Streamline Medical Examiner Reporting of Death Certificates

Implementation Guide

Version 2
March 19, 2020

Document History

Date	Version	Sections Revised	Description	Modifier
01/21/20	1	All	Document Created	M. Gibbs
04/02/20	1	Acronyms/Abbreviations, Definitions, 1.1, 1.2, 1.3	Proof and edits	A. Boon

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Acronyms and Abbreviations Guide

API	Application Programming Interface
CCD®	Continuity of Care Document
CDA®	Clinical Document Architecture
CEHRT	Certified Electronic Health Record Technology
CHAMPS	Community Health Automated Medicaid Processing System
CMS	Centers for Medicare & Medicaid Services
DQA	Data Quality Assurance
DSM	Direct Secure Messaging
EHR	Electronic Health Record
EHR-MIPP	Electronic Health Record Medicaid Incentive Payment Program
EOB	Explanation of Benefit
FHIR®	Fast Healthcare Interoperability Resources
HL7®	Health Level Seven
HD	Health Directory
ISO	International Organization for Standardization
MDHHS	Michigan Department of Health and Human Services
ME	Medical Examiner
MIDIGATE®	Medical Information Direct Gateway
MiHIN	Michigan Health Information Network Shared Services
NPI	National Provider Identifier
OID	Organization Identifier
PI	Promoting Interoperability
PO	Participating Organization
RAS	Registration and Attestation System
REST	Representational State Transfer
SOM	State of Michigan
VPN	Virtual Private Network
XML	Extended Mark-Up Language

Definitions

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

Active Care Relationship Service® (ACRS®). The Michigan Health Information Network Shared Services infrastructure service that contains records for those Trusted Data Sharing Organizations, 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 Admission Discharge Transfer (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 Health Level Seven® (HL7®) message generated by healthcare systems based upon Admission, Discharge, Transfer (ADT) events and the HL7 "*Electronic Data Exchange in Healthcare*" standard. The HL7 ADT message type is used to send and receive patient demographic and healthcare encounter information, generated by source system(s). The ADT messages contain patient demographic, visit, insurance, and diagnosis information.

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

Applicable Laws and Standards. In addition to the definition set forth in the Data Sharing Agreement, the federal Confidentiality of Alcohol and Drug Abuse Patient Records statute, section 543 of the Public Health Service Act, 42 U.S.C. 290dd-2, and its implementing regulation, 42 CFR Part 2; the Michigan Mental Health Code, at MCLA §§ 333.1748 and 333.1748a; and the Michigan Public Health Code, at MCL § 333.5131, 5114a.

Caregiver. An individual such as a health professional or social worker who assists in the identification, prevention or treatment of an illness or disability.

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

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). Electronic Service Information (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 Michigan Health Information Network Shared Services 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 Seven® (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 in a region, state, or nationally.

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

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

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

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

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

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

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

Michigan Care Improvement Registry (MCIR). The Immunization Information System for the State of Michigan operated by the Michigan Department of Health and Human Services.

Michigan Health Information Network Shared Services. The health information network for the State of Michigan.

MiHIN Infrastructure Service. Certain services that are shared by numerous use cases. Michigan Health Information Network Shared Services infrastructure services include,

but are not limited to, Active Care Relationship Service®, Health Directory, Statewide Consumer Directory, and the Medical Information Direct gateway (MIDIGATE®).

MiHIN Services. The Michigan Health Information Network Shared Services (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.

Notice. A message transmission that is not message content and which may include an acknowledgement of receipt or error response, such as an Acknowledged or Not Acknowledged.

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, personal credit information, and/or personally identifiable information.

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

Promoting Interoperability. Using certified Electronic Health Record technology to improve quality, safety and efficiency of healthcare, and to reduce health disparities as further contemplated by Title XIII of the American Recovery and Reinvestment Act of 2009.**Provider Community**. A healthcare provider with an active care relationship with the applicable patient.

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.

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

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

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

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

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

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 Trusted Data Sharing Organization must follow to share specific message content with the Michigan Health Information Network Shared Services.

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, Michigan Health Information Network Shared Services, and other Trusted 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 Michigan Health Information Network Shared Services (MiHIN) upon request and via the MiHIN website at www.mihin.org.

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

1. Introduction

1.1 Purpose of Use Case

Supports sending death notifications from medical examiners to the appropriate receiving organizations in a timely manner.

