Electronic Health Modernization (EHM)

User Guide

November 2024

Department of Veterans Affairs (VA)

Electronic Health Record Modernization Integration Office (EHRM-IO)

Revision History

NOTE: The revision history cycle begins once changes or enhancements are requested after the document has been baselined.

Date	Revision	Description	Author
11/2024	1	EHM*1*10 added	EHRM-IO

Artifact Rationale

Per the Veteran-focused Integrated Process (VIP) Guide, the User's Guide is required to be completed prior to Critical Decision Point #2 (CD2), with the expectation that it will be updated as needed. A User Guide is a technical communication document intended to give assistance to people using a particular system, such as VistA end users. It is usually written by a technical writer, although it can also be written by programmers, product or project managers, or other technical staff. Most user guides contain both a written guide and the associated images. In the case of computer applications, it is usual to include screenshots of the human-machine interfaces, and hardware manuals often include clear, simplified diagrams. The language used is matched to the intended audience, with jargon kept to a minimum or explained thoroughly. The User Guide is a mandatory, build-level document, and should be updated to reflect the contents of the most recently deployed build. The sections documented herein are required if applicable to your product.

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1. Introduction

Electronic Health Modernization (EHM) Veterans Health Information Systems and Technology Architecture (VistA) patches support the Electronic Health Record Modernization Integration Office (EHRM-IO) during conversion from VistA to Cerner Millennium.

1.1. Purpose

This User Guide provides information about the functionality of EHM Package software for users.

1.2. System Overview

This manual provides technical descriptions of EHM routines, protocols, files, globals, options, security data, menu diagrams and any other information required to effectively set up and use the EHM package.

1.3. Audience

The intended audience for this document are end users of EHM patches.

1.3.1. Organization of the Manual

1.3.2. Assumptions

This guide was written with the following assumed experience/skills of the audience:

- User has basic knowledge of the operating system (such as the use of commands, menu options, and navigation tools).
- User has been provided the appropriate active roles, menus, and security keys required for the EHM package.
- User has completed any prerequisite training.

1.3.3. Coordination

N/A

1.3.3.1. Software Disclaimer

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1.3.3.2. Documentation Disclaimer

The appearance of external hyperlink references in this manual does not constitute endorsement by the VA of this Web site or the information, products, or services contained therein. The VA does not exercise any editorial control over the information you may find at these locations. Such links are provided and are consistent with the stated purpose of the VA.

1.3.4. Documentation Conventions

This manual uses several methods to highlight different aspects of the material.

- Various symbols are used throughout the documentation to alert the reader to special information. The following table gives a description of each of these symbols:

Table 1. Documentation Symbols and Descriptions

Symbol	Description
	NOTE: Used to inform the reader of general information including references to additional reading material
	CAUTION: Used to caution the reader to take special notice of critical information

- Descriptive text is presented in a proportional font (as represented by this font).
- "Snapshots" of computer online displays (i.e., character-based screen captures/dialogs) and computer source code are shown in a non-proportional font and enclosed within a box. Also included are Graphical User Interface (GUI) Microsoft Windows images (i.e., dialogs or forms).

- Use the pre-defined styles exported with the template for all formatting (e.g., paragraph text, bullets, enumeration, etc.).

- User's responses to online prompts (e.g., manual entry, taps, clicks, etc.) will be **boldface** type.

- All uppercase is reserved for the representation of M code, variable names, or the formal name of options, field and file names, and security key (e.g., the XUPROGMODE key).

- Conventions for displaying TEST data in this manual are as follows:

  o The first three digits (prefix) of any Social Security Numbers (SSN) will begin with either "000" or "666".

  o Patient and user names are formatted as follows:

  <Application Name>"PATIENT",<fictitious given name><NUMBER> and <Application Name>"USER",<fictitious given name><NUMBER>, respectively.

  The "Fictitious given name" represents a fabricated given name for the patient or user based on the application being released or the product name. For example, Master Veteran Index (MVI) software test patient and user names would be documented as follows: MVIPATIENT,ONE; MVIPATIENT,TWO; MVIPATIENT,THREE; etc. and MVIUSER,ONE; MVIUSER,TWO; etc.

