WORKFLOW IMPLEMENTATION TOOL:

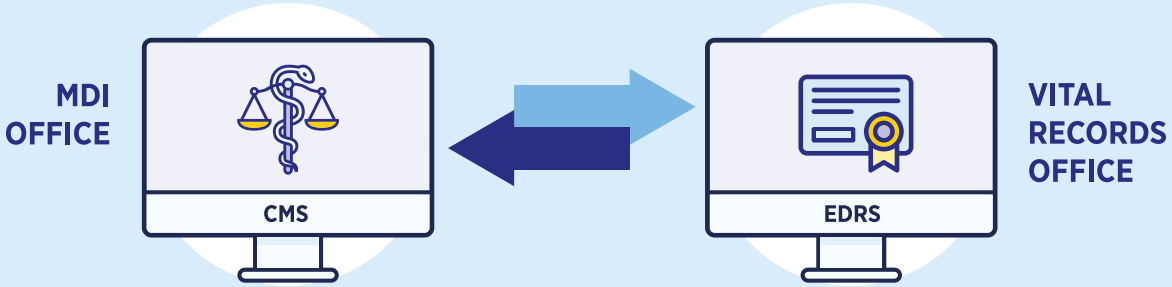
CREMATION CLEARANCE

Guidance: The purpose is to assist Medical Examiners and Coroners (MECs) working in Medicolegal Death Investigation (MDI) offices, data sharing partners, case management system (CMS) and IT vendors in mapping a workplan and timeline for workflow implementation. This template aligns with HL7® MDI FHIR® IG (Health Level Seven Medicolegal Death Investigation Fast Healthcare Interoperability Resources Implementation Guide) and contains embedded links to content referenced in the IG for developer use. Use this template to build an action plan with your project team. Plans may evolve over the course of the project, so feel free to revisit this document and update as needed.

WORKFLOW:

TRANSMISSION OF A DEATH CERTIFICATE FOR REVIEW / APPROVAL

The MDI office wants to facilitate 'cremation authorization' by reviewing death certificates signed by others within their CMS



Cremation Clearance Authorization: Many states and jurisdictions require cremation clearance from a medical examiner or coroner to make sure the physical evidence is not needed for any further inquiries into the death. The rules about when cremation clearance is required vary among jurisdictions, but typically it is needed when the cause and manner of death information for the death certificate is provided by an attending physician or other provider, rather than the jurisdiction's medical examiner or coroner.

Cremation Clearance Use Case Steps: The cremation clearance workflow starts after the death certificate is largely complete. A typical workflow, at a high level, includes:

1. Next of kin (or other authorized person or organization) requests cremation be the method of disposition and signs a cremation clearance request (CCR).
2. Funeral home provides death certificate information and submits the CCR to the jurisdiction's Vital Records Office (VRO) electronic death record system (EDRS).
3. EDRS sends the CCR with the death certificate to MDI case management system (MDI CMS) for review.
4. Medical examiner or coroner reviews death certificate information, particularly the cause and manner of death, and makes a determination.
5. MDI CMS sends to EDRS a cremation clearance authorization document with the status of the request.

Implementation includes Steps 3-5 of the use case.

Objective 1: Data Domain Identification: Death certificate data elements to be exchanged are identified.

TASKS

TASK	RESOURCES NEEDED	TIMELINE	PERSON(S) RESPONSIBLE	NOTE
1.1 Define use case data Create synthetic data or use existing synthetic data available in Raven that includes decendent, death information, death certification review, etc.	Data elements for death certificate MDI profiles for death certificate	2 weeks		*MEC/Partners can use this column for their internal tasks (if needed)*
1.2 *Add your own site-specific tasks to get to completion*				

Progress Measure/Evaluation:

- VRO vendor data element document (in Excel) for the use case that includes
  - A set of named fields
  - Category/Subdomain
  - Description of the field
  - Data type/format
- Submit Excel file that includes the data elements to Raven

Objective 2A: FHIR mapping of data fields VRO, including identification of site/jurisdiction specific custom profiles. This is an enhancement of the Excel file created in Objective 1 using the data domain but describing the data elements as FHIR resource and terminology.

- Create FHIR data from vendor's system data (from task 1.1). FHIR data must conform to existing MDI FHIR IG / US-Core Profiles
- Create custom profiles or terminologies for data elements when the data elements are not captured in existing profiles.