Under a task order from the Center for Disease Control (CDC), Michigan Department of Health and Human Services (MDHHS) and Michigan Health Information Network Shared Services (MiHIN) are developing a streamlined approach to death referrals and downstream notifications. The Death Notifications use case helps participating organizations receive notifications of deaths in a timely and accurate fashion. Electronic death notifications help improve awareness of the event, avoid unnecessary and wasteful spending, preclude falsified insurance claims, and stop dispensation of prescribed medications.

Current death reporting from medical examiner (ME) offices involves a time-consuming process of manual death certificate uploading to the Michigan Electronic Death Registry System (EDRS) and duplicate data entry between ME case management systems and EDRS. Additionally, the final coding of these death certificates is completed by the National Center for Health Statistics (NCHS) at the Centers for Disease Control and Prevention (CDC). This final coding process relies on antiquated technology and can take up to a year or longer to fully process. This impacts downstream notification of relevant death data to MDHHS population health systems and other stakeholders (e.g., Medicaid, community-based practitioners).

This Use Case will help meet Michigan's current needs:

- Minimizing the effort needed from MEs to input and transfer death referrals
- Optimizing interoperability across ME case management systems and EDRS
- Increasing the timeliness of final death certificate coding
- Facilitates exchange of mission-critical information to downstream public health systems, human service systems, and other systems of care

1.2 Message Content

For this use case, Message Content refers to a message conforming to HL7 2.5.1 standards identified as a Query By Parameter (QBP) message type and any message enrichments.

1.3 Data Flow and Actors

- *Actor:* MDILog (Medical Examiner Case Management System)
  - *Role:* The Medical Examiner (ME) sends a QBP message (using MDILog) to trigger decedent identification and, subsequently, either de-duplicate or add a new decedent creation, to MiHIN. Based upon the response from Electronic Death Reporting System EDRS, the ME will either de-duplicate the decedent's information within MDILog or add information to the decedent's death notification record and resend to EDRS.
- *Actor:* MiHIN
  - *Role:* Sends the QBP message to MDHHS' Electronic Death Reporting System (EDRS) and EDRS routes a response with either possible decedent matches, or that no decedent is found within EDRS.
- *Actor:* MDHHS' EDRS
  - *Role:* Routes a response with either possible decedent matches, or that no decedent is found within EDRS.

Figure 1. Electronic Death Notifications Workflow

Electronic death notifications are generated on a transactional basis with three different scenarios: Query, Add and Update.

1. Medical examiners enter case data into MDI Log.
2. MDI Log sends the electronic death notification to MiHIN.
3. MiHIN routes the electronic death notification message to MDHHS.

2 Onboarding

The following guidelines describe the way in which MDHHS and ORA Inc., may onboard with MiHIN to send and receive death notifications. Additional documentation is available on the MiHIN use case page if needed (https://mihin.org/death-notifications-use-case/).

Participating organizations should begin two parallel onboarding tracks simultaneously:

- Obtain, review, and execute legal agreements
- Establish technical transport and test

2.1.1 Universal Legal Prerequisites

Legal agreements for first-time onboarding consist of a Data Sharing Organization Agreement, a Master Use Case Agreement, and Use Case Exhibits for any applicable use cases.

Once an organization signs the Master Use Case Agreement, only a new Use Case Exhibit is required for each additional use case.

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

2.2 Death Notifications

The Streamline Medical Examiner Reporting of Death Certificates use case allows death notifications to help improve awareness of the event, avoid unnecessary and wasteful spending, preclude falsified insurance claims, and stop dispensation of prescribed medications.

2.2.1 ADT Sender Onboarding Process

Onboarding steps include:

- Kick-off meeting
  - Exchange contact information
  - Distribute Death Notifications "care package"
- Execute legal documents
  - Data Sharing Organization Agreement (if not already executed)
  - Master Use Case Agreement (if not already executed)
  - Use Case Exhibit
- Exchange required documents
  - Transport document
- Establish transport method/connectivity (e.g., FHIR)
- Provide sample messages and test
- Complete validation process
- Go live

3 Specifications

The following guidelines describe the way in which segment and field requirements apply to conformant messages. Additional documentation is available on the MiHIN use case page if needed (https://mihin.org/death-notifications-use-case/). They include HL7 Vocabulary Terms and Static Definitions (both shared by kind permission of HL7).

3.1 Sending Organization Requirements

ORA Inc., and MDHHS must adhere to the Use Case requirements to participate in this use case.

