MASTER PATIENT INDEX/PATIENT DEMOGRAPHICS (MPI/PD) VISTA

TECHNICAL MANUAL

Version 1.0

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Department of Veterans Affairs
VHA OI Health System Design & Development (HSD&D)
Infrastructure and Security Services (ISS)

Revision History

Document Revision History

The following table displays the revision history for this document. Revisions to the documentation are based on a continuous dialogue with the Infrastructure and Security Services (ISS) Technical Writers and evolving industry standards and styles.

Date	Revision	Description	Author
04/1999	1.0	Initial MPI/PD and MPI VistA Technical Manuals were created for release with the MPI/PD V.1.0 software in April 1999.	Dianne Barker, Silver Spring OIFO, Susan Strack, Oakland OIFO
06/2003	2.0	MPI/PD VistA Version 1.0 User Manual released in conjunction with patches DG*5.3*505, and MPIF*1.0*28 of the MPI Changes Iteration I project	Lauren Hardeen, Bay Pines OIFO, Susan Strack, Oakland OIFO
5/27/04	3.0	MPI/PD VistA Version 1.0 User Manual released in conjunction with patches MPIF*1.0*33, RG*1.0*35 and DG*5.3*589 to support the MPI Changes Iteration 2 project	Susan Strack, Oakland OIFO; Christine Chesney, Oakland OIFO; Christine Link, Birmingham OIFO; Paulette Davis, Birmingham OIFO
8/27/04	4.0	The MPI Data Quality Team has requested to be able to remotely request a PUSH of CMOR. A Remote Procedure Call (RPC) will be added to the local VistA system to support this request. The MPIF CMOR REQUEST (#984.9) file will be updated to include these requests for tracking purposes. Routine MPIFRCMP supports this effort. New Remote Procedure MPIF CMOR PUSH REMOTE will be added to the REMOTE PROCEDURE (#8994) file as part of this patch.	Susan Strack, Oakland OIFO; Christine Chesney, Oakland OIFO
9/24/04	4.0	Implemnted new conventions for displaying TEST data: • The first three digits (prefix) of any Social Security Numbers (SSN) will be in the "900" or "800" range. • Patient or user names will be formatted as follows: PATIENTn,[first name] or	Susan Strack, Oakland OIFO

		USERn,[first name] respectively, where the digit ("n") in the last name increments with each new entry.	

Table i: Documentation revision history

Patch History

For the current patch history related to this software, please refer to the Patch Module (i.e., Patch User Menu [A1AE USER]) on FORUM.

Contents

Figures and Tables

Orientation

This manual is a merge of the *Master Patient Index (MPI) VistA Technical Manual V. 1.0* with the *Master Patient Index/Patient Demographics (MPI/PD) Technical Manual V. 1.0.* These packages were distributed and installed together and will be referred to in this manual as Master Patient Index/Patient Demographics (MPI/PD) VistA.

How to Use this Manual

This manual is intended for use in conjunction with the Master Patient Index/Patient Demographics (MPI/PD) VistA package. Items included in this release, such as routines and files, are briefly described for quick reference.

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:

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

Table ii: Documentation symbol descriptions

- Descriptive text is presented in a proportional font (as represented by this font).
- Sample HL7 messages, "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. User's responses to online prompts will be boldface.
    - The "**<Enter>**" found within these snapshots indicate that the user should press the Enter or Return key on their keyboard.
- All uppercase is reserved for the representation of M code, variable names, or the formal name of options, field and file names, and security keys (e.g., the XUPROGMODE key).

How to Obtain Technical Information Online

Online documentation about the Master Patient Index VistA package may be obtained in any one of the following ways.

Help at Prompts

VistA software provides online help and commonly used system default prompts. In character-based mode, users are strongly encouraged to enter question marks at any response prompt. At the end of the help display, you are immediately returned to the point from which you started. This is an easy way to learn about any aspect of VistA software.

To retrieve online documentation in the form of Help in VistA character-based software:

- Enter a single question mark ("**?**") at a field/prompt to obtain a brief description. If a field is a pointer, entering one question mark ("**?**") displays the HELP PROMPT field contents and a list of choices, if the list is short. If the list is long, the user will be asked if the entire list should be displayed. A YES response will invoke the display. The display can be given a starting point by prefacing the starting point with an up-arrow ("^") as a response. For example, **^M** would start an alphabetic listing at the letter M instead of the letter A while **^127** would start any listing at the 127th entry.
- Enter two question marks ("**??**") at a field/prompt for a more detailed description. Also, if a field is a pointer, entering two question marks displays the HELP PROMPT field contents and the list of choices.
- Enter three question marks ("**???**") at a field/prompt to invoke any additional Help text that may be stored in Help Frames.

Print Options File

The option PRINT OPTION file (#19), in the Kernel's Menu Management Menu, displays a list of namespaced options associated with the MPI/PD VistA package. Other namespaced entries may also be retrieved from the PRINT TEMPLATE (#.4), INPUT TEMPLATE (#.402), and SORT TEMPLATE (#.401) files, and the SECURITY KEY (#19.1), FUNCTION (#.5), BULLETIN (#3.6), and HELP FRAME (#9.2) files.

List File Attributes

This VA FileMan option allows the user to generate documentation pertaining to files and file structure. Utilization of this option via the "Standard" format will yield the following data dictionary information for a specified file(s): file name and description, identifiers, cross-references, files pointed to by the file specified, files which point to the file specified, input templates, print templates, and sort templates. In addition, the following applicable data is supplied for each field in the file: field name, number, title, global location, description, help prompt, cross-reference(s), input transform, date last edited, and notes.

Using the "Global Map" format of this option generates a list of all cross-references for the file selected, global location of each field in the file, input templates, print templates, and sort templates.

Inquire to Option File

This Menu Manager option provides the following information about a specified option(s): option name, menu text, option description, type of option, and lock, if any. In addition, all items on the menu are listed for each menu option.

To secure information about MPI/PD VistA options, the user must specify the name or namespace of the option(s) desired.

Reference Materials

In order to competently operate this package you must be familiar with the operations of the VistA computer system in general. This information can be obtained on the following Web site: http://vaww.vista.med.va.gov .

In addition to the information provided in this documentation, readers who wish to learn more about the Master Patient Index (MPI) software should consult the VistA Documentation Library (VDL) at the following address:

http://www.va.gov/vdl/Infrastructure.asp?appID=16 .

The MPI/PD VistA product documentation, as found on the VDL, includes the following manuals:

- *Master Patient Index/Patient Demographics (MPI/PD)* VistA *HL7 Interface Specifications*
- *Master Patient Index/Patient Demographics (MPI/PD)* VistA *User Manual*
- *Master Patient Index (MPI)* VistA *Programmer Manual*
- *Master Patient Index/Patient Demographics (MPI/PD)* VistA *Technical Manual*
- *Master Patient Index/Patient Demographics* VistA *Exception Handling*
- *Master Patient Index (MPI)* VistA *Monograph*

The Master Patient Index VistA and Patient Demographics (PD) were distributed and installed together. All installation information and procedures involved with the MPI VistA is included in the following MPI/PD VistA document:

- *CIRN/PD and MPI Installation and Implementation Guide*

Because of the close interaction between MPI/PD VistA and other packages, you may also find it helpful to review the documentation for:

- VistA *Health Level 7 (HL7) V. 1.6*
- *PIMS V. 5.3 Admission, Discharge and Transfer (ADT)*

VistA documentation is made available online in Microsoft Word format and in Adobe Acrobat Portable Document Format (PDF). The PDF documents *must* be read using the Adobe Acrobat Reader (i.e., ACROREAD.EXE), which is freely distributed by Adobe Systems Incorporated at the following web address:

http://www.adobe.com/

VistA documentation can be downloaded from the National VistA Support (NVS) anonymous directories or from the Health Systems Design and Development (HSD&D) VistA Documentation Library (VDL) website:

http://www.va.gov/vdl/

For more information on the use of the Adobe Acrobat Reader, please refer to the "Adobe Acrobat Quick Guide" at the following web address:

http://vaww.vista.med.va.gov/ISS/acrobat/index.asp

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Chapter 1: Introduction

Overview

Master Patient Index/Patient Demographics (MPI/PD) was developed to initialize active patients to the Master Patient Index (MPI) and to establish the framework for the sharing of patient information between sites. During the process of initialization to the MPI, each active patient receives an Integration Control Number (ICN), a Coordinating Master of Record (CMOR), and a Treating Facility List of the sites where the patient is receiving care. Your site becomes part of the network of sites that share key demographic data for patients via HL7 messaging. Master Patient Index VistA (MPI) and Patient Demographics (PD) were distributed and installed together. This manual covers the functionality in both packages.

Master Patient Index (MPI) VistA and Patient Demographics (PD) were distributed and installed together. This manual covers the functionality in these now merged packages and will be referred to throughout the document as MPI/PD VistA.

MPI/PD was originally part of the Clinical Information Resource Network (CIRN) project. CIRN was to be a three-phase project consisting of Phase 1: Pre Implementation (site clean up), Phase 2: Master Patient Index/Patient Demographics (Master patient Index seeding for VHA-wide patient identification and patient demographics synchronization), and Phase 3: CIRN Clinical Repository. Master Patient Index/Patient Demographics is now a separate, independent package. Due to its beginnings, you will still notice references to CIRN such as shared name and number spaces, file names, package terminology, etc. The clinical repository is now a separate, independent project called Health Data Repository.

The objectives of the MPI/PD VistA are to create an index that uniquely identifies each active patient treated by the Veterans Administration and to identify the sites where a patient is receiving care. This is crucial to the sharing of patient information across sites.

During the 1980s, the policy for creating patients in the PATIENT file (#2) that were also employees was to enter them as EEE, then their social security number (SSN). That policy was subsequently revoked but did not include any cleanup of the existing EEE patients. During the implementation phase of the Master Patient Index/Patient Demographics (MPI/PD) application, a report was generated to identify these patients. Some of them were changed to their correct names, but many still had not been resolved. It was possible for these EEE patients to be assigned an ICN, either local or national. Since this data does not assist in the identification or sharing of patient data, it was decided that these patients should not be assigned an ICN of any kind, nor should an exception be logged that they have been touched. Prior to Patch MPIF*1.0*33, patients who had both an "EEE" as the first three characters of their last name and an ICN (local or National) were inactivated (following the rules for inactivation) from the MPI during the post initialization for Patch MPIF*1.0*21. These EEE patients were included in the screen of patients *not* to be sent to the MPI.

This screen on EEE patients was reviewed again in the MPI Changes 2 project and removed in Patch MPIF*1.0*33. Patients with last names beginning with "EEE" will no longer be screened from getting a local or national ICN. And no exception message will be logged in the local VistA exception handler when these patient entries are touched.

Distinguishing MPI Austin From MPI/PD VistA

MPI Austin refers to the actual index located at the Austin Automation Center (AAC). MPI/PD VistA refers to the software that resides in VistA and sends patient data to the MPI Austin and to all sites where a patient has been seen. These two sides of the MPI work together as one component. For the most part, when this manual references the MPI, it is referencing the actual index at Austin. However, the terms MPI Austin and MPI/PD VistA are used when it is not obvious to the reader to which component of the MPI the documentation refers.

Product Description: What is the Master Patient Index Composed Of?

Master Patient Index (Austin)

The MPI located at the Austin Automation Center (AAC) is the actual index. It is composed of a unique list of patients and a current list of VAMCs (Veterans Affairs Medical Centers) where each patient has been seen. This enables the sharing of patient data between operationally diverse systems. Each record (or index entry) on the MPI contains a small amount of patient data used to identify individual entries.

When a patient is first seen at a site for care (the site has not previously treated the patient) or the patient did not get an ICN during the initialization phase, a real-time query is generated to the MPI when using the REGISTER A PATIENT, LOAD/EDIT PATIENT DATA or 10-10T REGISTRATION options on the Patient Information Management Systems (PIMS) menu. If the patient is not known to the MPI, the patient's identifying information: name, SSN (unless pseudo or not available), date of birth, and mother's maiden name are passed to the MPI. The MPI then assigns an integration control number (ICN) and assigns the requesting site as the CMOR. If, during registration, the patient is already known to the MPI, a message appears on the screen that says, "*Found patient Xxx,Vvvv in MPI, updating ICN and CMOR.. . .*" and the MPI then displays the patient's CMOR on the screen. The requesting site sends a message to be added as a treating facility and the Treating Facility Update is sent by the MPI to all associated facilities.