1.3.5. References and Resources

Documentation associated with the EHM package can be found on the VA Software Documentation Library (VDL). The associated documents are:

- **EHM User Manual:**   ehm_ug.pdf

- **EHM Technical Manual:** ehm_tm.pdf

2. Patches

2.1. EHM*1*10 – IFC and PRF HL7 Message Storage

Inter-Facility Consult (IFC) and Patient Record Flag (PRF) Health Level Seven (HL7) Message Storage functionality was created to facilitate research into issues resulting from communication between non-converted VistA sites and converted Cerner sites. The VistA HL7 system lacks capacity to store HL7 messages for longer than a few days because of the large number of messages exchanged between systems. EHM*1*10 addresses this restriction by separately saving a select group of HL7 messages and retaining them for a longer period of time. The only HL7 messages saved are IFC and PRF messages that are sent by Cerner to a non-converted VistA or vice versa, a very small subset of the total volume of HL7 messages.

EHM*1*10 is the second of four patches contained in the IFC Proxy Add/Order Resubmission 1.0 multi-build. The patch creates a VistA database (EHRM HL7 Message file (#1609)) to store IFC and PRF HL7 messages sent to or received from Cerner. It also includes options to inquire into the database of HL7 messages and to purge them.

2.1.1. System Configuration

EHM*1*10 is the second of four (4) patches in the IFC Proxy Add/Order Resubmission 1.0 build. The patch list is:

- DG*5.3*1096
- EHM*1*10
- GMRC*3*189
- DG*5.3*1091

2.1.2. Data Flows

All data flows are internal to VistA.

2.1.3. User Access Levels

N/A

2.1.4. Continuity of Operation

This patch does not impact routine VistA operations.

2.1.5. Using the Software / Options

Records are added automatically to the IFC and PRF HL7 Message Storage database every time that a non-converted VistA site receives an IFC or PRF HL7 message from Cerner and every time that a non-converted site sends an IFC or PRF HL7 message to Cerner. The messages are then available for inquiry using the option described below.

Retention of records in the database is controlled by the purge option described below. This option can be run from the EHMHL7 Menu or it can be scheduled in TaskMan to run daily during non-peak hours.

2.1.5.1. EHMHL7 Menu [EHMHL7 MENU]

Users of the IFC and PRF HL7 Message Storage system must be given access to the EHMHL7 Menu option.

Select EHRM HL7 Message Menu <TEST ACCOUNT> Option: **?**

      Message Inquiry
      Purge messages

Use the Message Inquiry option to access HL7 messages in the IFC and PRF HL7 Message Storage database. FileMan inquiry, print and search are also available to access the HL7 data repository. Six (6) different data elements can be used to identify messages although all are not available for both message types. An IFC HL7 message can be found using the following date elements:

1) Message ID

2) VistA Consult Number

3) Cerner Order Number

4) Patient's Name

5) Date

A PRF HL7 message can be found using the following data elements:

1) Message ID

2) Patient's Name

3) ICN

4) Date

Examples of user interaction for the inquiry modes are shown in the figures below. Note that inquiry by patient name does not support partial last/partial first name lookup.

Message Inquiry

Select EHRM HL7 Message Menu <TEST ACCOUNT> Option: **Message Inquiry**

    Select one of the following:

        M   Message ID
        V   VistA Consult Number
        C   Cerner Order Number
        P   Patent's Name
        I   ICN
        D   Date

Inquire by:

Message Inquiry by Message ID

Select EHRM HL7 Message Menu <TEST ACCOUNT> Option: **Message Inquiry**

    Select one of the following:

        M   Message ID
        V   VistA Consult Number
        C   Cerner Order Number
        P   Patent's Name
        I   ICN
        D   Date

Inquire by: **Message ID**
Message ID: **Q974257807T1137452535** JAN 11, 2023@13:01:39