3.1.1 Create Death Certification

Name	createDeathCertification
Description	The createDeathCertificationuses a HTTP POST method to allow a system to create Death Certification records based on the data passed into the method.
Operation Type	Synchronous
Pre-Condition	Service consumer has been authenticated and authorized to perform the createDeathCertification operation
Path	/deathcertification/
HTTP Method	POST
Consumes	• application/json
Produces	• application/json
Query Parameters	• miloginid
Entity Parameters	• Birth Record Identifier • Decedent • Cause of Death Condition • Certifier • Condition Contributing to Death • Death Certification • Manner of Death • Autopsy Performed Indicator • Death Date • Death Location • Decedent Pregnancy • Examiner Contacted • Injury Incident • Injury Location • Tobacco Use Contributed to Death

1.1.1.1 Requesting Data Elements

Element Name	Element Description	Required Y or N	Type
Miloginid	MI Login ID	Y	Query Parameter
Birth Record Identifier	Profile for birth date and state in which birth occurred	Y	Entity – FHIR Profile
Decedent	Profile for decedent	Y	Entity – FHIR Profile
Cause of Death Condition	Profile for cause of death condition	Y	Entity – FHIR Profile
Certifier	Profile for who certified the death	Y	Entity – FHIR Profile
Condition Contributing to Death	Profile for the condition contributing to death	Y	Entity – FHIR Profile
Death Certification	Profile for the death certification	Y	Entity – FHIR Profile
Manner of Death	Profile for the manner of death	Y	Entity – FHIR Profile
Autopsy Performed Indicator	Profile to indicate whether an autopsy was performed	Y	Entity – FHIR Profile
Death Date	Profile for the date of death	Y	Entity – FHIR Profile
Death Location	Profile for the location of death	Y	Entity – FHIR Profile
Decedent Pregnancy	Profile for whether the decedent was pregnant	N	Entity – FHIR Profile
Examiner Contacted	Profile to indicate if the medical examiner was contacted	Y	Entity – FHIR Profile
Injury Incident	Profile if the death was an injury incident	Y	Entity – FHIR Profile
Injury Location	Profile indicating the location if the death was an injury	Y	Entity – FHIR Profile
Tobacco Use Contributed to Death	Profile indicating if tobacco use contributed to death	Y	Entity – FHIR Profile

Element Name	Element Description	Required Y or N	Type
Operation Outcome	FHIR Resource https://www.hl7.org/fhir/operationoutcome.html	Y	OperationOutcome FHRI Resource
Issue	First occurrence contains EDRS Record ID if create was successful	Y	FHIR Element
Issue		N	FHIR Element

1.1.1.2 Response Codes

Complete list of Response Codes returned by the Service Operation

HTTP Response Code	Description
201	Created Death Certification is created. Death Certification Record is returned
409	Conflict If Death Certification record already exists.

3.1.1.3 Example of Code

Request

```
POST /deathcertification?miloginid=someone -d @"create-death-certification-sample-input.json"
```

See Appendix E-1 – Sample Message for "create-death-certification-sample-input.json "

Response

```
HTTP/1.1 209 Created
```

Entity

```
{
  "resourceType" : "OperationOutcome",
  "issue" : [{
    "severity" : "information",
    "code" : "0100",
    "details": {
        "system": "http://hl7.org/fhir/ValueSet/operation-outcome",
        "version": "v4.0.1",
        "code": "MSG_CREATED",
        "display": "New Resource Created"
    },
    "diagnostics" : "<<EDRS Record ID>>"
  }]
}
```

1.1.2 Search Death Certification

Name	searchDeathCertification
Description	The searchDeathCertification operation uses a HTTP GET method to allow a system to search for Death Certifications that match the given criteria
Operation Type	Synchronous
Pre-Condition	Service consumer has been authenticated and authorized to perform the searchDeathCertification operation
Path	/deathcertification/
HTTP Method	GET
Consumes	• application/json
Produces	• application/json
Query Parameters	• miloginid • name.first • name.middle [OPTIONAL] • name.last • name.suffix [OPTIONAL] • gender [OPTIONAL] • county • city • dateofbirth [OPTIONAL] • dateofdeath [OPTIONAL] • ssn [OPTIONAL]
Entity Parameter	[NONE]

Element Name	Element Description	Required Y or N	Type	Min Length	Max Length	Usage & Valid Values
miloginid	Unique login of of the user in EDRS	Y	Text			
name.first	Legal first name of decedent	Y	Text		50	
name.middle	Legal middle name of decedent	N	Text		50	
name.last	Legal last name of decedent	Y	Text		50	
name.suffix	Legal suffix of decedent	N	Text		10	
gender	Decedent gender	N	Text			Female, Male, or Unknown
county	County of location of death	Y	Text			
city	City of location of death	Y	Text			
dateofbirth	Decedent date of birth	N	Text		8	MMDDYYYY
dateofdeath	Decedent date of death	N	Text		8	MMDDYYYY
ssn	Decedent social security number	N	Integer		9	999999999