Each site will have a block of local ICNs assigned for automatic use in the event that the MPI cannot be reached. When local ICNs are assigned to patients, background processing ensures that they are processed against the MPI as soon as possible. It will also process any missing ICNs for new patients added to the PATIENT file (#2) by means other than REGISTER A PATIENT, LOAD/EDIT PATIENT DATA or 10-10T REGISTRATION options. If the patient is not known to the MPI (new patient), the MPI will assign a new ICN and the site will be the CMOR. If the patient is already known to the MPI (exact match), the MPI will return the ICN, CMOR, and list of treating facilities. If the MPI finds more than one potential match, a local ICN is assigned and an exception is logged for human resolution using the MPI/PD Exception Handling option. The locally assigned ICN will be stored as part of the patient record in the ICN History.

Once a CMOR has been assigned to a patient, the MPI will only accept changes and/or updates to that patient's demographic data from the CMOR site. However, the CMOR can be changed at any time.

Master Patient Index/Patient Demographics (MPI/PD) VistA

This software resides in VistA and sends patient data to the MPI (Austin) and to sites where a patient has been seen. MPI/PD VistA enables sites to query the MPI (Austin) for known data, to request the assignment of an ICN, to inactivate an ICN, and to manage incoming and outgoing Change CMOR requests.

During the initialization of the MPI database in Austin, each VA Medical Center sent batch HL7 messages to the MPI (Austin) requesting ICNs for all of its patients whose records reflected activity in the past three fiscal years (i.e., patient records that contain CMOR Activity Scores). Patients were checked against the MPI and one of the following scenarios occurred:

- If a patient is introduced to the MPI for the first time, it is added directly to the index, an ICN is assigned to that patient, and the current (sending) site becomes the CMOR.
- If an exact match is found for that patient (i.e., the patient had already been initialized to the MPI from another site), the current (sending) site was added to the list of treating facilities where the patient has been seen. The CMOR remains the same.
- If multiple patient entries are found in the MPI that closely match the patient's identifying information:
  - A notation is made in the CIRN HL7 EXCEPTION LOG file (#991.1) indicating that a list of potential matches has been found. The HL7 message is sent back to the sending site and processed, instead of the ICN and CMOR normally returned.
  - An option, View Potential Match Patient, is available on the Message Exception Menu. It prints a list of patients who have been identified as having multiple potential matches on the MPI and who haven't yet been resolved using the option Single Patient Initialization to MPI. Patient entries are listed by NAME, SOCIAL SECURITY NUMBER (SSN), DATE OF BIRTH (DOB), and DFN. The status of the patient entry is current as of the date/time the report is generated. This data is pulled from the CIRN HL7 EXCEPTION LOG file (#991.1).
  - If the correct patient entry is located on the report, it must then be resolved using the option Single Patient Initialization to MPI.

Once the initialization was completed, the data at the MPI (Austin) was (and currently is) kept up-to-date through Master Patient Index/Patient Demographics (MPI/PD) VistA, and Patient Information Management System (PIMS) menu options.

If you are using any one of the following PIMS options:

- LOAD/EDIT PATIENT DATA,
- REGISTER A PATIENT,
- 10-10T REGISTRATION,
- or ELECTRONIC 10-10EZ PROCESSING

to add a new patient to your local PATIENT file (#2), or if you select a patient who did not receive an ICN during initialization, a real-time request for an ICN and CMOR is sent to the MPI (Austin). This ensures that the MPI (Austin) will be kept up-to-date with active patients.

Coordinating Master of Record (CMOR)

The Coordinating Master of Record (CMOR) is the designated "owner" of the patient's descriptive data. A patient will have only one CMOR at a time. The designation as the CMOR for a patient does not provide "workload credit" or any other distinction.

Several new fields having to do with the CMOR were added to the PATIENT file (#2): COORDINATING MASTER OF RECORD (#991.03), CMOR ACTIVITY SCORE (#991.06), and SCORE CALCULATION DATE (#991.07). These fields are populated by the system.

During the Pre-Implementation phase, a CMOR score based on activity (Current FY, FY-1, FY-2) was calculated for the active patients in your Patient file. The CMOR score indicates to the Master Patient Index (MPI) which patients in your Patient file are active. During initialization of your database with the MPI, the first site at which the MPI encounters a patient will be assigned as the CMOR. Following the initialization with the MPI, your site will run an option that identifies the shared patients for which you are **not** the CMOR, compares the CMOR scores, and reassigns the CMOR if that action is appropriate.

Treating Facilities

A facility's relationship to the patient determines what information it receives and sends. MPI/PD VistA maintains this information to ensure proper routing of patient data.

Any facility where a patient registers for care (regardless of VISN) is placed on the Treating Facility List. This list is part of the patient descriptive data that is synchronized.

Changes to certain patient's descriptive data that are made at a treating facility trigger a message to the CMOR and are placed in a Patient Data Review. The CMOR manually accepts or rejects the changes and sends a message to the MPI. The MPI will then determine whether a Treating Facility Update should go out based on whether the data changed. If the message came from a non-CMOR site, the MPI will transmit the update(s) to the CMOR site. If the message came from the CMOR site, the MPI will transmit the update to all associated facilities.

A series of patches were distributed to implement a new messaging structure for Master Patient Index/Patient Demographics (MPI/PD). Previously, the MPI/PD used the Coordinating Master of Record (CMOR) as the origination point for a number of update messages to other treating facilities. To reduce the amount of facility to facility messaging, the Master Patient Index (MPI) database is now the source for update messages. For those message types that require CMOR action, the CMOR will update the MPI, and the MPI will distribute updates to the appropriate treating facilities.

Chapter 2: Implementation and Maintenance

Master Patient Index/Patient Demographics (MPI/PD) VistA is a Kernel Installation and Distribution System (KIDS) software release.

Package Requirements

The MPI/PD VistA package requires a standard VistA operating environment in order to function correctly. Check your VistA for packages and versions installed. The following packages (fully patched), Table 2-1, must be installed at your site:

DO NOT INSTALL HL*1.6*39 in any TEST account! If you install this patch in your test account, you will link your test account to all the other production accounts. Since there are similarities (e.g. patient names/data) in test and production, it would not be good for data from the test account to be transmitted to the production account at another site.

RG* and MPIF* patches should NOT be installed on legacy systems to avoid issues with the legacy systems ending up as Coordinating Master of Records (CMORs) or Treating Facilities.

Application	Version # and Patches
CIRN	Version 0.5 fully patched
Health Level 7 (HL7) VistA	Version 1.6 fully patched Place HL*1.6*39 in Production account only.
Kernel	Version 8 fully patched
Kernel Toolkit	Version 7.3 fully patched
MailMan	Version 7.1 XM*DBA*115
Master Patient Index/Patient Demographics (MPI/PD)	Version 1.0 fully patched
Pharmacy	If running Computerized Patient Record System (CPRS), fully patched version of Outpatient Pharmacy V. 7.0, and Inpatient V. 5.0.
PIMS	Version 5.3 fully patched
Registration	Version 5.3 fully patched
Scheduling	Version 5.3 SD*5.3*185

Application	Version # and Patches
VA FileMan	Version 22 fully patched

Table 2-1: Package Requirements

If you are a Cache site and are planning to use a multi-threaded listener (which is recommended), you will need patch XU*8.0*78.

Site Parameters

While all of the following parameters are important and should be reviewed with your HAS/MPI/PD Coordinator, in order to proceed with your post installation you MUST use the RG Process control option to set MPI/PD VistA messaging to SEND.

Site Parameters Edit for CMOR [MPIF SITE PARAMETER] found on the Patient Admin Coordinator Menu.

Your site can select whether requests for a change to a patient's CMOR will be processed automatically or placed in a review file for manual processing. If you select MANUAL, mail messages will be sent to the mail group entered in "New Request Mailgroup" whenever change requests are received. You do not get a message if you select AUTOMATIC.

```
Type of Processing: MANUAL// ??
    Based on this field setting, any CMOR change request received
    from another station can either be manually reviewed or automatically
    approved.
    Choose from:
      0        MANUAL
      1        AUTOMATIC
Type of Processing: MANUAL// <Enter>
New Request Mailgroup: MPIF CMOR REQUEST// ??
    If the CMOR Request Change parameter is set to manual, new CMOR change
    requests received will notify the mailgroup entered in this field. This
    gives a means of prompting someone to review the new request.
New Request Mailgroup: MPIF CMOR REQUEST // <Enter>
```

Figure 2-1: Site Parameters Edit for CMOR

HL7 Application Parameters file

Check that the correct Station Number is entered in the FACILITY NAME (#3) field of the HL7 APPLICATION PARAMETER file (#771). Local modifications to your INSTITUTION file (#4) may conflict with MPI/PD VistA installation set-up.

```
FileMan print

D P^DI

HL7 APPLICATION PARAMETER LIST                 MAR 15,2000  10:45    PAGE 1
NAME             FACILITY NAME
** Note this will show all entries.
MPIF A29 SERVER  679  <<This should be YOUR station number>>
MPIF A30 SERVER  679
MPIF CMOR COMP   679
MPIF CMOR RSLT   679
MPIF LOC/MIS     679
MPIF MPI         679
MPIF-STARTUP     679
RG CIRN          679
RG SUBSCRIPTION  679
VAFC PIMS        679

RG CIRN ADT Should NOT be populated!
```

Figure 2-2: HL7 Application Parameter List

Stop/Send/Suspend MPI/PD Messages [RG PROCESS CONTROL]

The Stop/Send/Suspend MPI/PD Messages Processing option is provided as a standalone option. It is **NOT** to be attached to any menu. This option allows IRM to set the message activity state (Stop/Send/Suspend). This option is used to edit the STOP MPI/PD MESSAGING (#16) field in the CIRN SITE PARAMETER file (#991.8), to STOP/SEND/SUSPEND MPI/PD messages.

You must be in SEND mode to begin the MPI Initialization phase.

STOP - should be used only to totally shutdown HL7 V2.3 and MPI/PD messages. It should only be used under the direction of Software Design & Development.

SEND - normal operating mode.

SUSPEND - should be used in an emergency situation to suspend HL7 V2.3 and MPI/PD messages if the volume of messages is affecting system performance. Software Design & Development should also be called in this situation.

```
D ^XUP
Setting up programmer environment
Terminal Type set to: C-VT320
Select OPTION NAME: RG PROCESS CONTROL          STOP/SEND/SUSPEND MPI/PD messages
STOP MPI/PD MESSAGING: STOP MESSAGES// SEND
    In sync with MAS parameter.
```

Figure 2-3: STOP/SEND/SUSPEND MPI/PD messages

If not in sync with the MAS Parameter, you will need to contact your MAS Coordinator to get the Send PIMS HL7 V2.3 Messages field (in the MAS PARAMETERS file [#43]) set to SEND also. If the two parameters are not in sync, the implementation process cannot continue.

