

EHR Technical Overview

The model for the RPMS EHR is the Veterans Health Administration (VHA) electronic medical record, the Computerized Patient Record System (CPRS). CPRS has been successfully deployed across the VHA hospital network over the past several years.

The EHR utilizes a technical infrastructure originally developed for the VHA that displays various clinical functions in a graphical user interface (GUI) format. A private corporation, Medsphere Systems Corporation, under contract to IHS, owns the framework technology for RPMS EHR, called VueCentric. VueCentric is not an end user application, but is a technical infrastructure that supports graphical presentation of data from applications in the M environment (MSM, DSM or Caché). Within the VueCentric GUI framework, clinical functions are visually and operationally integrated in a way that is accessible and intuitive to users comfortable with Windows® programs. All data generated in EHR is stored in the RPMS database.

By using a component-based architecture, the EHR enables implementation of a variety of clinical functional components, including IHS-developed components, components adapted from VHA software, and, potentially, commercial products (COTS) that have been adapted to framework technology. Among the advantages of componentization is the ability to add or modify GUI components without reinstalling the entire application. In addition, the user interface is highly customizable, permitting each facility to offer a variety of tab and component arrangements that accommodate the different information and workflow needs of various users.

Hardware and Network Requirements

A thorough review of the local technology environment will be required at any facility implementing the RPMS EHR. Facilities will need to evaluate hardware needs in or near exam rooms and provider offices to ensure that providers and other users of the EHR have access to the system at the point of service. Deploying the EHR will create additional demands on the RPMS server and network at each facility because of the new group of system users - providers and other clinical staff.

Because the EHR is a client/server application, it does not require a separate server to run. The VueCentric framework resides on each client (user) computer, and all data resides on the RPMS server. A single object library folder is maintained on the RPMS server (or another central computer). Updates to the framework application or GUI components are deposited in this folder, which automatically updates the client computers each time the application is launched.

I/T/U health care facilities vary greatly in size, services provided, and in a number of other factors. For this reason it is difficult to provide a single set of recommendations for hardware and network infrastructure that will fit all sites. The IHS Office of Information Technology in Albuquerque is available to provide consultation on questions regarding these requirements. The principal contact in Albuquerque on these issues is Rick Pullen (Rick.Pullen@ihs.gov).

Software Requirements

In order to successfully install RPMS EHR, a number of system requirements must be met. These include:

- File 200 must be current
- Fileman 22/Kernel 8 with latest patches
- Caché operating system

- Pharmacy v4.5 Suite
- [Patient Information Management System \(PIMS\) version 5.3](#) (this includes Admit/Transfer/Discharge (ADT), Scheduling, and Sensitive Patient Tracking)
- Three additional VHA applications that are required to run in the background:
 - Lexicon v2.0
 - Visit Tracking v2.0
 - VA Health Summary v2.7

As noted, the complete EHR product is a compilation of multiple constituents. The user interacts with the VueCentric GUI presentation layer, which in turn is linked, using object-oriented programming, to RPMS and other applications. A number of Delphi and .NET objects have been created which bring the functionality of RPMS and VHA applications into the GUI environment. RPMS applications compatible with EHR include:

- Text Integration Utility (TIU) v1.0 (a template-based notes authoring application)
- Laboratory v5.2
- Women's Health v2.0
- Immunization v8.0
- Radiology v5.0
- Pharmacy Inpatient v5.0
- Pharmacy Outpatient v7.0
- Order Entry/Results Reporting (OE/RR) v3.0
- VistA Imaging version 3.0 (a separate project is underway to make VistA Imaging available to I/T/U facilities)

In addition to the above, other objects are being developed to add functionality to the EHR:

- A .NET Scheduling application that links to PIMS
- A component interfacing to the Referred Care Information System (RCIS)

Patient Information Management System (PIMS)

Patient Information Management System (PIMS) is a suite of software consisting of four main components:

- The Admission/Discharge/Transfer (ADT) application includes:
 - Basic bed control functions (admissions, transfers, discharges)
 - Day Surgeries
 - Inpatient listings and reports
 - Census calculation and reporting
 - Incomplete chart tracking, and
 - Scheduled visits (admissions, day surgeries, outpatient visits from outside the area).
- The Clinic Scheduling application provides:
 - Outpatient appointment management;
 - Tracking patients on waiting lists
 - File Room activities - pulling paper charts for appointments, walk-ins and chart requests;
 - Various reports on clinic capacity and workload.
- The Sensitive Patient Tracking (SPT) module allows a facility to track access to patient records, either those designated as sensitive or all records. Accessing sensitive records warn users that they are accessing a restricted record. Non-sensitive records can be

- tracked with no warning to computer users. The software tracks which menu option the user was executing when he/she selected a patient along with date and time.
- The Patient Record Flag module (new in patch 1007), is used to alert medical staff and employees of patients whose behavior and characteristics may pose a threat either to their safety, the safety of other patients, or compromise the delivery of quality health care. These flag assignments are displayed during the patient look-up process.

Implementing PIMS at your site

Most IHS and Tribal facilities using RPMS will want to implement PIMS. If your site would like to initiate this process, completion of a [site profile](#) [DOC-54KB] will help with assessment of your readiness for PIMS. We recommend that you contact your Area Office for assistance in implementing PIMS.

For user support following PIMS implementation, contact the [OIT Help Desk](#) (505-248-4371). Help Desk staff will assist you in resolving the problem, or will refer you to a PIMS user support specialist.

To recommend changes or enhancement to the PIMS application, please enter your request on the RPMS Feedback page.

PIMS PSG Chairpersons: [Pat Gowan](#) (602-364-5172) and [Jan Chase](#) (520-295-2477).