1.1.2.1 Search Death Certification / List Request Data Elements

Element Name	Element Description	Required Y or N	Type	Min Length	Max Length	Usage & Valid Values
resourceType: Bundle		Y				
id		Y				
meta		Y				
type		Y				
total		Y	Integer			
entry	Array of Composition FHIR Resources	N	FHIR Resource	0	*	

Structure of each entry:

```
Resource [Object]
    resourceType:  Composition
    meta [Object]

    status:  final
    title:  search result
    section: [Array]
        [0] [Object]
            Title:  search result record
            Entry:  [Array]
                [0] [VRDR Decedent FHIR Resource]
                [1] [VRDR Death Location FHIR Resource]
                [2] [VRDR Death Certification FHIR Resource]
Search [Object]
    Mode:  match
```

3.1.2.2 Response Codes

Complete list of Response Codes returned by the Service Operation

Table 1 — searchForDeathCertificationList Response Codes

HTTP Response Code	Description
200	OK

3.1.2.3 Example of Code

Request

```
GET
/DeathCertification/?milonginid=sampleid&name.first=john&name.last=public&count
y=ingham&city=lansing
```

Response

```
HTTP/1.1 200 OK
```

Entity

See Appendix E-2 – Sample Message for “search-death-certification-sample-output.json ”

3.1.3 Update Death Certification

Name	updateDeathCertification
Description	The updateDeathCertification operation uses a HTTP PUT method to allow a system to update the DeathCertification. The operation will fail if a record with the identical record ID does not already exist.
Operation Type	Synchronous
Pre-Condition	Service consumer has been authenticated and authorized to perform the updateDeathCertification operation
Path	/deathcertification/
HTTP Method	PUT
Consumes	• application/json
Produces	• application/json
Query Parameters	• miloginid • mdilogrecordid • edrsrecordid
Entity Parameters	• Birth Record Identifier • Decedent • Cause of Death Condition • Certifier • Condition Contributing to Death • Death Certification • Manner of Death • Autopsy Performed Indicator • Death Date • Death Location • Decedent Pregnancy • Examiner Contacted • Injury Incident • Injury Location • Tobacco Use Contributed to Death

3.1.3.1 Data Element Definitions

Element Name	Element Description	Required Y or N	Type
miloginid	MI Login ID	Y	Query Parameter
mdilogrecordid	MDILog Record ID	Y	Query Parameter
edrsrecordid	EDRS Record ID	Y	Query Parameter
Birth Record Identifier	Profile for birth date and state in which birth occurred	Y	Entity – FHIR Profile
Decedent	Profile for decedent	Y	Entity – FHIR Profile
Cause of Death Condtion	Profile for cause of death condition	Y	Entity – FHIR Profile
Certifier	Profile for who certified the death	Y	Entity – FHIR Profile
Condition Contributing to Death	Profile for the condition contributing to death	Y	Entity – FHIR Profile
Death Certification	Profile for the death certification	Y	Entity – FHIR Profile
Manner of Death	Profile for the manner of death	Y	Entity – FHIR Profile
Autopsy Performed Indicator	Profile to indicate whether an autopsy was performed	Y	Entity – FHIR Profile
Death Date	Profile for the date of death	Y	Entity – FHIR Profile
Death Location	Profile for the location of death	Y	Entity – FHIR Profile
Decedent Pregnancy	Profile for whether the decedent was pregnant	N	Entity – FHIR Profile
Examiner Contacted	Profile to indicate if the medical examiner was contacted	Y	Entity – FHIR Profile
Injury Incident	Profile if the death was an injury incident	Y	Entity – FHIR Profile
Injury Location	Profile indicating the location if the death was an injury	Y	Entity – FHIR Profile
Tobacco Use Contributed to Death	Profile indicating if tobacco use contributed to death	Y	Entity – FHIR Profile

Element Name	Element Description	Required Y or N	Type
Operation Outcome	FHIR Resource https://www.hl7.org/fhir/operationoutcome.html	Y	OperationOutcome FHRI Resource
Issue	First occurrence contains EDRS Record ID if create was successful	Y	FHIR Element
Issue		N	FHIR Element

3.1.3.2 Response Codes

Complete list of Response Codes returned by the Service Operation

HTTP Response Code	Description
200	OK DeathCertification is updated
404	Not Found If DeathCertification does not exist

3.1.3.3 Example of Code

Request

```
PUT /DeathCertification/" -d @"update-death-certification-sample-input.json"
```

Response

```
HTTP/1.1 200 OK
```

Entity

See Appendix E-3 – Sample Message for "update-death-certification-sample-input.json"

1.2 Vital Records Death Reporting FHIR Profiles

Examples

Vital Records Death Reporting v0.1.0 STU Ballot #1 FHIR Profiles

http://hl7.org/fhir/us/vrdr/2019May/Profiles.html

1.2.1 Decedent Demographics Profile Group

3.2.1.1 Birth Record Identifier

http://hl7.org/fhir/us/vrdr/2019May/BirthRecordIdentifier.html

Note: The coding systems are constant for this profile.