Mail Groups

The following mail groups are exported in the MPI/PD VistA package. They are listed by Mail Group name, and a brief description is given:

Mailgroup	Suggested Coordinator	Suggested Members	Description
HL7 SITE POC (ON FORUM)	Personnel who monitor MPI/PD HL7 problems.	Personnel who monitor MPI/PD HL7 problems.	This mail group is for personnel who monitor MPI/PD VistA HL7 problems.
MPIF CMOR REQUEST	Personnel who monitor CMOR Change Requests.	Personnel that will process CMOR Change Requests.	Any requests to change the CMOR will be sent to this Mail Group. Requests will then be processed (i.e., accepted/rejected) via the CMOR options. The messages serve as a heads-up that there are CMOR requests to process. This is also the mail group where the notifications that a request has been processed at another site and the outcome.  This Mail Group is added to the MAIL GROUP file (#3.8) during the Post-Init of the installation.
MPIF EXCEPTIONS	Messages are sent to the MPI Exception Handler on the Austin MPI. There shouldn't be any local members in this mail group.	Messages are sent to the remote mail group G.CIRN EXCEPTION MGT@FORUM.VA .GOV MPI, which is the Exception Handler on the MPI in Austin.	MPI Exception Messages to be addressed are sent to this mail group. These messages are all technical in nature, involving problems with HL7 messages or conflicts with CMORs or ICN not found. There normally isn't anything the site can do about these, so these messages are sent to a remote mail group. The remote mail group G.CIRN EXCEPTION MGT@FORUM.VA.GOV gets the messages instead of local members. If necessary, the remote mail group members will contact the site's personnel for assistance.
RG CIRN DEMOGRAPHIC ISSUES	Health Administration Service (HAS)/MPI/PD Coordinator	Personnel that deal with patient data.	This mail group should contain person(s) responsible for ensuring the integrity of the Patient Information Management Systems (PIMS) data. The members of this group will be notified upon login that there are patients awaiting review.
RG CIRN HL7 PROBLEMS	Personnel who monitor MPI/PD HL7 problems.	Personnel who monitor MPI/PD HL7 problems.	This mail group receives notification of problems that CIRN (MPI/PD) has when interacting with the VistA HL7 package.

Table 2-2: Mail Groups exported in the MPI/PD VistA package

IRM personnel will be required to use MailMan utilities to add members to the following mail groups: MPIF CMOR REQUEST, and RG CIRN DEMOGRAPHIC ISSUES.

PIMS personnel will most likely be the ones processing CMOR Requests and reviewing MPI/PD VistA HL7 Exception Messages addressing data issues. They should be added as members of the MPIF CMOR REQUEST and RG CIRN DEMOGRAPHIC ISSUES mail groups. However, anyone participating in this should be added to these mail groups. Members of the MPIF EXCEPTIONS mail group are notified of problems with HL7 messaging.

For information on assigning members to mail groups, see the VA Electronic Mail System (MailMan) User Manual V. 7.1.

Bulletins

RG CIRN DEMOGRAPHIC ISSUES: This bulletin controls the sending of the following patient related and Master File update bulletins.

Patient Related Bulletin	Cause	Action to take
REMOTE SENSITIVITY INDICATED	Patient is marked as sensitive at the sending site but not at receiving site.	No action: message is informational
REMOTE DATE OF DEATH INDICATED	Patient has a date of death entered from the sending site but not at the receiving site.	No action: message is informational

Table 2-3: RG CIRN DEMOGRAPHIC ISSUES bulletin

The Master File Update bulletins going to MPI Austin differ from the patient related bulletins in that the data being passed is different.

MPIF CMOR COMPARE COMPLETE: This bulletin is to alert the install team that the CMOR compare message has been processed on the CMOR site and that X patients had their CMOR changed. This will assist the team in knowing that these messages have been processed and how many were changed.

Background Jobs

The following three jobs need to be tasked to run in support of MPI/PD VistA:

AUTO CHANGE CMOR NIGHT JOB

Background job: [MPIF CMOR REQUEST AUTO JOB]

This job will look at all pending CMOR requests that have been received and if they are older than 14 days, then they will be processed as if the auto-accept parameter was enabled.

LOCAL/MISSING ICN RESOLUTION

Background job: [MPIF LOC/MIS ICN RES]

This starts the background job of resolving local and missing ICNs against the MPI Austin. It is recommended that this option be scheduled to run via TaskMan every 600 seconds (Patch MPIF*1.0*35).

A new field, LOCAL/MISSING DATE LAST RAN (#.04), was created in the CIRN SITE PARAMETER file (#991.8) to hold the last date the Local/Missing ICN Resolution Background job ran. The field will be populated by the routine ^MPIFRES. This was released in patch RG*1.0*25.

Local ICNs

ICNs are created for new patients locally at the site when the MPI is unavailable to assign an ICN in real-time (e.g., the Direct Connect could not be established). Local ICNs contain the same number of digits as a national ICN. The only difference is that the first three digits are the VAMCs station number.

It is not recommended that Local ICNs be sent to remote databases, as they will only be known at the local facility that assigned them.

Missing ICNs

Patient records get an ICN assignment from the MPI Austin in real time if they are added to the PATIENT file (#2) using any one of the PIMS options: Load/Edit Patient Data, 10-10T Registration, Register a Patient, and Electronic 10-10EZ Processing.

Missing ICNs result from patient records that are added to the PATIENT file (#2) via means other than through these PIMS options. These records will not get an ICN assignment from the MPI in real time and they will be flagged internally for resolution.

Resolution of Local/Missing ICNs

The Local/Missing ICN Resolution background job should be scheduled via TaskMan to run every 600 seconds (Patch MPIF*1.0*35). The Local/Missing ICN Resolution job will find all patients in the local PATIENT file (#2) with a Local ICN or that have been flagged as missing an ICN and send these patients to the MPI for a national ICN assignment. These patients are sent to the MPI requesting an ICN and CMOR, in batch HL7 messages (maximum of 100 patient entries each).

Patch MPIF*1.0*10 has placed a screen on this job to not send patients that have a Potential Match Exception as they need manual intervention to be resolved. Patch MPIF*1.0*15 has added a date/time stamp to the "AICNL" cross-reference so that the Local ICNs will only be sent to the MPI Austin once for resolution.

Through this background job, the MPI performs the following actions based on these possible scenarios:

1. If the patient is not already on the MPI Austin:
    a. The patient is added to the index.
    b. The patient is assigned an ICN.
    c. The site sending the message becomes the CMOR.
    d. ICN and CMOR are returned to the site and corresponding fields are updated.
2. If an exact match is found for the patient on the MPI Austin:
    a. ICN and CMOR are returned to the site.
    b. The site is added to the list of associated systems/correlated domains where the patient has been seen or is known at.
    c. Messages are sent to the list of associated systems/correlated domains to add the new site.
3. If multiple patient entries are found on the MPI Austin that closely match the patient's identifying information:
    a. The HL7 message is sent back to the sending site and processed, instead of the ICN and CMOR normally returned. A new entry is made in the CIRN HL7 EXCEPTION LOG file (#991.1) indicating that a list of potential matches has been found for this patient.
    b. The View Potential Match Patient option is available on the Message Exception Menu. It prints a list of patients, as shown in the next Figure. It lists patients who have been identified as having multiple potential matches on the MPI and who have not yet been resolved using the option Single Patient Initialization to MPI. Patient entries are listed by Name, SSN, Date of Birth, and DFN. The status of the patient is current as of the date/time the report is generated. This data is pulled from the CIRN HL7 EXCEPTION LOG file (#991.1).

```
Select Message Exception Menu Option: VIEW <Enter> Potential Match Patient

This report prints a list of patients who have been identified as having
multiple Potential Matches on the Master Patient Index (MPI) and who haven't
yet been resolved using the option "Single Patient Initialization to MPI".
Status is current as of the date/time the report is generated.

This data is pulled from the CIRN HL7 EXCEPTION LOG file (#991.1).
Prior to producing the report, duplicate POTENTIAL MATCH patients will be
purged from the file.

...one moment please..

0 duplicate patient entries for POTENTIAL MATCH exceptions were identified
and deleted from the CIRN HL7 EXCEPTION LOG file (#991.1).

The right margin for this report is 80.


DEVICE: HOME// <Enter> UCX/TELNET


PATIENT LIST of Potential Matches to be Resolved                    Page: 1
Printed at ALBANY on Mar 27, 2003@13:17

Patient Name                          SSN          DOB              DFN
------------------------------------------------------------------------------
PATIENT1,NISIL B JR                999790070     AUG 12,1956       100000125
PATIENT2,RICHARD G                 999374657     JAN 23,1932       100000115
PATIENT3,JOHNNY TEST III           999021040P    FEB 10,1940       100000013

TOTAL: 3
```

Figure 2-4: Report listing patients identified as having multiple potential matches on MPI Austin

Users can run the MPI/PD Exception Handling option to produce a report with a list of exceptions that have not yet been processed. You can sort the list by date (default), by patient, or exception type. You can also choose to view only those of a selected exception type. For information on how to used this option, refer to the Master Patient Index/Patient Demographics (MPI/PD) VistA User Manual, Revised March 2003. See the topic titled “Message Exception Menu” in the section “MPI/PD Patient Admin Coordinator Menu” of Chapter 5.

c. These patients must then be resolved using the option, Single Patient Initialization to the MPI. The option also establishes the TCP/IP direct connection with the MPI. It can also be used to initialize a patient record to the MPI Austin that currently exists in the PATIENT file (#2), but that has no ICN and CMOR designation. It is recommended that this option be used when potential duplicate records have been found during the initialization phase or the Missing/Local ICN resolution job.

Potential Matching Patient Entries on the MPI

The situation may present itself where this background job processes a patient who has potential matching entries on the MPI (i.e., entries that closely match the patients identifying information [e.g., name, SSN, date of birth]). This will result in the generation of a MPI Exception being logged in the CIRN HL7 EXCEPTION LOG file (#991.1).

UPDATE BATCH JOB FOR HL7 V. 2.3

Background job: [VAFC BATCH UPDATE]

The event of updating patient information can take place from several different options within VistA, including VA FileMan. Changes to any of the fields listed below are recorded and an entry created in the ADT/HL7 PIVOT file (#391.71). The entry is then marked as pending to be transmitted. Direct sets to the globals cannot be collected. This background job will periodically collect (via a scheduled job) these marked events and broadcast an ADT-A08 Update Patient Information message. Because it is not possible to determine if the editing of this field is complete, this background job will periodically collect these marked events and broadcast an ADT A08 Message (i.e., Update Patient Information). This is a PIMS-generated HL7 message.

Field Number	Field Name
.01	NAME
.02	SEX
.03	DATE OF BIRTH
.05	MARITAL STATUS
.08	RELIGIOUS PREFERENCE
.09	SOCIAL SECURITY NUMBER
.111	STREET ADDRESS [LINE 1]
.1112	ZIP+4
.112	STREET ADDRESS [LINE 2]
.113	STREET ADDRESS [LINE 3]
.114	CITY
.115	STATE
.116	ZIP CODE
.117	COUNTY
.131	PHONE NUMBER [RESIDENCE]
.132	PHONE NUMBER [WORK]
.211	K-NAME OF PRIMARY NOK
.219	K-PHONE NUMBER
.2403	MOTHER'S MAIDEN NAME
.301	SERVICE CONNECTED?
.302	SERVICE CONNECTED PERCENTAGE
.31115	EMPLOYMENT STATUS
.313	CLAIM NUMBER
.323	PERIOD OF SERVICE
.351	DATE OF DEATH
.361	PRIMARY ELIGIBILITY CODE
1	ALIAS (Patch DG*5.3*575)
2	RACE INFORMATION (Patch DG*5.3*575)
6	ETHNICITY INFORMATION (Patch DG*5.3*575)
391	TYPE
991.01	INTEGRATION CONTROL NUMBER
991.02	ICN CHECKSUM
991.03	COORDINATING MASTER OF RECORD
994	MULTIPLE BIRTH INDICATOR
1901	VETERAN (Y/N)?

Table 2-4: Data elements monitored in the PATIENT file (#2) for changes

For more information on the ADT A08 Message — Update Patient Information, see the *Master Patient Index/Patient Demographics (MPI/PD)* VistA *HL7 Interface Specifications.*

This background job was originally exported in Patch DG*5.3*91.

Due to the new MPI/PD VistA messaging structure, the MPI/PD Event Queue is now obsolete. Therefore, the MPI/PD Event Queue Auto start [RGEQ AUTOSTART] background job is no longer used. Previously, this job was scheduled in the OPTION SCHEDULING file (#19.2) with SPECIAL QUEUEING set to Startup Persistent. Routine RGP20PRE in Patch RG*1.0*20 has removed this entry from the TaskMan schedule to stop the event queue. The patch will also remove the RGEQ options.

