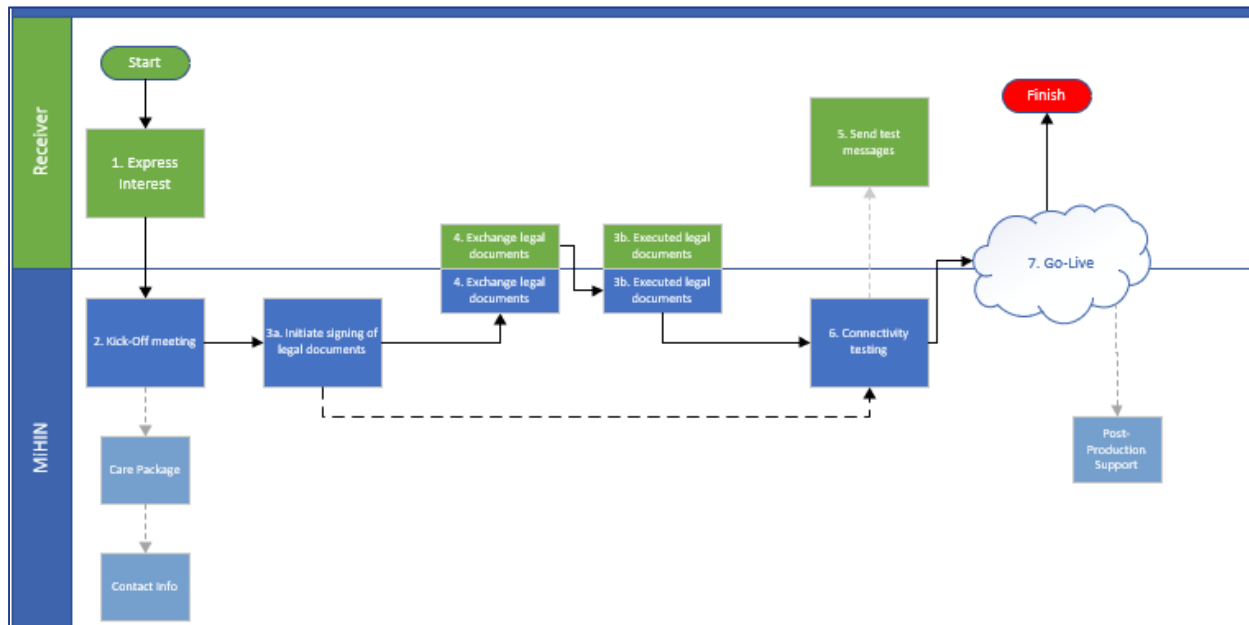

Figure 2. ADT Sender Onboarding Flowchart

For drug poisoning surveillance ADT senders, onboarding steps include:

- Hospital is in production with the ADT Use Case
- ADT Kick-off meeting
  - Distribute ADT "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
- Verify transport method/connectivity (e.g., via HIE, VPN, or Direct) and conduct connectivity testing
  - Provide sample ADT messages that meet ADT/drug poisoning surveillance criteria and test
- Complete validation process
- Go live
  - Organizations cannot go live with automated drug poisoning referals until they are in production with the ADT Use Case (ADT senders must be past the data quality assurance (DQA) phase)

3.3.2 Drug Poisoning Surveillance System ADT Receiver

The Drug Poisoning Surveillance System use case focuses on ADTs from hospitals containing diagnosis codes regarding patients being treated for prescription and illicit drug

overdoses. For automated drug poisoning referrals, MDHHS is classified as the "drug poisoning surveillance system ADT Receiver."