Instance Example

```
{
  "resourceType" : "Observation",
  "meta": {
    "profile": "VRDR-Birth-Record-Identifier"
  }
  "status" : "final",
  "code" : {
    "coding": {
      "system": "TBD",
      "code": "BR"
    },
  "subject" : {
    Reference(VRDR Decedent) },
  "valueString": "MM/DD/YYYY",
  "component": {
    "valueDateTime": {
      "coding": {
        "system": "LOINC",
        "code": "21112-8",
      }
    },
    "valueCodeableConcept": {
      "coding": {
        "system": "ISO 3166-1",
        "code": "21842-0",
        "display", "MI"
      }
    }
  }
```

```
}
```

3.2.1.2 Decedent

http://hl7.org/fhir/us/vrdr/2019May/Decedent.html

Instance Example

```
{
  "resourceType": "Patient",
  "id": "example",
  "meta": {
    "profile": "VRDR-Decedent"
  },
  "name": [{
      "use": "official",
      "family": "Smith",
      "given": [
        "Robert",
        "John"
      ],
      "suffix": [
        "Jr."
      ]
    }
  ],
  "gender": "male"
}
```

1.2.2 Death Certification Profile Group

3.2.2.1 Cause of Death Condition

http://hl7.org/fhir/us/vrdr/2019May/CauseOfDeathCondition.html

Instance Example for Pending Cause of Death

If the cause of death is pending, then send in only one cause of death condition.


```
"resource": {
  "resourceType": "Condition",
  "meta": {
    "profile": [
      "VRDR-Cause-Of-Death-Condition"
    ]
  },
  "text": {
    "status": "pending",
    "div": "<div xmlns=\"http://www.w3.org/1999/xhtml\">pending</div>"
  },
  "code": {
    "coding": [{
        "system": "ICD-10",
        "code": "",
        "display": "pending"
      }
    ]
  },
  "onsetString": "pending"
}
```

Instance Example

If the cause of death is not pending, then up to four causes of death may be sent in.

```
"resource": {
  "resourceType": "Condition",
  "meta": {
    "profile": [
      "VRDR-Cause-Of-Death-Condition"
    ]
  },
  "text": {
    "status": "additional",
    "div": "<div xmlns=\"http://www.w3.org/1999/xhtml\">Acute transmural
myocardial infarction of anterior wall</div>"
  },
  "code": {
    "coding": [{
        "system": "ICD-10",
        "code": "I21.0",
        "display": "Acute transmural myocardial infarction of anterior wall"
      }
    ]
  },
  "onsetString": "minutes"
}
```

3.2.2.2 Certifier

http://hl7.org/fhir/us/vrdr/2019May/Certifier.html

Instance Example


```
{
  "resourceType": "Practitioner",
  "meta": {
    "profile": [
      "VRDR-Certifier"
    ]
  },
  "name": [{
      "use": "official",
      "family": "Doctor",
      "given": [
        "Certifier",
        "Middle"
      ],
      "suffix": [
        "MD"
      ]
    }
  ],
  "address": [{
      "line": [
        "123 Example Street"
      ],
      "city": "Boston",
      "district": "Suffolk",
      "state": "Massachusetts",
      "postalCode": "02101"
    }
  ],
  "qualification": [{
      "identifier": [{
          "value": "1234567890"
        }
      ],
      "code": {
        "coding": [{
            "system": "http://www.hl7.org/fhir/v2/0360/2.7",
            "code": "MD",
            "display": "Doctor of Medicine"
          }
        ]
      }
    }
  ]
}
```

3.2.2.3 Condition Contributing to Death

http://hl7.org/fhir/us/vrdr/2019May/ConditionContributingtoDeath.html

Instance Example


```
{
  "resourceType": "Condition",
  "meta": {
    "profile": [
      "VRDR-Condition-Contributing-To-Death"
    ]
  },
  "text": {
    "status": "additional",
    "div": "<div xmlns=\"http://www.w3.org/1999/xhtml\">Example Contributing
Conditions</div>"
  }
}
```