TASKS

TASK	RESOURCES NEEDED	TIMELINE	PERSON(S) RESPONSIBLE	NOTE
2.1A FHIR Death Certificate Review (DCR) profile review Review the MDI FHIR DCR profile and do the data analysis with the data elements obtained from 1.1	MDI FHIR IG DCR Profile:	1 week	VRO vendor with technical assistance (TA) provider or Subject Matter Expert (SME) assistance	
2.2A Raw vendor system data mapping to MDI FHIR IG profiles	MDI FHIR IG	2 weeks	VRO vendor	Refer to directory of published versions and use (current) version due to ballot cycle updates
Add your own site-specific tasks to get to completion				

Progress Measure/Evaluation:

- Data Domain Excel sheet with the following additions:
  - FHIR Resource fields
  - FHIR Path
  - Terminology
  - Open discussion points- for further technical assistance
  - Review by TA provider

Objective 2B: FHIR mapping of data fields from funeral home.
This is an enhancement of the Excel file created in Objective 1 using the data domain but describing the data elements as FHIR resource and terminology.

- Create FHIR data from vendor's system data (from task 1.1). FHIR data must conform to existing MDI FHIR IG / US-Core Profiles

TASKS

TASK	RESOURCES NEEDED	TIMELINE	PERSON(S) RESPONSIBLE	NOTE
2.1B FHIR DCR profile review Review the MDI FHIR DCR profile and do the data analysis with the data elements obtained from 1.1	MDI FHIR IG DCR Profile:	1 week	Funeral home(s) with TA provider or SME assistance	Funeral home uses web application or other intermediary software system to share limited mortality/demographic data with MDI office
2.2B Raw vendor system data mapping to MDI FHIR IG profiles	MDI FHIR IG	2 weeks	Funeral home(s) or their vendor(s)	Best practices in MDI FHIR IG (TBD)
2.3B *Add your own site-specific tasks to get to completion*				

Progress Measure/Evaluation:
Data Domain Excel sheet with the following additions:

- FHIR Resource fields
- FHIR Path
- Terminology
- Open discussion points- for further technical assistance
- Review by TA provider

Objective 3: (OPTIONAL) Implementation Guide (IG) Authorship- The majority of these data elements are fully defined in the existing MDI FHIR IG. This objective is only for data elements that have not been previously identified.

- Develop a local implementation guide using tooling, such as FSH (FHIR Shorthand).
- Write FSH files for each profile.
- Generate a local FHIR IG using bash script from project.

TASKS

TASK	RESOURCES NEEDED	TIMELINE	PERSON(S) RESPONSIBLE	NOTE
3.1 Local IG Authorship Custom FHIR profile development for the data that are not captured in existing profiles	• Data Mapping Template • FSH for IG development	2-3 weeks	• TA provider for the authorship. • MDI office and VRO vendor for the data descriptions	GTRI, MITRE, Lantana are suggested providers of technical assistance for MDI FHIR IG authorship questions
3.2 FHIR data development Produce the CCR data that conforms to the DCR profiles	MDI FHIR IG Local IG for new data (if needed)	2 weeks	VRO vendor	
3.3 *Add your own site-specific tasks to get to completion*				

Progress Measure/Evaluation:

- FSH and IG hosted on Github for review

Objective 4: Interoperability Testing- *(Refer to the Test Plan document, if available)* Validation ensures that FHIR resources can be reliably exchanged between FHIR enabled systems, conforming to the MDI FHIR IG standard.

- Create sample test case(s) or use synthetic data provided in Raven
- Load sample data into local system
- Export as FHIR from local system
- Validate using Raven Validator and complete Validation Report

TASKS

TASK	RESOURCES NEEDED	TIMELINE	PERSON(S) RESPONSIBLE	NOTE
4.1 Validation of the produced FHIR data	• MDI FHIR IG • Local IG for data mapping	2-3 weeks	GTRI, CMS vendor and/or system Implementor	Collaborative process where GTRI can provide assistance on common errors and resolutions Correction(s) and re-test of Step 4, as needed Documentation of errors that are non-resolvable for future iteration; issues that are out-of-scope
4.2 *Add your own site-specific tasks to get to completion*				

Progress Measure/Evaluation:

- Completed Validation Report from Raven
- Review of results and feedback from TA provider

The Association of State and Territorial Health Officials support for MDI Connect is funded by the Centers for Disease Control and Prevention of the U.S. Department of Health and Human Services (CDC/HHS), under Cooperative Agreement OT18-1802 Strengthening Public Health Systems and Services through National Partnerships to Improve and Protect the Nation's Health. The contents are those of the author(s) and do not necessarily represent the official views of, nor an endorsement, by CDC/HHS, or the U.S. Government. (HL7®, and FHIR® are the registered trademarks of Health Level Seven International and their use of these trademarks does not constitute an endorsement by HL7®.).