3.3.3 Drug Poisoning Surveillance System ADT Receiver Onboarding Process
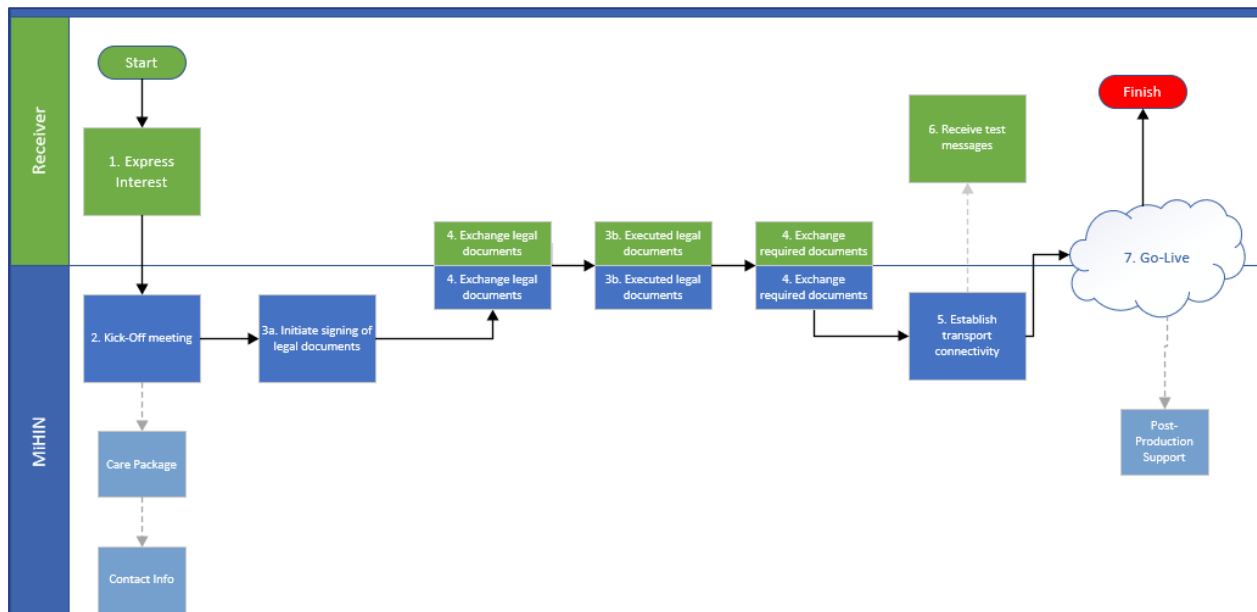
Figure 3. Drug Poisoning Surveillance System ADT Receiver Onboarding Flowchart

- ■ Kick-off meeting
  - ● Exchange contact information
  - ● Distribute ADT "care package"
- ■ Execute legal documents
  - ● Data Sharing Organization Agreement (if not already executed)
  - ● Master Use Case Agreement (if not already executed)
  - ● Admission, Discharge, Transfer Notification Use Case Exhibit
  - ● Common Key Service Use Case Exhibit
  - ● Health Directory Use Case Exhibit
  - ● Active Care Relationship Service Use Case Exhibit
  - ● Drug Poisoning Surveillance System Use Case Exhibit
- ■ Establish transport method/connectivity (e.g., via HIE, VPN, or Direct)
  - ● Receive sample ADT messages through drug poisoning surveillance system routing and test
- ■ Go live

4 Specifications

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

4.1 Message Trigger Events

The HL7 message type is ADT and the trigger events are:

- A01 – Admit, visit notification
- A02 – Transfer a patient
- A03 – Discharge/end visit
- A04 – Register a patient
- A05 – Pre-admit a patient
- A06 – Change an outpatient to an inpatient
- A07 – Change an inpatient to an outpatient
- A08 – Update patient information
- A11 - Cancel admit/visit notification
- A12 - Cancel transfer
- A13 - Cancel discharge/end visit

4.2 Sending Organization Requirements

Automated drug poisoning surveillance system 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.

4.2.1 Segment Requirements for Sending Organization

Each HL7 message sent to MiHIN must conform to the static definition corresponding to the trigger event of the message. You can learn more about HL7's Static Definitions via a document available on MiHIN's website page for ADT Notifications-
https://mihin.org/admission-discharge-transfer-notifications-use-case/

4.2.2 Segment Usage Requirements for Sending Organization

Conformant drug poisoning surveillance system 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

4.2.2.1 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.

4.2.3 Field and Subfield Requirements for Sending Organization

Each segment of each HL7 message sent to MiHIN will conform to the static definition corresponding to the trigger event of the message.

4.2.3.1 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

4.2.3.2 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.

4.2.4 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 ADT Notifications use

case, a prerequisite for onboarding to Drug Poisoning Surveillance System use case. For further information, please review the ADT Notifications Use Case Implementation Guide located at https://mihin.org/admission-discharge-transfer-notifications-use-case/

4.2.5 Conformance Reporting

For the most recent Blue Cross Blue Shield of Michigan (BCBSM) Pay-for-Performance requirements, please refer to the following link:
https://www.bcbsm.com/providers/value-partnerships/hospital-pay-for-performance.html

4.3 Receiving Organization Requirements

4.3.1 Segment Requirements for Receiving Organization

Each HL7 message sent by MiHIN will conform to the static definition corresponding to the trigger event of the message. You can learn more about HL7 Static Definitions in a document provided on MiHIN's ADT Notification use case website page, https://mihin.org/admission-discharge-transfer-notifications-use-case/.

