Montana Department of Public Health and Human Services (DPHHS) Electronic Case Reporting (eCR) Implementation Guide

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Purpose

This document provides guidance on the electronic case reporting (eCR) onboarding process for eligible hospitals, Critical Access Hospitals (CAHs), and eligible providers with Montana Department of Health and Human Services (DPHHS). A Healthcare Organization (HCO) is required to utilize an EHR that is ONC certified and in "General Availability" (i.e., deemed prepared for eCR adoption and implementation for eCR at HCOs by the CDC and APHL eCR Teams) for eCR implementation with Montana DPHHS.

This document is supplemental to the onboarding checklists, requirements, or guidelines that are provided from your Electronic Health Record (EHR) vendor, Centers for Disease Control and Prevention (CDC) eCR Onboarding Team, and/or Association of Public Health Laboratories (APHL). The CDC, APHL, and Council of State and Territorial Epidemiologists (CSTE) have created several documents to help with the eCR implementation process. For example, the Electronic Case Reporting (eCR) Onboarding Guide for Healthcare Organizations outlines the steps required to complete technical onboarding to the APHL Informatics Messaging Services (AIMS) platform to enable eCR transmission to public health agencies (PHAs). For further information on the requirements set by APHL for eCR capabilities for applications, networks, and vendor products please refer to APHL's Electronic Case Reporting (eCR) Implementation Requirements Checklist.

Please note that this guidance document is applicable to HCOs, facilities, and providers that are seeking to implement eCR with Montana DPHHS only. Please inquire further with other applicable jurisdictions about their specific onboarding requirements.

Contact Information
For questions related to eCR:
DPHHS eCR Coordinator
Kristen Merrell
kristen.merrell@mt.gov

MIDIS inbox
MIDIS@mt.gov

For onboarding or connecting with CDC eCR team:
eCR@cdc.gov

For general eCR inquiries for AIMS:
eCR-Info@aimsplatform.org

For post-production technical assistance with AIMS:
eCRinfo@aimsplatform.org

Introduction to Electronic Case Reporting (eCR)

What is Electronic Case Reporting?

Electronic Case Reporting (eCR) is the automated generation and transmission of case reports from EHRs to the appropriate PHAs for further investigation. Compared to traditional case reporting eCR improves the timeliness, completeness, and accuracy of data allowing for a faster response from PHAs without interrupting the workflow of the healthcare provider. The reports sent are referred to as electronic initial case reports (eICRs) since some are the first 'initial' report sent by providers with diagnoses or suspect diagnoses, and further investigation might be needed before case status is determined by the PHA. An eICR provides the applicable PHAs with a clinical picture of the potential reportable case while being able to also improve surveillance efforts and assist in outbreak management.

To confirm delivery of eICRs to PHA(s) providers will receive back a reportability response (RR) with information concerning: (1) condition(s) reported, (2) PHA(s) who received the eICR, and (3) optional information from the PHA (i.e., timeframe which reporting is required, whether the eICR was delivered based on the "Patient home address" or "Provider facility address", treatment information, factsheets, etc.). This real-time, bidirectional exchange of information with eCR helps in meeting these various state requirements for reportable diseases, while reducing the burden of manual case reporting on healthcare providers and PHAs.

For more information on how eCR works visit: CDC eCR website or APHL eCR website.

Promoting Interoperability

Beginning in 2022, eCR became required for those participating in the Centers for Medicare and Medicaid Services (CMS) Medicare Promoting Interoperability Program (PIP) for eligible hospitals and critical access hospitals (CAHs), and the Merit-Based Incentive Payment System (MIPS) Promoting Interoperability Performance Category for eligible clinicians. Montana DPHHS has declared readiness and has capacity to receive eICRs to help HCOs meet Promoting Interoperability requirements. All HCOs and healthcare providers that want to utilize eCR to automate transmission of case reporting are eligible to onboard for eCR with DPHHS, despite PIP or MIPS participation.

Please visit the DPHHS Promoting Interoperability website for more information concerning Promoting Interoperability requirements concerning eCR, including registration for eCR participation with DPHHS. Registered eCR participants are able to request attestation letters within our portal on the DPHHS Promoting Interoperability website. Starting in Calendar Year (CY) 2024 attestation letters will not be sent out ad hoc anymore, but rather sent at the end of the CY 2024.

Communicable Disease Reporting Rules in Montana

Each state and territory have specific reporting requirements for certain diseases and conditions. When fully implemented eCR can help simplify and alleviate some of the burden of disease reporting, while increasing compliance with various state reporting requirements. In Montana, Administrative Rules— 37.114.101 through 37.114.583 – define the data, timing, and other reporting specifications required for reporting. Please refer to [Administrative Rule 37.114.203](#) for a list of the reportable conditions and diseases in Montana.