DATE/TIME POSTED: JAN 11, 2023@13:01:39
 TYPE: Inter-Facility Consult   MESSAGE ID: Q974257807T1137452535
 VISTA CONSULT NUMBER: 6916466   CERNER ORDER NUMBER: 2726926829

PATIENT'S NAME: PROSTEST,EHR   SENDER: CERNER
RECEIVER: 663
HL7 MESSAGE:
 MSH|^~\&|GMRC IF CONSULT|^vac10apphsh905.va.gov^DNS|GMRC IF
CONSULT|663^^DNS|20220624194132+0000|CRNR|ORM^O01^ORM_O01|Q974257807
T1137452535|T|2.3|||AA
PID|1|1013570973V041977|1013570973V041977^^^ICN^VETID~2110106796^^^EDIPI
^EDIPI||PROSTEST^EHR||19760902|M|||||||||||18100359|678235672
ORC|DC|2726926829^663^GMRCIFR|6916466^663^GMRCIFR||DC||^^^2022062412390
0-0700^^R||20220624124119-0700|^^^||^^^|||20220624124132-0700||663
 OBR|1|2726926829^663^GMRCIFR|6916466^663^GMRCIFR|663^PROSTHETICS
IFC^663VA1235||202206241939|||||||||z12363^PCP9^VA-Physician
 NTE|1|L|Order has been Discontinued in Cerner.
 NTE|2|L|PN_6.24_Issued in Clinic
 OBX|5|CE|^TIME ZONE^VA4.4|1|PDT

Message Inquiry by ICN

Select EHRM HL7 Message Menu <TEST ACCOUNT> Option: **Message Inquiry**

    Select one of the following:

        M   Message ID
        V   VistA Consult Number
        C   Cerner Order Number
        P   Patent's Name
        I   ICN
        D   Date

Inquire by: **ICN**
ICN: **1013717804V969486**
    1   1013717804V969486 DEC 15, 2022@16:13:47
    2   1013717804V969486 JAN 11, 2023@13:05:11
CHOOSE 1-2: **2** JAN 11, 2023@13:05:11

DATE/TIME POSTED: JAN 11, 2023@13:05:11

TYPE: Patient Record Flag
MESSAGE ID: Q975084458T1138387680X1522-BH
PATIENT'S NAME: EAGLES,PHILLY   ICN: 1013717804V969486
SENDER: 200CRNR   RECEIVER: 668
HL7 MESSAGE:
 MSH^~|\&^PRF-SEND^200CRNR^PRF-RECV^668^20220923074232-
0700^^ORU~R01^Q975084458T1138387680X1522-BH^T^2.3^^^NE^AL^USA
PID^1^558222207^1013717804V969486~V733194~~USVHA&&L~NI|2113798494~~~
USDOD&&L~NI^^EAGLES~PHILLY^^19710101^M^^^^^^^^^^^558222207^
 OBR^2^^^1~HIGH RISK FOR SUICIDE~VA085^^^20220923074232-
0700^^^^^^^^^^^^668^668
 OBX^1^ST^S~Status~L^^NEW ASSIGNMENT^^^^^^F^^^20220923074232-0700
 OBX^2^TX^N~Narrative~L^1^Testing with John 9-23-
2022.^^^^^^F^^^20220923074232-0700

2.1.5.2.   Purge Messages [EHMHL7 PURGE]

The Purge Messages option deletes records from the EHRM HL7 Messages file (#1609)
when their DATE/TIME POSTED field (#.01) is older than the retention period in the
EHRM HL7 Message Retention file (#1609.1) for the record's type. There is no user
interaction for this option. It is intended to be set up and run in TaskMan.

3. Acronyms and Abbreviations

Table 2. Acronyms and Abbreviations

Term	Meaning
CD2	Critical Decision Point #2
EHM	Electronic Health Modernization
EHRM-IO	Electronic Health Record Modernization Integration Office
HL7	Health Level Seven
IFC	Inter-Facility Consult
VA	Department of Veterans Affairs
VAMC	VA Medical Center
VDL	VA Software Documentation Library
VIP	Veteran-focused Integrated Process
VistA	Veterans Health Information Systems and Technology Architecture.