Capacity Management and System Diagnostics

The Capacity Management team will work closely with sites to determine whether the workload associated with MPI/PD will affect the system negatively. They have also developed a number of tools that monitor the system to provide benchmarking data for further study and process improvement. These may include the following:

- Statistical Analysis of Global Growth (SAGG) - focuses on package-specific impact on data storage, monitors global and file usage.
- Resource Usage Monitor (RUM) - measures resource consumption by package.
- VAX Performance Analyzer (VPM) - monitors system and stores a key subset of data associated with configuration, database activity, response time, central processing unit (CPU), memory, and Input/Output (I/O) utilization.

The following system diagnostics should also be performed:
Transmission Control Protocol/Internet Protocol (TCP/IP) Testing: For the Digital Equipment Corporation (DEC) Alpha sites which were not old 486 sites, test the TCP/IP connection via a "PING" function or other method. This insures that the software and hardware mechanisms associated with this communications protocol are prepared to function. It is also a preventive diagnostic for communications with the MPI Austin.

Hardware Requirements

MPI/PD VistA is designed to run on standard or upgraded Alpha AXP clusters with Virtual Memory System (VMS) or on New Technology (NT) and Open M. TCP/IP setups will have to be in place.

See VistA Health Level Seven (HL7) *Site Manager and Developer Manual* at http://www.va.gov/vdl/VistA_Lib/Infrastructure/Health_Level_7_(HL7)/hl71_6p56_p66.pdf

MPI/PD VistA uses TCP/IP as the communications protocol for transmitting and receiving patient information. Use existing system tools for fine-tuning your TCP/IP capabilities.

Auditing

Patch DG*5.3*149 added new cross references to the PATIENT file (#2) fields to assist MPI/PD VistA in monitoring changes made to the fields listed below. During the normal daily operations of MPI/PD VistA, it is possible that these fields may be updated by HL7 Messaging. Patch DG*5.3*231 exported with MPI/PD VistA build, enables auditing for the following fields for monitoring.

**NAME
** SEX
** DATE OF BIRTH
MARITAL STATUS
RELIGIOUS PREFERENCE
** SOCIAL SECURITY NUMBER
STREET ADDRESS [LINE 1]
ZIP+4
STREET ADDRESS [LINE 2]
STREET ADDRESS [LINE 3]
CITY
STATE
COUNTY
PHONE NUMBER [RESIDENCE]
PHONE NUMBER [WORK]
K-NAME OF PRIMARY NOK
K-PHONE NUMBER
** MOTHER'S MAIDEN NAME
SERVICE CONNECTED?
EMPLOYMENT STATUS
PERIOD OF SERVICE
DATE OF DEATH
TYPE
VETERAN (Y/N)?
MULTIPLE BIRTH INDICATOR (Y/N)?

The double asterisks (**) denote key fields (in addition to Name and the fields mentioned above) that will be synchronized across sites. This list of key fields is subject to change.

The DG SECURITY LOG file (#38.1), Field #2 Security Level is also monitored for changes to patient sensitivity.

The fields above are the minimal set of fields that should be turned on for auditing in the PATIENT file (#2), for MPI/PD VistA.

Global Information

Globals that were included in the installation of MPI/PD VistA are shown in File List.

The following globals need to be placed on the system:

- ^RG* (^RGSITE, ^RGHL7 ^RGEQASN, ^RGEQEXC, ^RGSTAT, ^RGEQ) - minimal anticipated growth
- ^MPIF - no anticipated growth

You will need to reboot your system for translations to take effect.
Check disk space for 150 Mb of available space for growth in ^HL Based on Test Site information, projected growth of the ^DIA (audit global) is 400-500Mb over a one year period.

Global Configuration

Alpha Cluster(DSM): The globals should be placed and protected on the proper volume set using the %GLOMAN utility.

Open M: Use the GUI Global Utility to add and place the globals. Default global attributes should be used.

	System Owner	World	Group	UCI/USER NET
Alpha (DSM)	RWP	RWP	RWP	RWP
Open M	RWD	R	R	RWD

Table 2-5: Global Configuration of Alpha (DSM) and Open M

Journaling

Journaling should be off during the installation but should be enabled afterwards for ^RG* and ^MPIF*.

HL*1.6*52 has recommendations for HL7 global journaling that should be reviewed. The MPI/PD VistA heavily uses HL7 messaging.

Routine Mapping

Several templates associated with the PATIENT file (#2) were compiled during DG*5.3*231 portion of the MPI/PD installation. If any of the following routine namespaces are mapped at your site, they should be unmapped prior to starting the installation. If your site cannot map/unmap using the * wildcard, a complete list of the mapped/unmapped routines can be found in Appendix I of the *Master Patient Index/Patient Demographics (MPI/PD) Installation and Implementation Guide.*

A1CKC*
DGRPTX*
DGRPXCR*
DVBAXA*
DVBHCG*
GMRDSTV*
IBXSC1*
MCARORB*
TIUPREL*
DGPTX1*
DGRPXC*
DGRPXX7*
DVBHCE*
GMRDSTR*
IBXBCR2*
IBXSC2*
SDM1T*

HL7 Management

MPI/PD VistA makes heavy use of HL7 messaging. The HL7 globals should be checked for sufficient room for growth. In addition, check to see if the HL7 patch, HL*1.6*39, properly brought in all of the sites HL LOGICAL LINK file (#870) and set the Queue Size field (#21) to ten. Also each site that is running UCX (non-Caché) will need to change their sites (VA<your site's three-letter abbreviation> TCP) HL LOWER LEVEL PROTOCOL PARAMETER file (#869.2) entry, field TCP/IP Service Type (#400.03) to M for Multi Listener Server.

See Patch HL*1.6*19 for further instructions.

Chapter 3: Routines

The following routines distributed with MPI/PD VistA are broken down according to the namespace of the patch they were released with. Following each namespace, are the routines for MPIF, Table 3-1, and RG, Table 3-2, namespaces that were released prior to the initial release of the MPI/PD VistA V.1.0 software.

For more information on related DG routines and patches, please refer to the Patch User Menu on FORUM.

Routines in the MPIF Namespace

MPIF Routine Name	Description
MPIF001	APIs for ICN, IEN, CMOR Information
MPIFA31I	Process ADT A31 message from API
MPIFAPI	APIs for local ICNs
MPIFAREQ	This routine will automatically process any CMOR Change Request still pending review as approved.
MPIFBT1	Batch query to MPI.
MPIFBT2	Batch response from MPI.
MPIFBT3	Batch response from MPI.
MPIFCMOR	Set and broadcast CMOR changes.
MPIFCMRP	Push CMOR for patient to another site.
MPIFDEL	Delete Patient from MPI.
MPIFEDIT	Request a CMOR for patient
MPIFHL7	Processing incoming HL7 messages
MPIFMER	Merge patient ICN
MPIFNEW	This routine adds a new request for change of CMOR to File #984.9.
MPIFNQ	Miscellaneous functions for CMOR.
MPIFPST	Post-initialization
MPIFQ0	CIRN Query Handler top level.
MPIFQ1	CIRN Query Handler
MPIFQED	Add patient returned in query.
MPIFQUE3	Generate Batch message for comparison of CMOR score.
MPIFQUE4	Process the CMOR COMPARISON request.

MPIF Routine Name	Description
MPIFQUE5	Process the RESULT from CMOR COMPARISON request.
MPIFREQ	Process a CMOR request from Event Queue
MPIFRES	Batch processing to the MPI of locally assigned ICNs and patients added to the PATIENT file (#2) by means other than PIMS options.
MPIFRESS	Process approve/disapprove CMOR change requests.
MPIFREV	Review CMOR Request.
MPIFRTC	This routine is used during the real-time connection with the MPI to send an HL7 message to add a patient to the MPI.
MPIFSAQ	Stand-alone query.
MPIFSPC	This routine computes the checksum for a given ICN.
MPIFUTL	CMOR Utilities
MPIFVTQ	Build data to query MPI response process (ADDPAT)
MPIF121P	Installed and deleted after install of MPIF*1.0*21
MPIF002	Utility routine of APIs
MPIFDUPS	MPIF RPC APIs
MPIFEXT	Extended PDAT RPC
MPIFEXT2	Extended PDAT RPC
MPIFEXT3	Extended PDAT 3 RPC
MPIFRPC	MPIF RPC APIs
MPIFRPC2	MPIF RPC APIs
MPIFA24	A24 Processing Routine
MPIFA24B	Build A23 Add Me Messages
MPIFA28	Build A28 Add Me Messages
MPIFA31B	Build A31 Messages
MPIFA37	Utility for processing an AD-A37
MPIFA40	Unlink ID Build A40 Merge Message
MPIFA43	Utility for processing an ADT-A43
MPIFACHK	Unlink ID Acknowledgement check
MPIFSEED	Seeding of A31s to MPI and sub cleanup
MPIFQ3	Query List Manager Functions
MPIFSA2	Stand Alone Query Part 2

Table 3-1: MPI/PD VistA routines (MPIF namespace)

Routines in the RG Namespace

RG Routine Name	Description
RGJCTS01	Subscription Control Startup Utility To CMOR
RGJUSITE	Routine to hold API for the CIRN PARAMETER file (#991.8)
RGMTAUD	CIRN Audit file Print for a Specified Patient
RGMTAUDP	CIRN Audit file Print of Patient Data
RGMTDPCT	Count Entries for ^DPT in Dup Record file
RGMTDPSC	Count duplicate record entries by CMOR score range
RGMTTFL	Treating Facility List Statistics
RGPDENV	Environment Check
RGPDPST	Post Init
RGPRSSN	CIRN Pseudo/Missing SSN Report
RGRSBULL	RGRSTEXT Bulletin routine
RGRSDYN	Build dynamic link list for a patient
RGRSDYN1	Build dynamic link list for a TFU
RGRSDYN2	Build dynamic link list for sensitivity
RGRSENS	Pt sensitivity parser/filer
RGRSMSH	Registration message parser for CIRN
RGRSPAR1	Registration message parser for CIRN TFU
RGRSPAR2	Sensitivity message parser for CIRN
RGRSPARM	Edit SEND/STOP/SUSPEND parameter
RGRSPARS	Registration message parser for CIRN
RGRSPT	High level routine for parsing and filing
RGRSUTIL	CIRN Utilities
RGRSUTL2	Utilities for CIRN
RGRSWPT	Active patient check
RGVCCMR1	CIRN CMOR activity score generator (part 1)
RGVCCMR2	CIRN CMOR activity score generator (part 2)
RGRSZZPT	Utility for CIRN
RGRSBUL1	RGRSTEXT Bulletin Routine (part 2)
RGEQ	Queue processor
RGEQDMN	Dequeue processor
RGEQDMN1	Dequeue processor continued
RGEQERR	Reprocess data class error. This routine was deleted in RG*1.0*19

RG Routine Name	Description
RGEQEXC	Error processor
RGEQRPT	Print CIRN queue statistics. This routine was deleted in RG*1.0*19
RGEQSTAT	Statistics
RGEQSUB	Dequeue processor
RGHLEXC	HL7 exception handling utilities. This routine was deleted in RG*1.0*18
RGHLEXC1	Generate exception statistics report
RGHLLOG	Log message processing info
RGHLPOST	CIRN Messaging Build Postinit
RGHLUT	HL7 message processing utilities
RGHOUT	HL7 message generation utilities
RGJCREC	CIRN Subscription Processor
RGJCSUB	CIRN Subscription Generator
RGMSENV	Environment Check
RGP2ENV	RG*1.0*2 Patch Environment Check Routine
RGEVPM	View Potential Match Patient List
RGP1ENV	RG*1.0*1 Patch Environment Check Routine
RGEX01	List Manager for CIRN Exceptions
RGEX03	List Manager for CIRN Exceptions
RGEXHND1	CIRN Exception Handling Utility
RGP3PST	RG*1.0*3 Patch Post-Init Routine
RGRAS	CIRN PRE-Seeding Report For Treating Facility
RG4POST	Post-Init Driver
RGADT	ADT Message Processing/Routing
RGADT1	Build ADT Messages
RGADT2	File Seeding Routine (PD-MPI Load)
RG7POST	RG*1.0*7 Patch Post-Init Routine
RGFIACK	Process Application Acknowledgement
RGFIBM	Send Facility Integration Message
RGFIPM	Process Facility Integration Message
RGFIPM1	Process Facility Integration Message
RGFIRM	Route Facility Integration Message
RGFIU	MPI/PD NDBI Merge Utility (Continued)
RGP5ENV	RG*1.0*5 Patch Environment Check
RGDRM01	MPI/PD Aware Duplicate Record Merge