Data Transmission

AIMS & RCKMS

Montana DPHHS does not accept eICR messages directly and requires participating senders use the AIMS platform to transmit eICRs. AIMS is a secure, cloud-based platform that receives, processes, and delivers eICRs to the appropriate jurisdiction(s). All 50 states along with some territories and local jurisdictions have connections with AIMS to receive eICRs. For more information on AIMS role in eCR please visit the [APHL website](#).

AIMS uses a tool called the Reportable Conditions Knowledge Management System (RCKMS) to determine the reportability and appropriate jurisdiction(s) to send eICRs. The RCKMS tool consists of three parts: (1) authoring interface—a real-time portal where PHAs input and edit the reporting criteria to match jurisdictional reporting requirements, (2) knowledge repository – stores the reporting criteria authored by each jurisdiction, and (3) decision support service (DSS)—processes the eICR and compares eICR data against the authored reporting specifications to determine reportability and jurisdiction(s) to deliver the eICR. A list of available conditions can be found on the [RCKMS website](#). DPHHS will continue to edit and manage the reporting criteria in RCKMS to account for changes in reporting requirements within Montana.

Reportable Conditions Trigger Codes (RCTC)

Triggering of eICRs from EHRs to AIMS is initiated from relevant patient record data matching reportable condition trigger codes (RCTC). The list of RCTC can be downloaded from the [Electronic Reporting and Surveillance Distribution (eRSD) website.](#) This list continues to be updated to ensure all codes are up to date to ensure accurate triggering. Montana DPHHS expects that HCOs routinely update the most recent release of RCTC.

There are six main triggering scenarios:
1. Lab orders (LOINC)
2. Diagnosis (SNOMED, ICD-10 CM)
3. Suspected diagnosis (SNOMED, ICD-10 CM)
4. Lab results (SNOMED)
5. Lab result test name (LOINC)
6. Medication- for version 3.X eICRs (CVX, RXNORM, SNOMED).

Providers will have the ability, in some EHR instances, to manually trigger an eICR and record the reason for triggering the eICR for PHA understanding.

For more information on triggering visit [AIMS EHR Triggering](#).

HL7 Message Standards
To standardize and improve the transmission of EHR data to PHAs, eICRs must be formatted according to the Health Level Seven International (HL7) Clinical Document Architecture (CDA) standard to allow for proper processing. HL7 implementation guides for eICRs and RRs can be found below:
1. Public Health CDA Case Report – the Electronic Initial Case Report ([HL7 Standards Product Brief - HL7 CDA® R2 Implementation Guide: Public Health Case Report - the Electronic Initial Case Report (eICR) Release 2, STU Release 3.1 - US Realm | HL7 International](#))
2. Reportability Response ([HL7 Standards Product Brief - HL7 CDA® R2 Implementation Guide: Reportability Response, Release 1, STU Release 1.1 - US Realm | HL7 International](#))
3. Public Health FHIR Case Report – the Electronic Initial Case Report ([HL7 Fast Healthcare Interoperability Resources (FHIR)Electronic Case Reporting (eCR)](#))

Electronic Case Reporting (eCR) vs Electronic Lab Reporting (ELR)
Electronic Laboratory Reporting (ELR) is not being replaced with eCR. ELR is the submission of laboratory reports that identify reportable conditions from laboratories to public health. eCR provides a broader array of data collection compared to ELR including health history and co-morbidities. DPHHS plans to utilize ELR and eCR together for disease investigations. If wanting to inquire about setting up an ELR connection with Montana DPHHS please email MIDIS@mt.gov.

Quick Resources & Tools
- [eCR Getting Started (CDC)](#)
- [eCR Overview (AIMS)](#)
- [Promoting Interoperability (Montana DPHHS)](#)
- [Electronic Case Reporting (eCR) (Montana DPHHS)](#)
- [eCR Onboarding Guide for HCO (AIMS)](#)
- [eCR Implementation Requirements Checklist (APHL)](#)
- [eRSD website (RCTC Codes)](#)
- HL7 CDA Standards (Implementation Guides)
  - [Electronic Initial Case Report (eICR)](#)
  - [Reportability Response (RR)](#)
- HL7 FHIR Standards (Implementation Guides)
  - [Electronic Case Reporting (eCR) and Reportability Response (RR)](#)

Onboarding Process for Electronic Case Reporting (eCR)

The onboarding process for eCR will require working with your EHR vendor, CDC eCR Onboarding Team, APHL (AIMS), CSTE (RCKMS), and DPHHS. The steps below are to serve as a guide for HCOs to onboard for eCR with DPHHS. Make sure to consult with your EHR vendor before beginning as each EHR vendor has slightly different implementation process for implementing eCR capabilities. For more detailed guidance on connecting with AIMS and data validation completion before officially onboarding with DPHHS please refer to the Electronic Case Reporting (eCR) Onboarding Guide for Healthcare Organizations created by APHL.