4.3.2 Segment Usage Requirements for Receiving Organization

MDHHS 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.

4.3.2.1 Segment Cardinality Requirements for Receiving Organization

MDHHS 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.

4.3.3 Field and Subfield Requirements for Receiving Organization

Each HL7 message sent by MiHIN will conform to the static definition corresponding to the trigger event of the message. You can learn more about HL7 Static Definitions in a document provided on MiHIN's ADT Notification use case website page, https://mihin.org/admission-discharge-transfer-notifications-use-case/.

4.3.3.1 Field and Subfield Usage Requirements for Receiving Organization

MDHHS 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.

4.3.3.2 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.

4.3.4 Acknowledgment Message Requirements for Receiving Organization

For each message received, a receiving organization will return an HL7 acknowledgment message formatted according to the requirements. An ERR segment will be returned for each usage and cardinality error recorded.

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[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.

5 Troubleshooting

5.1 Production Support

	Severity Levels			
	1	*2*	*3*	*4*
Description	***Critical Impact/ System Down:*** Business critical software is down or critical interface has failed. The issue is impacting all production systems, causing all participating organizations' or other organizations' ability to function to be unusable.	***Significant Business Impact:*** Software component severely restricted. Entire organization is unable to continue business functions, causing all communications and transfer of messages to be halted.	**Partial Failure or Downtime:** Program is useable and less significant features unavailable. The service is online, though may not working as intended or may not currently working as intended or may not currently be accessible, though other systems are currently available.	**Minimal Business:** A non-critical software component is malfunctioning, causing minimal impact, or a test system is down.
Example	All messages to and from MiHIN are unable to be sent and received, let alone tracked	MiHIN cannot communication (send or receive) messages between single or multiple participating organizations but can still successfully communicate with other organizations.	Messages are lost in transit; messages can be received but not sent.	Additional feature requested.
Primary Initiation Method	***Phone:*** (517) 336-1430	***Phone:*** (517) 336-1430	Web form at http://mihin.org/ request help	Web form at http://mihin.org/ requesthelp
Secondary Initiation Method	Web form at http://mihin.org/ requesthelp	Web form at http://mihin.org/ requesthelp	Email to help@mihin.org	Email to help@mihin.org
Tertiary Initiation Method	Email to help@mihin.org	Email to help@mihin.org	N/A	N/A
Initial Response	Within 2 hours	Within 2 hours	1 business day	1 business day
Resolution Goal	24 hours	24 hours	3 business days	7 business days

If you 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)

6 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 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.

Appendix A. Diagnosis Codes

The following ICD-10 diagnosis codes will be used as part of the Drug Poisoning Surveillance System use case.[4]

ICD-10 Code	Descriptions
P04.3	Newborn affected by maternal use of alcohol
P04.40	Newborn affected by maternal use of unspecified drugs of addiction
P04.41	Newborn affected by maternal use of cocaine
P04.42	Newborn affected by maternal use of hallucinogens
P04.49	Newborn affected by maternal use of other drugs of addiction
P04.81	Newborn affected by maternal use of cannabis
P04.82	Newborn affected by other maternal noxious substances
P96.1	Neonatal withdrawal symptoms from maternal use of drugs of addiction
Q86.0	Fetal Alcohol Syndrome (dysmorphic)
F11.10	Opioid Abuse Uncomplicated
F11.120	Opioid Abuse with Intoxication Uncomplicated
F11.121	Opioid Abuse with Intoxication Delirium
F11.122	Opioid Abuse with Intoxication with Perceptual Disturbance
F11.129	Opioid Abuse with Intoxication Unspecified
F11.14	Opioid Abuse with Opioid-Induced Mood Disorder
F11.150	Opioid abuse with opioid-induced psychotic disorder with Delusions
F11.151	Opioid abuse with opioid-induced psychotic disorder with Hallucinations
F11.159	Opioid abuse with opioid-induced psychotic disorder Unspecified
F11.181	Opioid abuse with opioid-induced sexual dysfunction
F11.182	Opioid abuse with opioid-induced sleep disorder
F11.188	Opioid abuse with other opioid-induced disorder
F11.19	Opioid abuse with unspecified opioid-induced disorder
F11.20	Opioid dependence uncomplicated
F11.220	Opioid dependence with intoxication uncomplicated
F11.221	Opioid dependence with intoxication delirium
F11.222	Opioid dependence with intoxication with perceptual disturbance
F11.229	Opioid dependence with intoxication unspecified
F11.23	Opioid dependence with withdrawal
F11.24	Opioid dependence with opioid-induced mood disorder
F11.250	Opioid dependence with opioid-induced psychotic disorder with Delusions
F11.251	Opioid dependence with opioid-induced psychotic disorder with Hallucinations
F11.259	Opioid dependence with opioid-induced psychotic disorder Unspecified