RG Routine Name	Description
RGDRM02	MPI/PD Aware Duplicate Record Merge
RGDRM03	MPI/PD Aware Duplicate Record Merge
RGFICLN	MPI/PD NDBI Site Cleanup Utility
RGP9ENV	RG*1.0*9 Patch Environment Check
RGP9PST	RG*1.0*9 Patch Post Install Routine
RGI15PST	Post-Init for RG*1.0*15
RGSYSTAT	MPI/PD Status Display
RGHLLOG1	Send Exception to MPI Exception Handler
RGP13ENV	Routine deleted by installation of RG*1.0*13
RGP13PST	Routine deleted by installation of RG*1.0*13
RGP22	Pre Install and Post Install Routine
RGP22ENV	Environment Check Routine
RGMTHL2	Compile MPI/PD HL7 Data for bi-directional TCP
RGMTHLDB	MPI/PD HL7 Activity by Patient/Single Protocol
RGMTHLDP	MPI/PD HL7 Activity by Patient/All Protocols
RGMTHLPD	MPI/PD HL7 Message Status Report (Detailed)
RGPOC	Add/Edit Point of Contact Option
RGPOC1	Add/Edit Point of Contact Option (Continued)
RGEX04	List Manager Routine for MPI/PD Exception PDAT Query
RGEX05	List Manager Routine Remote PDAT in Exception Handler
RGRPDAT	Routine to call Remote PDAT
RGMTETOT	Compile totals for site exceptions
RGMTMONT	MPI/PD Monitor HL7 Messaging/Filers and Setups
RGMTUT01	Compile and Correct Data Validation for Local Sites
RGMTUT02	Compile and Correct Data Validation for Local Sites (con't)
RGMTUT03	Compile and Correct Data Validation for Local Sites (con't)
RGMTRUN	Scan TaskMan Running HL7 Tasks
RGADTP	ADT Processor to Retrigger A08 or A04 messages with AL/AL (COMMIT/APPLICATION) ACKNOWLEDGEMENTS
RGADTP2	ADT Processor to Retrigger A08 or A04 messages with AL/AL (COMMIT/APPLICATION) ACKNOWLEDGEMENTS (con't)
RGMTMONX	MPI/PD Monitor HL7 Messaging/Filers and Setups (con't)
RGMTSTAT	MPI/PD Maintenance Query
RGMTUT98	Misc. MPI Load COUNTER Utilities

Table 3-2: MPI/PD VistA routines (RG namespace)

Chapter 4: File List

Files and Globals

This section lists all the MPI/PD VistA package files with their file numbers, shows their global location, and gives a file description.

984.1 MASTER PATIENT INDEX (LOCAL NUMBERS) ^MPIF(984.1,
Data Comes with File: Yes

This file is to be used to generate local ICNs when the MPI is down (unreachable).

984.5 MPI CHECKDIGIT ^MPIF(984.5,
Data Comes with File: Yes

This file is used to calculate the check digit (check sum) for an ICN.

984.8 MPI ICN BUILD MANAGEMENT ^MPIF(984.8,
Data Comes with File: Yes

This file is used to track the MPI Initialization process. It is utilized when stopping and restarting the initialization process.

984.9 MPIF CMOR REQUEST ^MPIF(984.9,
Data Comes with File: No

This file holds all requests for change of a patient's Coordinating Master of Record. Requests being sent to remote locations and received from remote locations are stored in this file and updated as new requests are received.

991.1 CIRN HL7 EXCEPTION LOG ^RGHL7(991.1,
Data Comes with File: No

This file contains exception messages logged during the generation of outbound messages and the processing of inbound messages. Some fields apply only for entries logged by message generation routines, others only to message processing routines, and others to both.

This file should not be edited directly. Instead, use the exception management utilities to manage entries in this file.

991.8 CIRN SITE PARAMETER ^RGSITE(991.8,
Data Comes with File: No

This file is used to store generic site parameters for the Master Patient Index/Patient Demographic (MPI/PD) VistA package. Only one entry (entry number 1) should exist in this file.

991.11 CIRN HL7 EXCEPTION TYPE ^RGHL7(991.11,
Data Comes with File: Yes

This file lists the types of exceptions that can be logged and additional information about the exceptions.

You may edit the Action (#2) and Mail Group (#6) fields in this file to suit your needs. No other fields should be modified.

995 CIRN EVENT ASSOCIATION ^RGEQASN(
Data Comes with File: Yes

This file holds definitions of CIRN events that occur. When an event occurs, an entry is placed into a queue and is associated with an entry in this file. This file will determine how the event is processed (i.e., the routine to call to process the event and related HL7 Protocol).

Since each event type is placed on its own queue, this file also determines characteristics of the queue itself.

AMPIZZ and ATSSN Cross References Removed From PATIENT File (#2)

As of Patch DG*5.3*589, the AMPIZZ and ATSSN cross-references have been removed from the PATIENT file (#2). These cross-references were used to automatically inactivate patient entries from the MPI if records were found to be ZZ'd and/or if the first five digits of patient Social Security Numbers were replace with zeros.

Templates

Following is a list of the VA FileMan templates exported with the MPI/PD VistA package. There is a brief description for each template, along with the file name and number that each are located in (if applicable).

List Templates

MPIF REAL-TIME QUERY
File: LIST TEMPLATE file (#409.61)
Used to create the List Manager screen when utilizing the "direct connect" to the MPI at the Austin Automation Center. A list of potential matches is returned.

RG EXCPT ACTION

File: LIST TEMPLATE file (#409.61)
Used to create the List Manager screen for the MPI/PD Exception Handling exception actions for a patient selected.

RG EXCPT PDAT
File: LIST TEMPLATE file (#409.61)
Used to list Patient Data Query, an activity of MPI/PD Exception Handling.

RG EXCPT RPDAT
File: LIST TEMPLATE file (#409.61)
Used to list Remote Patient Data Query, which gets data from shared sites. It is an activity of MPI/PD Exception Handling.

RG EXCPT SUMMARY
File: LIST TEMPLATE file (#409.61)
Used to create the List Manager screen for MPI/PD Exception Handling.

VAFC EXCPT LOCAL AUDIT
File: LIST TEMPLATE file (#409.61)
Used to

VAFC EXCPT REMOTE AUDIT
File: LIST TEMPLATE file (#409.61)
Used to return MPI/PD Remote Audit Data.

Print Templates

MPIF OUTSTANDING REQUESTS
File: MPIF CMOR REQUEST (#984.9)
Allows user to display Pending Approval CMOR Requests.

MPIF REQUEST VIEW
File: MPIF CMOR REQUEST (#984.9)
Allows user to display a single CMOR Request.

Sort Templates

MPIF PENDING REQUESTS
File: MPIF CMOR REQUEST (#984.9)
Sort CMOR requests with STATUS of pending approval, then within that sort by SITE not equal to null.

MPIF REQUEST SORT
File: MPIF CMOR REQUEST (#984.9)
Sort by SITE number not equal to null, then within that sort by the CMOR request STATUS and chronological order by ENTER DATE.

Input Templates

MPIF OPEN REQUEST
File: MPIF CMOR REQUEST (#984.9)
Gives the user edit access to enter a new record in File #984.9 for CMOR requests.

MPIF REQUEST INCOMING
File: MPIF CMOR REQUEST (#984.9)
Allows user to display the CMOR request.

MPIF RESULT INCOMING
File: MPIF CMOR REQUEST (#984.9)
Allows user to approve/disapprove the CMOR request.

MPIF REVIEW AUTO
File: MPIF CMOR REQUEST (#984.9)
Automatically approve the CMOR request.

MPIF REVIEW RESET
File: MPIF CMOR REQUEST (#984.9)
Reverse the approval process. If the user has not completed the approval process the new data won't be saved. (e.g., through an up-arrow or time out).

MPIF REVIEW RESULT
File: MPIF CMOR REQUEST (#984.9)
Automatically saves the approval data to the CMOR request once the user approves request.

MPIF SITE PARAMETERS
File: CIRN SITE PARAMETER (#991.8)
Allow automatic processing of CMOR request.

Chapter 5: Exported Options

This section describes in detail the menus and options comprising the Master Patient Index/Patient Demographics (MPI/PD) VistA. They should be made accessible to authorized IRM, ADPAC (i.e., most likely PIMS ADPACs and/or Coordinators, etc.), and VAMC personnel who will be involved in working with the MPI/PD VistA.

Patch RG*1.0*19 made extensive menu changes including the removal of obsolete menus and options, moved some options to different menus, added new options, and changed user visible references from CIRN to MPI/PD except in file names and most field names where it appears. CIRN Master of Record (CMOR) is now Coordinating Master of Record.

Patch RG*1.0*20 made extensive menu changes including the removal of obsolete menus and options, moved some options to different menus, and added new options. For further information please refer to the Patch User Menu in FORUM.

MPI/PD VistA Menus and Options

MPI/PD Master Menu

```
Select MPI/PD Master Menu Option:

   CORD   MPI/PD Patient Admin Coordinator Menu ...
   ADU    MPI/PD Patient Admin User Menu ...
   IRM    MPI/PD IRM Menu ...

Select MPI/PD Master Menu Option:
```

Figure 5-1: MPI/PD Master Menu

MPI/PD Patient Admin Coordinator Menu

```
Select MPI/PD Master Menu Option: CORD <Enter> MPI/PD Patient Admin Coordinator
Menu

   SP     Site Parameters Edit for CMOR
   ADU    MPI/PD Patient Admin User Menu ...
          Patient Data Review
          Purge Patient Data Reviews
          Coordinating Master of Record (CMOR) Request ...
            Create a New CMOR Change Request
            Push CMOR Request
            Edit Open CMOR Change Request
            Review Pending Change of CMOR Requests
            Batch Review of CMOR Change Requests
            Display a CMOR Change Request
     PEND   Report - Pending Received Requests
     SENT   Report - Sent Requests Still Pending
     DIS    Report - CMOR Requests Disapproved
     APP    Report - CMOR Requests Approved
   LOG    Patient Audit Log Reports ...
          Patient Audit File Print
          Single Patient Audit File Print
   MPI    Master Patient Index Menu ...
          Single Patient Initialization to MPI
          Display Only Query
   MSG    Message Exception Menu ...
          View Potential Match Patient
          MPI/PD Exception Handling
          Patient MPI/PD Data Inquiry
          Remote Patient Data Query Menu ...
            Send Remote Patient Data Query
            Check Remote Patient Data Query
            Display Remote Patient Data Query
   RPT    Management Reports ...
          Pseudo-SSN Report
          Link and Process Status Display
          Unresolved Exception Summary
          National ICN Statistics
   POC    Add/Edit Point of Contact

Select MPI/PD Master Menu Option:
```

Figure 5-2: MPI/PD Patient Admin Coordinator Menu

MPI/PD Patient Admin User Menu

```
Select MPI/PD Master Menu Option: ADU <Enter> MPI/PD Patient Admin User Menu

          Patient Data Review
          Purge Patient Data Reviews
          Coordinating Master of Record (CMOR) Request ...
          Create a New CMOR Change Request
            Push CMOR Request
            Edit Open CMOR Change Request
            Review Pending Change of CMOR Requests
            Batch Review of CMOR Change Requests
            Display a CMOR Change Request
     PEND   Report - Pending Received Requests
     SENT   Report - Sent Requests Still Pending
     DIS    Report - CMOR Requests Disapproved
     APP    Report - CMOR Requests Approved

Select MPI/PD Master Menu Option:
```

Figure 5-3: MPI/PD Patient Admin User Menu

MPI/PD IRM Menu

```
Select MPI/PD Master Menu Option: IRM <Enter> MPI/PD IRM Menu

          Link and Process Status Display
          Unresolved Exception Summary
```

Figure 5-4: MPI/PD IRM Menu

Menu Assignment

Menu	Assign to:
MPI/PD Master Menu [RGMGR]	Information Resource Management (IRM) personnel
MPI/PD Patient Admin Coordinator Menu [RG ADMIN COORD MENU]	Patient Administration/HAS/MPI/PD Coordinator
MPI/PD Patient Admin User Menu [RG ADMIN USER MENU]	Patient Administration/MAS Users
MPI/PD IRM Menu [RG IRM MENU]	IRM personnel

Table 5-1: MPI/PD Menu Assignment

Standalone Options

MPI/PD HL7 EXCEPTION NOTIFIER	[RG EXCEPTION NOTIFIER]

This option is used to notify members of the RG CIRN DEMOGRAPHIC ISSUES Mail Group that there are exceptions to review. It is not a user option and should not be added to user menus.