Montana DPHHS looks forward to working with you and your team to implement eCR at your HCO/facility.

Step 1: Healthcare Organization eCR Planning & Preparation

Register Intent with DPHHS for Promoting Interoperability/MIPS
- Complete registration of intent DPHHS Promoting Interoperability website.
  - Registration is only required once with DPHHS for eCR
    - **New registration is required if an HCO/eligible provider changes EHR vendor.**
  - No registration required if you do not plan to declare attestation for Promoting Interoperability/MIPS.
    - **Please still notify DPHHS of plan to implement eCR so we can plan accordingly for receiving messages.**

For more information on registering or questions, please email MIDIS@mt.gov.

Verify eCR Ready
- Obtain leadership approval to implement eCR at HCO/facility.
- EHR product classified as being in General Availability for eCR onboarding by CDC eCR Team.
  - EHR vendor listed – contact EHR vendor to discuss the options for eCR implementation.
  - EHR vendor not listed – inquire with your EHR vendor about timeline of availability to start onboarding process.

For more information on the requirements set for eCR implementation please refer to your EHR vendor's implementation task list and APHL's Electronic Case Reporting (eCR) Implementation Requirements Checklist.

Contact the eCR Onboarding Team

- Either the EHR vendor or HCO should contact the CDC eCR Team at eCR@cdc.gov to communicate plan to start eCR implementation.
    - Include in subject line: "onboarding – [insert HCO name] – [insert EHR product]".
    - eCR Onboarding Team will provide onboarding materials and any necessary information.

Confirm Policy Path for Reporting

- Confirm policy path/legal framework with CDC Onboarding Team
    - AIMS need to receive eICRs under the federal Health Insurance Portability and Accountability Act (HIPAA) business associate or comparable authorities. HIPAA and disease reporting rules for public health allow APHL to confirm that conditions meet reportability rules in each state or territory before sending them to the appropriate jurisdiction(s).
    - The policy path can be achieved through participating or connecting to an organization that either is a member or implementer of the one of the following:
        - **eHealth Exchange**
        - **Carequality**
        - **CommonWell**
        - **APHL participation agreement** — If your organization is not represented in any of three above options APHL offers a terms of service agreement.

For more information on the policy path options for HCOs please visit the APHL website.

Complete eCR Pre-Implementation Tasks

- Confirm technical connection pathway with AIMS.
- Complete the eCR provider intake form (if applicable).
- Complete CDC facility list template.
    - Facility list can be completed while working on configuration with EHR.
    - Updated facility lists will be requested yearly as part of Promoting Interoperability/MIPS participation with DPHHS.

Step 2 -3 will be guided by your EHR vendor along with your eCR onboarding coordinator. Requirements might change over time and eCR implementation is not the same across EHR vendors. Please ensure to follow the tasks required by your EHR vendor, eCR onboarding coordinator, and APHL to ensure sufficient implementation and testing.

Step 2: Configuration

Complete EHR Specific Configuration
- Review your EHR vendor's implementation documentation for build instructions.
- Complete eCR build and required mappings:
  - Implement Reportable Conditions Trigger Codes (RCTC) from eRSD. For more information on eICR triggering visit (EHR Implementers – EHR Triggering).
    - DPHHS encourages all eCR participants to implement "full triggering" for all reportable conditions.
  - Produce a conformant eICR message according to HL7 eCR standards.
  - Ability to "trigger" or generate an eICR message.
  - Map eICR data elements listed in the *eICR Data Needs workbook.*
    - Note: this list is created for those using the HL7 CDA R2 Implementation Guide for eICR Release 1.1.

For more information on eCR creation and standards visit eICR Creation, Validation & Standards. Please follow the HL7 Implementation Guide: Public Health Case Report – the Electronic Initial Case Report to ensure the eICR is properly mapped.

Step 3: Connectivity & Testing with AIMS

Establish AIMS Connection
- Use one of the following secure technical connection options to create a connection with AIMS:
  - Direct Simple Mail Transfer Protocol (SMTP)
  - Nationwide Health Information Network (NwHIN) Cross Enterprise Document Reliable Interchange (XDR) using the eHealth Exchange HUB
  - FHIR (Implemented Soon)

For more information on how to establish a connection with AIMS and details on the steps taken between the two connection options please refer to the eCR Onboarding Guide for Healthcare Organizations (pages 6-7) or visit the AIMS Healthcare—Establish AIMS Connectivity for Testing website.