3.2.2.4 Death Certification

http://hl7.org/fhir/us/vrdr/2019May/DeathCertification.html

Example


```
{
  "resourceType": "Procedure",
  "meta": {
    "profile": [
      "VRDR-Death-Certification"
    ]
  },
  "status": "completed",
  "category": {
    "coding": [
      {
        "code": "103693007"
      }
    ]
  },
  "code": {
    "coding": [
      {
        "code": "308646001"
      }
    ]
  }
}
```

3.2.2.5 Manner of Death

http://hl7.org/fhir/us/vrdr/2019May/MannerofDeath.html

Example


```
{
  "resourceType": "Observation",
  "meta": {
    "profile": [
      "VRDR-Manner-of-Death"
    ]
  },
  "status": "final",
  "code": {
    "coding": [
      {
        "system": "http://loinc.org",
        "code": "69449-7",
        "display": "Manner of death"
      }
    ]
  },
  "valueCodeableConcept": {
    "coding": [
      {
        "system": "http://www.hl7.org/fhir/stu3/valueset-MannerTypeVS",
        "code": "7878000",
        "display": "Accident"
      }
    ]
  }
}
```

3.2.3 Death Investigation Profile Group

3.2.3.1 Autopsy Performed Indicator

http://hl7.org/fhir/us/vrdr/2019May/AutopsyPerformedIndicator.html

Example


```
{
  "resourceType": "Observation",
  "meta": {
    "profile": [
      "VRDR-Autopsy-Performed-Indicator"
    ]
  },
  "status": "final",
  "code": {
    "coding": [
      {
        "system": "http://loinc.org",
        "code": "85699-7",
        "display": "Autopsy was performed"
      }
    ]
  },
  "valueCodeableConcept": {
    "coding": [
      {
        "system": "http://terminology.www.hl7.org/CodeSystem/v2-0136",
        "code": "N",
        "display": "No"
      }
    ]
  },
  "component": [
    {
      "code": {
        "coding": [
          {
            "system": "http://loinc.org",
            "code": "69436-4",
            "display": "Autopsy results available"
          }
        ]
      },
      "valueCodeableConcept": {
        "coding": [
          {
            "system": "http://terminology.www.hl7.org/CodeSystem/v2-0136",
            "code": "N",
            "display": "No"
          }
        ]
      }
```

```
      }
    ]
  }
```

*3.2.3.2 Death Date**

http://hl7.org/fhir/us/vrdr/2019May/DeathDate.html

* May contain extensions for date of death classifier, time of death classifier,

Instance Example

```
{
  "resourceType": "Observation",
  "meta": {
    "profile": [
      "VRDR-Death-Date"
    ]
  },
  "extension": [
    {
      "url": "http://www.hl7.org/fhir/us/vrdr/StructureDefinition/Patient-
Location",
      "valueReference": {
        "reference": "Location/example-patient-location"
      }
    }
  ],
  "status": "final",
  "code": {
    "coding": [
      {
        "system": "urn:oid:2.16.840.1.113883.6.1",
        "code": "81956-5",
        "display": "Date and time of death"
      }
    ]
  },
  "subject": {
    "reference": "Patient/54"
  },
  "performer": [
    {
      "reference": "Practitioner/52"
    }
  ],
  "valueDateTime": "2018-04-24T00:00:00+00:00",
  "effectiveDateTime": "2018-04-24T11:30:00+00:00",
  "component": [
    {
      "code": {
        "coding": [
          {
```

```
            "system": "urn:oid:2.16.840.1.113883.6.1",
            "code": "80616-6",
            "display": "Date and time pronounced dead"
          }
        ]
      }
    },
    {
      "code": {
        "coding": [
          {
            "system": "urn:oid:2.16.840.1.113883.3377.3",
            "code": "t",
            "display": "dateOfDeathClassifier"
          }
        ]
      }
    },
    {
      "code": {
        "coding": [
          {
            "system": "urn:oid:2.16.840.1.113883.3377.2",
            "code": "T",
            "display": "actualOrPresumedTimeOfDeathClassifier"
          }
        ]
      }
    },
    {
      "code": {
        "coding": [
          {
            "system": "urn:oid:2.16.840.1.113883.3377.8",
            "code": "N",
            "display": "timePronouncedDeadOnClassifier"
          }
        ]
      }
    }
  ]
}
```