MPI/PD EXCEPTION PURGE	[RG EXCEPTION PURGE]

This option purges duplicate entries, resolved entries over 30 days old from the CIRN HL7 EXCEPTION LOG (#991.1) file. IRM staff can schedule the background job via TaskMan to run once a week during off-hours at a time that will not conflict with backups. It should not be placed on user menus. Users are offered the opportunity to purge these exceptions when using the MPI/PD Exception Handling [RG EXCEPTION HANDLING] option.

LOCAL/MISSING ICN RESOLUTION	[MPIF LOC/MIS ICN RES]

This option will start the background job of resolving local and missing ICNs against the MPI. It is recommended that this option be scheduled to run via TaskMan every 600 seconds (patch MPIF*1.0*35).

A new field, LOCAL/MISSING DATE LAST RAN (#.04), was created in the CIRN SITE PARAMETER (#991.8) file in patch RG*1.0*23 to hold the last date the Local/Missing ICN Resolution Background job ran. The field will be populated by the routine ^MPIFRES.

MPI/PD HL7 DIAGNOSTIC MENU	[RGMT DIAG MGR]

This standalone menu contains a diagnostic tool and reports to assist with problem resolution for MPI/PD VistA HL7 messaging. It should not be attached to any menu. This diagnostic tool will be used primarily by the MPI/PD VistA development team and NVS.

```
Select MPI/PD HL7 Diagnostic Menu Option:

   CMP    Compile MPI/PD HL7 Data
   RPT    MPI/PD HL7 Message Status Report
   SNG    MPI/PD HL7 Activity by Patient/Single Protocol
   ALL    MPI/PD HL7 Activity by Patient/All Protocols

Select MPI/PD HL7 Diagnostic Menu Option:
```

Figure 5-5: MPI/PD HL7 Diagnostic Menu options

COMPILE MPI/PD HL7 DATA	[RGMT DIAG COMPILE HL7 DATA]

This utility searches the HL7 MESSAGE TEXT (#772) file for a selected date range. Each HL7 message in the date range is examined. If the RELATED EVENT PROTOCOL field contains the MPI/PD protocols (e.g., "VAF","RG", or "MPI") data is compiled into the ^XTMP("RGMT","HL" array.

A cross-reference is built on patient ICN and DFN for faster data retrieval for the associated reports.

MPI/PD HL7 MESSAGE STATUS REPORT	[RGMT DIAG STATUS REPORT]

This option prints information found during the COMPILE MPI/PD HL7 DATA option. The MPI/PD HL7 MESSAGE STATUS REPORT is generated from the ^XTMP("RGMT","HL" array. The report is sorted by RELATED EVENT PROTOCOL, date, transmission type, and status.

Either a detailed or summary report can be printed for a selected date range. The summary report displays the total number of messages for each date, transmission type, and status. The right margin for this report is 80.

The detailed report can be printed for a single or all protocols and includes information from each HL7 message. The detailed report displays the related event protocol date, transmission type, status, message header date, date processed, internal entry number (IEN) from the HL7 MESSAGE TEXT (#772) file, message identification number, and whether or not the message has been purged. The right margin for this report is 132.

MPI/PD HL7 ACTIVITY BY PATIENT/SINGLE PROTOCOL	[RGMT DIAG SINGLE PROTOCOL]

This option prints information found during the COMPILE MPI/PD HL7 DATA compilation for activity related to a specific protocol. The ^XTMP("RGMT","HL" array is searched for a user selected protocol, date range, transmission type and patient.

The report prints the patient's name, protocol, date range, transmission type, internal entry number (IEN) from the HL7 MESSAGE TEXT (#772) file, the date and status. The HL7 message data found in the MESSAGE TEXT field is displayed. The right margin for this report is 80.

MPI/PD HL7 ACTIVITY BY PATIENT/ALL PROTOCOLS	[RGMT DIAG ALL PROTOCOLS]

This option prints information found during the COMPILE MPI/PD HL7 DATA compilation for activity related to ALL protocols. The ^XTMP("RGMT","HL" array is searched for a user selected patient and date range.

The report prints the patient's name, date range, protocol, transmission type, internal entry number (IEN) from the HL7 MESSAGE TEXT (#772) file, the date and status. The HL7 message data found in the MESSAGE TEXT field is displayed. The right margin for this report is 80.

Security Keys

There are no security keys exported with the MPI/PD VistA package.

Chapter 6: Archiving and Purging

Archiving

There are no application specific archiving procedures or recommendations for the MPI/PD VistA package.

Purging

The MPI/PD VistA package provides users with the opportunity to purge processed exceptions as part of the MPI/PD Exception Handling [RG EXCEPTION HANDLING] option. To access the MPI/PD Exception Handling option, start at the MPI/PD Patient Admin Coordinator Menu [RG ADMIN COORD MENU] and choose MSG Message Exception Menu [RG EXCEPTION MENU]. Upon entering the option, you will be told when the last purge took place and will be asked if you would like to run the purge now. If you choose to purge, you will have to wait a few minutes before using the MPI/PD Exception Handling option.

```
Select MPI/PD Master Menu Option: CORD <Enter> MPI/PD Patient Admin Coordinator
Menu

   SP     Site Parameters Edit for CMOR
   ADU    MPI/PD Patient Admin User Menu ...
   LOG    Patient Audit Log Reports ...
   MPI    Master Patient Index Menu ...
   MSG    Message Exception Menu ...
   RPT    Management Reports ...
   POC    Add/Edit Point of Contact

Select MPI/PD Patient Admin Coordinator Menu Option: MSG <Enter> Message Exception
Menu

          View Potential Match Patient
          MPI/PD Exception Handling
          Patient MPI/PD Data Inquiry
          Remote Patient Data Query Menu ...

Select Message Exception Menu Option: MPI/PD Exception Handling
The MPI/PD Exception Purge process last ran Mar 19, 2003@14:19:07.
Do you want to run the MPI/PD Exception Purge process now? NO// <Enter>
```

Figure 6-1: How to access the MPI/PD Exception Purge Process

The purge removes duplicate entries and resolved entries over 30 days old from the CIRN HL7 EXCEPTION LOG file (#991.1). Regular purging provides you with the most up-to-date information on the List Manager screen. If you feel that waiting for the purge to complete is too time consuming, you can ask your IRM service to schedule the background job MPI/PD Exception Purge [RG EXCEPTION PURGE] via TaskMan to run once a week at an off-hours time that does not conflict with backups.

The HL7 and MailMan packages have purging options that should be used to control the large number of HL7 messages that MPI/PD VistA produce. Since IRM personnel have the option to use either HL7 or MailMan as the messaging component for sending and receiving data from the MPI, see the associated product documentation, listed below, for purging instructions specific to these packages:

- *DHCP Health Level Seven (HL7) Technical Manual*, Version 1.6 and up.
- *VA Electronic Mail System (MailMan) Technical Manual and Systems Management Guide*, Version 7.1 and up.

Chapter 7: Callable Routines

The section documents two categories of supported calls as they relate to the MPI/PD VistA package.

1. The first category is titled “Supported APIs”. This section lists and describes the callable routines, which are supported for general use in interacting with the MPI/PD VistA software (MPIF and RG namespaces).
2. The second category is titled “Supported APIs (IA required)”. This section lists and describes the MPI/PD VistA callable routines, for which you must obtain a IA in to use. Also in the second category is the section titled “MPI Direct Connect.” You must also obtain a IA for adding the MPI Direct Connect functionality to your VistA package.

For a list of the Integration Agreements (IAs) in which the MPI/PD Vista software package (MPIF and RG namespaces) is either custodian or subscriber to, see the section titled “External Relations” in this manual.

The MPI/PD VistA software (i.e., routines in the MPIF* and RG* namespaces) SHOULD NOT reside/run on Legacy systems. Any VistA applications utilizing APIs in the MPIF and RG namespaces on Legacy systems should check for the existence of these routines before trying to access them.

Supported APIs

This section documents all the supported APIs belonging to the MPI/PD VistA package for retrieving information from the MPI node in the PATIENT file (#2), or MPI /PD related information. The following information is provide for each API listed:

1. API name (highlighted in boldface) and description.
2. Associated IA.

API and Description	IA
$$GETICN ^MPIF001(DFN) This API returns the ICN, including checksum for a given DFN or –1^error message.	2701
$$GETDFN^MPIF001(ICN) This API returns the IEN of the patient in the PATIENT file (#2) for a given ICN or -1^error message.	2701
$$CMOR2^MPIF001(DFN) This API returns the CMOR Site Name for a given DFN or –1^error message.	2701

API and Description	IA
$$CMORNAME^MPIF001(CIEN) This API returns the CMOR Site Name for a given Institution IEN or –1^error message.	2701
$$GETVCCI^MPIF001(DFN) This API returns CMOR Station Number for a given DFN or –1^error message.	2701
$$IFLOCAL^MPIF001(DFN) This API is used to check if a patient has a Local ICN.	2701
$$IFVCCI^MPIF001(DFN) This API is used to determine if your site is the CMOR for the given patient.	2701
$$HL7CMOR^MPIF001(DFN,SEP) This API returns the CMOR Station Number and Institution Name for a given patient.	2701
$$MPINODE^MPIFAPI(DFN) This API returns the MPI node for a given patient in the PATIENT file (#2).	2702
$$SUBNUM^MPIFAPI(DFN) This API returns the Subscription Control Number from the MPI Node for a given patient in the PATIENT file (#2).	2702
$$EN2^MPIFAPI() This API creates and returns the next Local ICN and ICN Checksum.	2702
$$MPILINK^MPIFAPI() This API returns the name of the MPI logical link from the HL LOGICAL LINK file.	2702
GETADFN^MPIFAPI(ICN,DFN) This API returns the DFN for a given ICN ONLY if the ICN is the active ICN for a patient.	2702

Table 7-1: MPI/PD VistA Supported APIs

Patch MPIF*1.0*28 has removed references to the API: $$SEND^RGJUSITE from routines MPIFQ0 and MPIFSAQ. With the move to the 2.4 standard Health Level Seven (HL7), the check for 2.3 messaging is no longer needed.