- Trigger a test eICR to confirm connection with AIMS.
  - Produce a conformant message according to the HL7 Standards that is sent to AIMS.
- Receive back and process the Reportability Response (RR) within EHR system.
  - After a test eICR is sent AIMS will automatically send an RR back to the direct sending address.

- Note: For every eICR sent to AIMS an RR will be sent back to the EHR sending system. PHA(s) will also receive an RR if the eICR is reportable.

For more information and troubleshooting RRs please read the [eCR Onboarding Guide for Healthcare Organizations](#) *(page 7)* or visit the AIMS [Reportability Response Receipt and Use website.](#)

Healthcare Organization/Facility Testing

- The eCR Onboarding Team and your EHR vendor will determine the required testing scenarios required before moving into PHA validation. Please see your EHR's eCR setup documentation.

Healthcare Organization/Facility Content Review

- Verify the following during content review:
  - Implemented the latest trigger code set version from eRSD.
  - Pregnancy status is mapped.
  - Race category (excluding nulls):
    - American Indian or Alaska Native (1002-5)
    - Asian (2028-9)
    - Black or African American (2054-5)
    - Native Hawaiian or Other Pacific Islander (2076-8)
    - White (2106-3)
    - Other (2131-1)
  - Ethnicity category (excluding nulls):
    - Hispanic or Latino (2135-2)
    - Not Hispanic or Latino (2186-5)
  - Encompassing Encounter is present.
  - Diagnosis code and/or Problem List Trigger Code present.
  - Laboratory Results include positive value and abnormal indicator.
- Ensure you received and can process the RR back after a test eICR is triggered to AIMS.
  - There should be one RR received back for each eICR sent.

Step 4: Soft Go-Live

- Complete "Soft Go-Live" to allow testing of eICR with real patient data.
  - eICRs will be analyzed through a Data Quality (DQ) Schematron to identify data quality issues.
- Review and fix any of the data quality issues identified in the provided DQ Report.
  - Data elements will be given a "Completeness Score".

- o Failure to meet the Consensus Data Quality Metrics Standards set by the PHA eCR Quality Assurance Workgroup will require further testing, corrective action, and/or appropriate responses for reason not able to meet standards.

Testing and content review must be completed and approved by the CDC eCR team before moving into PHA validation.

Step 5: PHA Data Quality & Validation

- Gather approval to move into PHA Validation and start delivering production eICRs to the applicable PHAs through AIMS.
- Work with APHL and the CDC eCR Team to ensure eICRs/RRs are being successfully delivered.
- DPHHS will receive and conduct data validation on production eICRs that are received through AIMS.
  - o DPHHS has developed a list of eCR Priority Data Elements (see Helpful Tools) that will be evaluated.
  - o Review and address any data, mapping, or triggering issues identified by DPHHS.
- DPHHS may require the repeat of previous testing steps if the following scenarios were to occur:
  - o Change of EHR vendor.
  - o HCO does not address the data quality issues reported by DPHHS within expected timeline.
  - o Expanding to "full triggering" from limited
- **Continue with current manual reporting methods until HCOs and providers will not be allowed to turn off current methods of reporting until official notification received by DPHHS.**

For post-production technical support, contact the eCR Support Team at eCRinfo@aimsplatform.org -- Include "eCR Production Support – [insert your healthcare organization name] – [insert your EHR product]" in the subject line.

Step 6: Production Use & End Manual Reporting Methods

DPHHS does not currently have eICRs implemented into the production environment of our surveillance system. Manual reporting of conditions will be required until officially notified when and for which conditions current reporting methods can be discontinued.

- EHR companies or HCO technical staff are expected to continue to download and update to the newest version of RCTC codes from eRSD as they become available.
- Reporting facility/HCO will be officially notified by DPHHS when manual reporting methods can be turned off and for which conditions.
- Continue to call the local health departments for conditions that require immediate notification.

Acronyms

eCR – Electronic Case Reporting/ Electronic Case Report
eICR – Electronic initial Case Report
ELR – Electronic Lab Reporting
RR – Reportability Response
APHL – Association of Public Health Laboratories (APHL)
AIMS – APHL Informatics Messaging System
CDC – Centers for Disease Control and Prevention
CSTE – Council of State and Territorial Epidemiologists
RCKMS – Reportable Conditions Knowledge Management System
RCTC – Reportable Conditions Trigger Codes
PHA – Public Health Agency [Note: This could include state, local, and tribal.]
HCO – Healthcare Organization
CAH – Critical Access Hospital
EH – Eligible Hospital
HL7 – Health Level Seven [Note: International standards used to provide guidance with transferring and sharing data.]
CMS – Centers for Medicare and Medicaid Services
PI – Promoting Interoperability
MIPS – Merit-Based Incentive Payment System