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[4] Please note, diagnosis codes may be subject to change.

ICD-10 Code	Descriptions
F11.281	Opioid dependence with opioid-induced sexual dysfunction
F11.282	Opioid dependence with opioid-induced sleep disorder
F11.288	Opioid dependence with other opioid-induced disorder
F11.29	Opioid dependence with unspecified opioid-induced disorder
F11.90	Opioid use, unspecified uncomplicated
F11.920	Opioid use, unspecified with intoxication uncomplicated
F11.921	Opioid use, unspecified with intoxication delirium
F11.922	Opioid use, unspecified with intoxication with perceptual disturbance
F11.929	Opioid use, unspecified with intoxication unspecified
F11.93	Opioid use, unspecified with withdrawal
F11.94	Opioid use, unspecified with opioid-induced mood disorder
F11.950	Opioid use, unspecified with opioid-induced psychotic disorder with Delusions
F11.951	Opioid use, unspecified with opioid-induced psychotic disorder with hallucinations
F11.959	Opioid use, unspecified with opioid-induced psychotic disorder unspecified
F11.981	Opioid use, unspecified with opioid-induced sexual dysfunction
F11.982	Opioid use, unspecified with opioid-induced sleep disorder
F11.988	Opioid use, unspecified with other opioid-induced disorder
F11.99	Opioid use, unspecified with unspecified opioid-induced disorder
T40.0X1A	Poisoning by opium, accidental (unintentional), initial encounter
T40.0X1D	Poisoning by opium, accidental (unintentional), subsequent encounter
T40.0X1S	Poisoning by opium, accidental (unintentional), sequela
T40.0X2A	Poisoning by opium, intentional self-harm, initial encounter
T40.0X2D	Poisoning by opium, intentional self-harm, subsequent encounter
T40.0X2S	Poisoning by opium, intentional self-harm, initial encounter
T40.0X3A	Poisoning by opium, assault, initial encounter
T40.0X3D	Poisoning by opium, assault, subsequent encounter
T40.0X3S	Poisoning by opium, assault, sequela
T40.0X4A	Poisoning by opium, undetermined, initial encounter
T40.0X4D	Poisoning by opium, undetermined, subsequent encounter
T40.0X4S	Poisoning by opium, undetermined, sequela
T40.1X1A	Poisoning by heroin, accidental (unintentional), initial encounter
T40.1X1D	Poisoning by heroin, accidental (unintentional), subsequent encounter
T40.1X1S	Poisoning by heroin, accidental (unintentional), sequela
T40.1X2A	Poisoning by heroin, intentional self-harm, initial encounter
T40.1X2D	Poisoning by heroin, intentional self-harm, subsequent encounter
T40.1X2S	Poisoning by heroin, intentional self-harm, sequela
T40.1X3A	Poisoning by heroin, assault, initial encounter
T40.1X3D	Poisoning by heroin, assault, subsequent encounter