Supported APIs (IA Required)

This section documents all the supported APIs (IA required) belonging to the MPI/PD VistA package for retrieving information from the MPI node in the PATIENT file (#2), or MPI /PD related information. The following information is provide for each API listed:

1. API name (highlighted in boldface) and description.
2. Associated IA.

API and Description	IA
$$CHANGE^MPIF001(DFN,VCCI) This API updates the CIRN MASTER OF RECORD (#991.03) field in the PATIENT file (#2) on the MPI node. Patch RG*1.0*9 changed user visible references from CIRN to MPI/PD except in file names and most field names where it appears. CIRN Master of Record is now Coordinating Master of Record.	2703
$$UPDATE^MPIFAPI(DFN,ARR) This API allows the calling package to update the MPI node fields (#991.01- #991.05) in the PATIENT file (#2).	2706
MPIFQ^MPIFAPI(DFN) This API provides support for the Registration package to provide real-time queries to the MPI for assignment of an ICN and CMOR. If the MPI is not available, a local ICN will be assigned instead. If the MPI does not already know of this patient, the patient will be added and assigned an ICN. The DFN is the IEN of the patient in the PATIENT file (#2). This code is to be inserted after all of the required data has been collected on a new patient (new to the PATIENT file (#2)). If the patient is already known, this code should be inserted after the patient has been selected. Interaction will only occur with the MPI if the patient does not have an ICN assignment. The following fields will be updated in the PATIENT file (#2) when a successful interaction with the MPI has occurred: INTEGRATION CONTROL NUMBER (#991.01), ICN CHECKSUM (#991.02), and COORDINATING MASTER OF RECORD (#991.03). If the MPI is unavailable, in addition to the fields noted above, the LOCALLY ASSINGNED ICN (#991.04) will be set to yes.	2748
VTQ^MPISAQ(.MPIVAR) This API allows users to do a Display Only Query to the MPI through the MPI/PD Exception Handling Option.	2941
$$ICNLC^MPIF001 This API will return an ICN if one exists or create and return a Local ICN and will update the appropriate fields if a Local was created.	3072
CALC^RGVCCMR2(RGDFN) This API calculates the CIRN CMOR Activity Score for an individual patient. This is being provided for the MPI developers to allow for re-calculating the CIRN CMOR activity score during the CMOR Batch comparison job.	2710

API and Description	IA
EXC^RGHLLOG(RGEXC,RGERR) This API will log the exception type of RGEXC with a textual message to include RGERR	2796
START^RGHLLOG(RGMSG,RGDC) This API allows the exceptions to be logged for a particular HL7 message that is being processed.	2796
STOP^RGHLLOG(RGQUIT) This API stops the specified (input variable- RGQUIT) exceptions being logged for an HL7 message.	2796
$$MPIQQ^MPIFAPI(DFN) This API tasks off the real-time connection to the MPI for an ICN request. This process is the same as the API: MPIQ^MPIFAPI(DFN), but will task the process off to the background.	3300

Table 7-2: Supported MPI/PD VistA APIs for which a IA is required

Supported APIs (IA Required) to which MPI/PD VistA Subscribes

This section documents all the supported APIs (IA required) to which the MPI/PD VistA package subscribes. The following information is provide for each API listed:

1. API name (highlighted in boldface) and description.
2. Associated IA.

API and Description	IA
$$EN^VAFCPID(DFN,VAFSTR,VAFNUM) This API creates a PID segment when a patient is: admitted, discharged, and/or checked out of a clinic. This segment is part of a HL7 message used by MPI/PD VistA to DATE LAST TREATED (#.03) and the ADT/HL7 EVENT REASON (#.07) fields in the TREATING FACILITY LIST file (#391.91). This is patient/facility specific information. The API is passed three input parameters: internal entry number of the PATIENT file (#2), string of fields requested separated by commas, and sequential number for SET ID (default=1).	3015
$$EVN^VAFHLEVN This API creates an EVN segment when a patient is admitted, discharged, and/or checked out of a clinic. This segment is part of a HL7 message used by MPI/PD VistA to DATE LAST TREATED (#.03) and the ADT/HL7 EVENT REASON (#.07) fields in the TREATING FACILITY LIST file (#391.91). This is patient/facility specific information. The API is passed two input parameters: the HL7 Event Type and the HL7 Event Reason Code.	3016
$$EN^VAFHLPD1 This API creates a PD1 segment when a patient is admitted, discharge and/or checked out of a clinic. This segment is part of a HL7 message used by MPI/PD VistA to update DATE LAST TREATED (#.03) and the ADT/HL7 EVENT REASON (#.07) fields in the TREATING FACILITY	3017

API and Description	IA
LIST file (#391.91). This is patient/facility specific information. There are two input parameters for this call: IEN of the patient in the PATIENT file (#2) and a string of fields requested separated by commas.	
$$EN^VAFHLPV1 This API is called to set a PV1 segment when a patient is checked out of a clinic.	3018
$$IN^VAFHLPV1 This API is called to set a PV1 segment when a patient is admitted or discharged through the Registration package.	3018
DELALLTF^VAFCTFU(PAT) This API is called to remove all associated treating facilities for a patient who's ICN has been inactivated.	2988
FILE^VAFCTFU(PDFN,FSTRG,TICN) This API is used to file data into the TREATING FACILITY LIST file (#391.91) (via the ADT/HL7 PIVOT file [#391.72]) under certain conditions.	2988
$$DELETETF^VAFCTFU(PAT,INST) This API is used to address the issue of duplicate treating facilities assigned to a patient; therefore the variable being passed is the IEN in TREATING FACILITY LIST file (#391.91), not the IEN for a site that the other calls are using.	2988
DIRECT^XWB2HL7(RET,LOC,RPC,RPCVER,P1,P2,P3,P4,P5,P6,P7,P8,P9,P10) This API is used to make a RPC to a remote facility. Users should be prepared to modify their calls to support strong authentication when made available by Infrastructure. MPI/PD VistA is only to call its own RPCs!	3144
RTNDATA^XWBDRPC(RET,HDL) Contains APIs for deferred RPCs used by HL7 utilities. MPI/PD VistA is only to call its own RPCs!	3149

Table 7-3: Supported APIs to which MPI/PD VistA subscribes

MPI Direct Connect

The Direct Connect is a real-time Transmission Control Protocol/Internet Protocol (TCP/IP) connection to the Master Patient Index to allow for an immediate request for an ICN. It is activated during the Register A Patient, Load/Edit Patient Data, 10-10T Registration, and Electronic 10-10EZ Processing processes when:

1. A new patient is added to the system, or
2. When a patient exists but doesn't have an ICN

In addition, by utilizing the Single Patient Initialization to MPI option, the TCP/IP direct connection with the MPI will occur. This event causes creation of a VQQ-Q02 and is sent to the MPI to find out if the patient is known. If the MPI returns a message stating that the patient is not known, an ADT-A28 Add Person message is then sent to the MPI. If the patient was known or added via the ADT-A28 message, the MPI will return the known information and the patient's entry is updated.

The Display Only Query option, used to view the data the MPI knows about a patient, also utilizes the TCP/IP direct connect with the MPI. A VTQ query is sent to the MPI. If the MPI knows the patient or finds a list of potential matches, the data is displayed to the users. No data is updated at the site or the MPI. If the MPI does not know the patient, a message is displayed stating so.

Chapter 8: External Interfaces

The MPI package makes extensive use of HL7 messaging to ensure synchronization of patient records among sites.

For more information on MPI HL7 messaging, see the *Master Patient Index/Patient Demographics (MPI/PD) VistA HL7 Interface Specifications* for complete details on message construction.

Listed below are the HL7 Application Parameters, HL Lower Level Protocol Parameters, and HL7 Protocols, used by MPI/PD VistA for HL7 messaging.

HL7 Application Parameters

MPIF A29 SERVER
MPIF A30 SERVER
MPIF CMOR CHNG
MPIF CMOR COMP
MPIF CMOR RSLT
MPIF LOC/MIS
MPIF MPI
MPIF TRIGGER
MPIF-STARTUP
RG ADT
RG CIRN
RG CIRN ADT
RG MPIPD
RG REPOSITORY
RG SITE MERGE
RG SUBSCRIPTION
RGMT CIRN

HL Lower Level Protocol Parameters

MPIF RTC PARAMS
MPIVA MAIL
MPIVA TCP
CIRN MAIL

HL7 Protocols

[MPIF ADT-A24 CLIENT]
[MPIF ADT-A24 SERVER]
[MPIF ADT-A28 CLIENT]
[MPIF ADT-A28 SERVER]
[MPIF ADT-A29 CLIENT]
[MPIF ADT-A29 SERVER]
[MPIF ADT-A31 CLIENT]
[MPIF ADT-A31 SERVER]
[MPIF ADT-A37 CLIENT]
[MPIF ADT-A37 SERVER]
[MPIF ADT-A40 CLIENT]
[MPIF ADT-A40 SERVER]
[MPIF ADT-A43 CLIENT]
[MPIF ADT-A43 SERVER]
[MPIF CMOR APP/DIS]
[MPIF CMOR APPROVE/DISAPPROVE]
[MPIF CMOR COMPARISON CLIENT]
[MPIF CMOR COMPARISON SERVER]
[MPIF CMOR REQUEST]
[MPIF CMOR RESPONSE]
[MPIF CMOR RESULT CLIENT]
[MPIF CMOR RESULT SERVER]
[MPIF ICN-Q02 SERVER]
[MPIF REAL-TIME QUERY (ADD PATIENT)]
[MPIF REAL-TIME QUERY (CMOR PDAT)]
[MPIF REAL-TIME QUERY (HELP)]
[MPIF REAL-TIME QUERY (MPI PDAT)]
[MPIF REAL-TIME QUERY (SELECT PATIENT)]
[MPIF REAL-TIME QUERY MENU]
[MPIF TEST]
[RG ADT-A01 2.4 CLIENT]
[RG ADT-A01 2.4 SERVER]
[RG ADT-A03 2.4 CLIENT]
[RG ADT-A03 2.4 SERVER]
[RG ADT-A04 2.4 CLIENT]
[RG ADT-A04 2.4 SERVER]
[RG ADT-A04 TRIGGER]
[RG ADT-A08 2.4 CLIENT]
[RG ADT-A08 2.4 SERVER]

[RG ADT-A08 TRIGGER]
[RG EXCPT ACTION MENU]
[RG EXCPT DATE SORT]
[RG EXCPT DISPLAY ONLY QUERY]
[RG EXCPT EDIT NOTE]
[RG EXCPT EDIT PATIENT DATA]
[RG EXCPT HINQ INQUIRY]
[RG EXCPT MPI/PD DATA]
[RG EXCPT PATIENT AUDIT]
[RG EXCPT PATIENT INQUIRY]
[RG EXCPT PATIENT SORT]
[RG EXPCT PDAT MENU]
[RG EXCPT RCHK]
[RG EXCPT RDISP]
[RG EXCPT RSEND]
[RG EXCPT SELECT]
[RG EXCPT SELECT TYPE]
[RG EXCPT SING PATIENT INIT]
[RG EXCPT TF INQUIRY]
[RG EXCPT SORT]
[RG EXCPT UPDATE STATUS]
[RG FACILITY INTEGRATION CLIENT]
[RG FACILITY INTEGRATION SERVER]
[RG MPI DELETE]
[RG PATIENT MERGE]

Patch DG*5.3*244 modified the logic related to the A28 message to prevent the COORDINATING MASTER OF RECORD (#991.03) field in the PATIENT file (#2) from being populated prior to the ICN being returned from the MPI. To support this change, the COORDINATING MASTER OF RECORD (#991.03) field must be populated during the processing of the A31 message that is returned from the MPI as a result of the A28 message. This change is in routine MPIFA31I of patch MPIF*1.0*21.

In the Phase III Enhancements project, a new messaging structure was implemented for the MPI/PD VistA. To reduce the amount of facility-to-facility messaging, the MPI Austin is now the source for update messages rather than the CMOR. For those message types that require CMOR action, the CMOR will update the MPI, and the MPI will distribute updates to the appropriate facilities. Changes to messaging include the use of a new generic HL7 2.4 message builder for the ENV, PD1 and PID segments. Additionally, HL7 application acknowledgements are incorporated in all MPI/PD VistA messages. Upon installation of the third phase of patches (DG*5.3*474, MPIF*1.0*24, and RG*1.0*27), the necessary routines to call the new trigger events using the updated messaging structure will be in place.

For definitions of MPI/PD VistA messages, please refer to the *Master Patient Index/Patient Demographics (MPI/PD) VistA HL7 Interface Specification* on the Virtual Document Library (VDL) at http://www.va.gov/vdl/

Remote Procedure Calls (RPCs)

This section documents all the supported RPCs belonging to the MPI/PD VistA package.