3.2.3.3 Death Location

http://hl7.org/fhir/us/vrdr/2019May/DeathLocation.html

Example


```
{
  "resourceType": "Location",
  "meta": {
    "profile": [
      "VRDR-Death-Location"
    ]
  },
  "name": "Example Hospital",
  "description": "Example Hospital Wing B",
  "type": [
    {
      "coding": [
        {
          "system": "http://www.hl7.org/fhir/ValueSet/v3-
ServiceDeliveryLocationRoleType",
          "code": "HOSP",
          "display": "Hospital"
        }
      ]
    }
  ],
  "address": {
    "line": [
      "8 Example Street"
    ],
    "city": "Bedford",
    "district": "Middlesex",
    "state": "Massachusetts",
    "postalCode": "01730",
    "country": "United States"
  },
  "physicalType": {
    "coding": [
      {
        "system": "http://www.hl7.org/fhir/ValueSet/location-physical-type",
        "code": "wa",
        "display": "Ward"
      }
    ]
  }
}
```

3.2.3.4 Decedent Pregnancy

http://hl7.org/fhir/us/vrdr/2019May/DecedentPregnancy.html

Example


```
{
  "resourceType": "Observation",
  "meta": {
    "profile": [
      "VRDR-Decedent-Pregnancy"
    ]
  },
  "status": "final",
  "code": {
    "coding": [
      {
        "system": "http://loinc.org",
        "code": "69442-2",
        "display": "Timing of recent pregnancy in relation to death"
      }
    ]
  },
  "subject": {
    "reference": "Patient/54"
  },
  "valueCodeableConcept": {
    "coding": [
      {
        "system": "http://www.hl7.org/fhir/stu3/valueset-PregnancyStatusVS",
        "code": "PHC1260",
        "display": "Not pregnant within past year"
      }
    ]
  }
}
```

3.2.3.5 Examiner Contacted

http://hl7.org/fhir/us/vrdr/2019May/ExaminerContacted.html

Example


```
{
  "resourceType": "Observation",
  "meta": {
    "profile": [
      "VRDR-Examiner-Contacted"
    ]
  },
  "status": "final",
  "code": {
    "coding": [
      {
        "system": "urn:oid:2.16.840.1.113883.6.1",
        "code": "74497-9",
        "display": "Medical examiner or coroner was contacted"
      }
    ]
  },
  "subject": {
    "reference": "Patient/54"
  },
  "valueBoolean": true
}
```

*3.2.3.6 Injury Incident**

http://hl7.org/fhir/us/vrdr/2019May/InjuryIncident.html

* May contain extensions for date of injury classifier and time of injury classifier

Instance Example


```
{
  "resourceType": "Observation",
  "meta": {
    "profile": [
      "VRDR-Injury-Incident"
    ]
  },
  "extension": [
    {
      "url": "VRDR-Injury-Location",
      "valueReference": {
        "reference": "Location/102"
      }
    }
  ],
  "status": "final",
  "code": {
    "coding": [
      {
        "system": "urn:oid:2.16.840.1.113883.3.290.2.1.19",
        "code": "11374-6",
        "display": "Injury incident description"
      }
    ]
  },
  "subject": {
    "reference": "Patient/54"
  },
  "effectiveDateTime": "2018-04-19T15:43:00+00:00",
  "valueString": "Example details of injury",
  "component": [
    {
      "code": {
        "coding": [
          {
            "system": "urn:oid:2.16.840.1.113883.6.1",
            "code": "69450-5",
            "display": "Place of injury"
          }
        ]
      },
      "valueString": "Decedent's Home"
    },
    {
```

```
      "code": {
        "coding": [
          {
            "system": "urn:oid:2.16.840.1.113883.6.1",
            "code": "69448-9",
            "display": "Injury leading to death associated with transportation
event"
          }
        ]
      },
      "valueCodeableConcept": {
        "coding": [
          {
            "system":
"http://github.com/nightingaleproject/fhirDeathRecord/sdr/causeOfDeath/vs/Trans
portRelationshipsVS",
            "code": "236320001",
            "display": "Vehicle driver"
          }
        ]
      }
    },
    {
      "code": {
        "coding": [
          {
            "system": "urn:oid:2.16.840.1.113883.6.1",
            "code": "69444-8",
            "display": "Did death result from injury at work"
          }
        ]
      },
      "valueCodeableConcept": {
        "coding": [
          {
            "system": "http://www.hl7.org/fhir/v2/0136",
            "code": "Y",
            "display": "Yes"
          }
        ]
      }
    }
  ]
}
```