ICD-10 Code	Descriptions
T40.1X3S	Poisoning by heroin, assault, sequela
T40.1X4A	Poisoning by heroin, undetermined, initial encounter
T40.1X4D	Poisoning by heroin, undetermined, subsequent encounter
T40.1X4S	Poisoning by heroin, undetermined, sequela
T40.2X1A	Poisoning by other opioids, accidental (unintentional), initial encounter
T40.2X1D	Poisoning by other opioids, accidental (unintentional), subsequent encounter
T40.2X1S	Poisoning by other opioids, accidental (unintentional), sequela
T40.2X2A	Poisoning by other opioids, intentional self-harm, initial encounter
T40.2X2D	Poisoning by other opioids, intentional self-harm, subsequent encounter
T40.2X2S	Poisoning by other opioids, intentional self-harm, sequela
T40.2X3A	Poisoning by other opioids, assault, initial encounter
T40.2X3D	Poisoning by other opioids, assault, subsequent encounter
T40.2X3S	Poisoning by other opioids, assault, sequela
T40.2X4A	Poisoning by other opioids, undetermined, initial encounter
T40.2X4D	Poisoning by other opioids, undetermined, subsequent encounter
T40.2X4S	Poisoning by other opioids, undetermined, sequela
T40.3X1A	Poisoning by methadone, accidental (unintentional), initial encounter
T40.3X1D	Poisoning by methadone, accidental (unintentional), subsequent encounter
T40.3X1S	Poisoning by methadone, accidental (unintentional), sequela
T40.3X2A	Poisoning by methadone, intentional self-harm, initial encounter
T40.3X2D	Poisoning by methadone, intentional self-harm, subsequent encounter
T40.3X2S	Poisoning by methadone, intentional self-harm, sequela
T40.3X3A	Poisoning by methadone, assault, initial encounter
T40.3X3D	Poisoning by methadone, assault, subsequent encounter
T40.3X3S	Poisoning by methadone, assault, sequela
T40.3X4A	Poisoning by methadone, undetermined, initial encounter
T40.3X4D	Poisoning by methadone, undetermined, subsequent encounter
T40.3X4S	Poisoning by methadone, undetermined, sequela
T40.4X1A	Poisoning by other synthetic narcotics, accidental (unintentional), initial encounter
T40.4X1D	Poisoning by other synthetic narcotics, accidental (unintentional), subsequent encounter
T40.4X1S	Poisoning by other synthetic narcotics, accidental (unintentional), sequela
T40.4X2A	Poisoning by other synthetic narcotics, intentional self-harm, initial encounter
T40.4X2D	Poisoning by other synthetic narcotics, intentional self-harm, subsequent encounter
T40.4X2S	Poisoning by other synthetic narcotics, intentional self-harm, sequela
T40.4X3A	Poisoning by other synthetic narcotics, assault, initial encounter

ICD-10 Code	Descriptions
T40.4X3D	Poisoning by other synthetic narcotics, assault, subsequent encounter
T40.4X3S	Poisoning by other synthetic narcotics, assault, sequela
T40.4X4A	Poisoning by other synthetic narcotics, undetermined, initial encounter
T40.4X4D	Poisoning by other synthetic narcotics, undetermined, subsequent encounter
T40.4X4S	Poisoning by other synthetic narcotics, undetermined, sequela
T40.601A	Poisoning by unspecified narcotics, accidental (unintentional), initial encounter
T40.601D	Poisoning by unspecified narcotics, accidental (unintentional), subsequent encounter
T40.601S	Poisoning by unspecified narcotics, accidental (unintentional), sequela
T40.602A	Poisoning by unspecified narcotics, intentional self-harm, initial encounter
T40.602D	Poisoning by unspecified narcotics, intentional self-harm, subsequent encounter
T40.602S	Poisoning by unspecified narcotics, intentional self-harm, sequela
T40.603A	Poisoning by unspecified narcotics, assault, initial encounter
T40.603D	Poisoning by unspecified narcotics, assault, subsequent encounter
T40.603S	Poisoning by unspecified narcotics, assault, sequela
T40.604A	Poisoning by unspecified narcotics, undetermined, initial encounter
T40.604D	Poisoning by unspecified narcotics, undetermined, subsequent encounter
T40.604S	Poisoning by unspecified narcotics, undetermined, sequela
T40.691A	Poisoning by other narcotics, accidental (unintentional), initial encounter
T40.691D	Poisoning by other narcotics, accidental (unintentional), subsequent encounter
T40.691S	Poisoning by other narcotics, accidental (unintentional), sequela
T40.692A	Poisoning by other narcotics, intentional self-harm, initial encounter
T40.692D	Poisoning by other narcotics, intentional self-harm, initial encounter
T40.692S	Poisoning by other narcotics, intentional self-harm, subsequent encounter
T40.693A	Poisoning by other narcotics, assault, initial encounter
T40.693D	Poisoning by other narcotics, assault, subsequent encounter
T40.693S	Poisoning by other narcotics, assault, sequela
T40.694A	Poisoning by other narcotics, undetermined, initial encounter
T40.694D	Poisoning by other narcotics, undetermined, subsequent encounter
T40.694S	Poisoning by other narcotics, undetermined, sequela