3.2.3.7 Injury Location

http://hl7.org/fhir/us/vrdr/2019May/InjuryLocation.html

Instance Example


```
{
  "resourceType": "Location",
  "meta": {
    "profile": [
      "VRDR-Injury-Location"
    ]
  },
  "name": "Decedent's Home",
  "address": {
    "type": "postal",
    "line": [
      "7 Example Street",
      "Unit 1234"
    ],
    "city": "Bedford",
    "district": "Middlesex",
    "state": "Massachusetts",
    "postalCode": "01730",
    "country": "United States"
  }
}
```

3.2.3.8 Tobacco Use Contributed to Death

http://hl7.org/fhir/us/vrdr/2019May/TobaccoUseContributedToDeath.html

Example

```
{
  "resourceType": "Observation",
  "meta": {
    "profile": [
      "VRDR-Tobacco-Use-Contributed-To-Death"
    ]
  },
  "status": "final",
  "code": {
    "coding": [
      {
        "system": "LOINC",
        "code": "69443-0",
        "display": "Did tobacco use contribute to death"
      }
    ]
  },
  "subject": {
    "reference": "Patient/54"
  },
  "value": "[yes/no/probably/unknown]"
}
```

4 Error Messages

ERROR CODE	DESCRIPTION
AUTH_FAILURE	MiLogin ID does not have proper EDRS credentials
LIC_NUM	ME License Number is missing or does not match ME's profile in EDRS
ME_NAME	ME Name is missing or incorrect
REQ_FIELD	Required fields missing
AST_VAL	Field(s) contain an asterisk
ALPHA_VAL	Field(s) contain alpha or symbol characters
NUM_VAL	Field(s) contain numerical characters
SPEC_CHAR_VAL	Field(s) contain special characters other than ' . , - / &
COUNTY_ID_VAL	County of location of death does not match requesting ME registered county

ERROR CODE	DESCRIPTION
PRO_DATE_VAL	Date signed must be => Pronounced Dead On date
SYS_DATE_VAL	Date signed must be <= System Date
DATE_VAL	Date entered must be a valid date.
DAY_VAL	Is not a leap year; day cannot be “29”
DATE_REQ_FIELD	Month, Day, and Year must be specified; cannot be zero
FAC_VAL	Cannot be blank if a hospital or facility name is entered that does not match the list of hospitals or facilities associated with selected city.
TIME_PRO_VAL	If the Date Pronounced is equal to the Date of Death, then the Time Pronounced must be greater than or equal to the Actual or Presumed Time of Death.
PLACE_OF_DEATH_VAL	Field cannot be blank if "Hospital" or "Prison Hospital" is selected from If Hospital, field.
CERT_PHY_VAL	Cannot be blank if Certifying Physician is selected from Certifying Physician field.
COD1_VAL	Cannot be blank if Cause of Death 1 is populated.
COD2_VAL	Cannot be blank if Cause of Death 2 is populated.
COD3_VAL	Cannot be blank if Cause of Death 3 is populated.
COD4_VAL	Cannot be blank if Cause of Death 4 is populated.
GENDER_VAL	Sex/gender is male then field cannot be populated
FEM_AGE_VAL	Sex/gender is Female and the difference between the DOB and DOD is less than 5 or greater than 75 years this field cannot be populated
DEATH_MAN_VAL	Manner of death is set to Natural; this field must be blank
DEATH_MAN_VAL	Manner of death is not Natural; this field cannot be blank
DATE_FORMAT_VAL	Date entered; must be MM/DD/YYYY format
INJ_DATE_VAL	Date of Injury Classifier is set to Indeterminate; this field must be blank
INJ_DATE_VAL	Injury date cannot be greater than medical certification date.
INJ_DATE_VAL	Injury date cannot be greater than date of death
INJ_TIME_VAL	Invalid time format; must be HH:MM format and cannot exceed 24hour period
INJ_TIME_VAL	Injured Time cannot be greater than Actual Time of Death.
DOB_VAL	Date of birth is invalid; must be MM/DD/YYYY format
DOB_VAL	Date of birth cannot be blank
DOB_VAL	Date of birth cannot be after current system date
DOD_VAL	Date of death cannot be less than date of birth
TIME_CLASSIFIER_VAL	Time Classifier is either Noon, Midnight, Unknown, Unknown AM, or Unknown PM; this field must be blank
REC_LOCK_VAL	EDRS record is currently being edited by another user
AMEND_PEN_VAL	EDRS record is already filed and an amendment is pending

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/ requesthelp	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

A list of common questions regarding the ADT Notifications use case can be found at:

https://mihin.org/admission-discharge-transfer-notifications-use-case/

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 "Promoting Interoperability" 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.