RPC	Description
MPIF ACK CHECK (EN^MPIFACHK)	This RPC will check to see if there are any messages on the sites before date BEFORE that haven't received the application level ACK back. If so, the message will need to be regenerated to the MPI.
MPIF CHANGE CMOR (RCCMOR^MPIFRPC)	This RPC allows the changing/updating of the COORDINATING MASTER OF RECORD (#991.03) field in the PATIENT file (#2) for a specific patient. An A08 Update Message can also be triggered.
MPIF CMOR PUSH REMOTE	The MPI Data Quality Team has requested to be able to remotely request a PUSH of CMOR. The Remote Procedure Call MPIF CMOR PUSH REMOTE will be added to the local VistA system to support this request. The MPIF CMOR REQUEST (#984.9) file will be updated to include these requests for tracking purposes. Routine MPIFRCMP supports this effort.
MPIF EXT PDAT REMOTE (PATINFO^MPIFEXT2)	This RPC is the Extended PDAT call remote. ICN or SSN can be passed. With the introduction of the new Race and Ethnicity fields in the PATIENT file (#2), in Patch DG*5.3*415, MPIF EXT PDAT REMOTE was modified to utilize these new fields. Routine MPIFEXT2 was modified to support this change.
MPIF ICN STATS (ICNSTAT^MPIFRPC)	This RPC, also known as MPIF ICN STATS, returns an ICN, Exceptions pending, CMOR, CMOR History, ICN History for any given ICN.
MPIF INACTIVATE (INACT^MPIFRPC)	This RPC allows the remote inactivation of a patient from the MPI at a specific site.
MPIF REMOTE ICN UPDATE (UPDATE^MPIFRPC2)	This RPC allows the remote update of the INTEGRATION CONTROL NUMBER (#991.01), ICN CHECKSUM (#991.02), and COORDINATING MASTER OF RECORD (#991.03) fields in the PATIENT file (#2) at a specified site. The patient is found based upon SSN.
MPIF REMOTE SPI (SPI^MPIFRPC2)	This RPC allows the remote sending of a specific patient at a specific site to the MPI for ICN assignment. The patient is found based upon SSN.
MPIF SEEDING STATS (STATS^MPIFSEED)	This RPC will return the stats on the seeding process, including when the next seeding job is scheduled to run.

RPC	Description
MPIF SEEDING UPDATE (SET^MPIFSEED)	This RPC sets the number of entries to be sent during seeding.
MPIF SSN DUPS (TOSITE^MPIFDUPS)	This RPC will be used by the MPI Data Quality Management Team's Statistics Report to search for multiple SSNs with different ICNs from the same site.
RG REM ACTIVITY (EN^RGACTIV)	This RPC returns Health Level Seven (HL7) message information and exception information for a patient. The HL7 data is from the ADT/HL7 PIVOT file (#391.71) and exception date is from the CIRN HL7 EXCEPTION LOG file (#991.1).
RG REMOTE HL7 TASK (TASK^RGMTRUN)	This RPC will return the currently running HL7 tasks from a remote site to the Master Patient Index (MPI) Austin.
VAFC REMOTE PDAT (PDAT^VAFCRPC)	IA: 3496 This RPC returns the test Patient MPI/PD Data Inquiry report to a remote site.

Table 8-1: MPI/PD VistA RPCs

Chapter 9: External Relations

Platform Requirements

The Master Patient Index/Patient Demographics VistA package requires a standard VistA operating environment in order to function correctly. Check your VistA environment for packages and versions installed.

Integration Agreements (IAs)

All the supported IAs relating to the MPI/PD VistA package can be found on FORUM on the Integration Agreements Menu located on DBA menu. The agreements fall into two categories: those controlled by other packages to which MPI/PD Vista is a subscriber and those that MPI/PD controls to which other packages subscribe.

For more information on the supported routines belonging to the MPI/PD VistA IAs see the section titled “Callable Routines” and see the description for the CIRN EVENT ASSOCIATION file (#995) in the section titled “File List” in this manual.

Due to early and separate beginnings, the now combined MPI/PD, formerly known as CIRN/PD, and MPI VistA software packages, merged into one as MPI/PD VistA, has references to both Clinical Information Resource Network (CIRN) or RG patches, and Master Patient Index VistA or MPIF patches.

The MPI/PD VistA software (i.e., routines in the MPIF* and RG* namespaces) SHOULD NOT reside/run on Legacy systems. Any VistA applications utilizing APIs in the MPIF and RG namespaces on Legacy systems should check the existence of these routine(s) before trying to access them.

Chapter 10: Internal Relations

All routines, files, and options within the MPI/PD VistA software can function independently.

Namespace

The Master Patient Index/Patient Demographics (MPI/PD) VistA package uses both MPIF and RG namespaces.

File Numbers

The MPI/PD VistA V.1.0 file numbers and globals are listed below.

File #	Name	Global
984.1	MASTER PATIENT INDEX (LOCAL NUMBERS)	^MPIF(984.1,
984.5	MPI CHECKDIGIT	^MPIF(984.5,
984.8	MPI ICN BUILD MANAGEMENT	^MPIF(984.8,
984.9	MPIF CMOR REQUEST	^MPIF(984.9,
991.1	CIRN HL7 EXCEPTION LOG	^RGHL7(991.1,
991.11	CIRN HL7 EXCEPTION TYPE	^RGHL7(991.11,
991.8	CIRN SITE PARAMETER	^RGSITE(991.8
995	CIRN EVENT ASSOCIATION DATA SCREEN	^RGEQASN(

Table 10-1: MPI/PD VistA V. 1.0 Files

Chapter 11: Package-wide Variables

The Master Patient Index/Patient Demographics (MPI/PD) VistA package contains no package-wide variables.

Chapter 12: Software Product Security

Mail Groups

The following mail groups are exported in the MPI/PD VistA package. They are listed by Mail Group name, and a brief description is given:

Mailgroup	Suggested Coordinator	Suggested Members	Description
HL7 SITE POC (ON FORUM)	Personnel who monitor MPI/PD HL7 problems.	Personnel who monitor MPI/PD HL7 problems.	This mail group is for personnel who monitor MPI/PD VistA HL7 problems.
MPIF CMOR REQUEST	Personnel who monitor CMOR Change Requests.	Personnel that will process CMOR Change Requests.	Any requests to change the CMOR will be sent to this Mail Group. Requests will then be processed (i.e., accepted/rejected) via the CMOR options. The messages serve as a heads-up that there are CMOR requests to process. This is also the mail group where the notifications that a request has been processed at another site and the outcome.  This Mail Group is added to the MAIL GROUP file (#3.8) during the Post-Init of the installation.
MPIF EXCEPTIONS	Messages are sent to the MPI Exception Handler on the Austin MPI. There shouldn't be any local members in this mail group.	Messages are sent to the remote mail group G.CIRN EXCEPTION MGT@FORUM.VA .GOV MPI, which is the Exception Handler on the MPI in Austin.	MPI Exception Messages to be addressed are sent to this mail group. These messages are all technical in nature, involving problems with HL7 messages or conflicts with CMORs or ICN not found. There normally isn't anything the site can do about these, so these messages are sent to a remote mail group. The remote mail group G.CIRN EXCEPTION MGT@FORUM.VA.GOV gets the messages instead of local members. If necessary, the remote mail group members will contact the site's personnel for assistance.
RG CIRN DEMOGRAPHIC ISSUES	Health Administration Service (HAS)/MPI/PD Coordinator	Personnel that deal with patient data.	This mail group should contain person(s) responsible for ensuring the integrity of the Patient Information Management Systems (PIMS) data. The members of this group will be notified upon login that there are patients awaiting review.

Mailgroup	Suggested Coordinator	Suggested Members	Description
RG CIRN HL7 PROBLEMS	Personnel who monitor MPI/PD HL7 problems.	Personnel who monitor MPI/PD HL7 problems.	This mail group receives notification of problems that CIRN (MPI/PD) has when interacting with the VistA HL7 package.

Table 12-1: Software Product Security: Mail groups exported with MPI/PD VistA software package

IRM personnel will be required to use MailMan utilities to add members to the following mail groups: MPIF CMOR REQUEST and RG CIRN DEMOGRAPHIC ISSUES. PIMS personnel will most likely be processing CMOR Requests and reviewing MPI/PD HL7 Exception Messages addressing data issues. They should be added as members to the RG CIRN DEMOGRAPHIC ISSUES mail group. However, anyone participating in this should be added in these mail groups.

Exception Mail Groups: MPIF EXCEPTIONS and RG CIRN DEMOGRAPHIC ISSUES

The mail groups MPIF EXCEPTIONS and RG CIRN DEMOGRAPHIC ISSUES are specifically used to receive MPI/PD HL7 Exception Messages. It is important to distinguish the difference between them.

1. Members of the MPIF EXCEPTIONS mail group are automatically notified of technical type problems (e.g., such as data update failures or problems with HL7 messages causing them not to be processed). Messages are sent to the remote mail group G.CIRN EXCEPTION MGT@FORUM.VA.GOV, which is the Exception Handler on the MPI in Austin. There shouldn't be any local members in this mail group.

2. The RG CIRN DEMOGRAPHIC ISSUES mail group is exported with MPI/PD. Members of this mail group are automatically notified of problems relating to data, such as:

   - Patients' dates of death not being synchronized between your local PATIENT file (#2) and the MPI.
   - Potential matches were found during the initialization or during the Local/Missing ICN resolution job that need to be resolved manually in order to obtain an ICN.

   It is recommended that PIMS personnel (i.e., ADPACs and/or Coordinators, etc.) be made members of this mail group.

For information on MPI/PD HL7 Exception Messages, see Appendix A.

For information on assigning members to mail groups, see the VA Electronic Mail System (MailMan) User Manual V. 8.0.

Bulletins

Extensive information on bulletins may be found on in the Implementation and Maintenance section of this manual.

Remote Systems

The MPI Austin, located at the Austin Automation Center, maintains the actual patient index and a current list of facilities where the patient has been seen in order to enable sharing of patient data among operationally diverse systems. The MPI/PD VistA that resides on VistA at the sites, sends data to the MPI Austin. Some patient fields were transmitted to Austin during the initialization process as a result of daily operations at the VAMC. The initialization process started at a VAMC. HL7 messages went to the MPI requesting ICNs for all the patients that had activity in the past three years. This process has been completed and currently the MPI is kept up-to-date via existing VistA options.

The MPI/PD VistA package makes extensive use of HL7 messaging to ensure synchronization of patient records between sites. Please refer to the *Master Patient Index/Patient Demographics (MPI/PD) VistA HL7 Interface Manual* for complete details on message construction.

Archiving/Purging

Archiving

There are no application-specific archiving procedures or recommendations for the Master Patient Index/Patient Demographics (MPI/PD) VistA package.

Purging

The MPI/PD VistA package provides users with the opportunity to purge processed exceptions as part of the MPI/PD Exception Handling [RG EXCEPTION HANDLING] option. To access this option, follow the steps in Figure 12-1. As shown in Figure 12-1, you will be told when the last purge took place and will be asked if you would like to run the purge now. If you choose to purge, you will have to wait a few minutes before using the MPI/PD Exception Handling option.

```
   CORD   MPI/PD Patient Admin Coordinator Menu ...
   ADU    MPI/PD Patient Admin User Menu ...
   IRM    MPI/PD IRM Menu ...

Select MPI/PD Master Menu Option: CORD  MPI/PD Patient Admin Coordinator Menu


   SP     Site Parameters Edit for CMOR
   ADU    MPI/PD Patient Admin User Menu ...
   LOG    Patient Audit Log Reports ...
   MPI    Master Patient Index Menu ...
   MSG    Message Exception Menu ...
   RPT    Management Reports ...
   POC    Add/Edit Point of Contact

Select MPI/PD Patient Admin Coordinator Menu Option: MSG  Message Exception Menu


          View Potential Match Patient
          MPI/PD Exception Handling
          Patient MPI/PD Data Inquiry
          Remote Patient Data Query Menu ...

Select Message Exception Menu Option: MPI/PD Exception Handling

The MPI/PD Exception Purge process last ran Mar 19, 2003@14:19:07.
Do you want to run the MPI/PD Exception Purge process now? NO//
```

Figure 12-1: How to access MPI/PD Exception Handling process

The purge removes duplicate entries and resolved entries over 30 days old from the CIRN HL7 EXCEPTION LOG file (#991.1). Regular purging provides you with the most up-to-date information on the List Manager screen. If you feel that waiting for the purge to complete is too time consuming, you can ask your IRM service to schedule the background job MPI/PD Exception Purge [RG EXCEPTION PURGE] via TaskMan to run once a week at an off-hours time that does not conflict with backups.

The HL7 and MailMan packages have purging options that should be used to control the large number of HL7 messages produced by MPI/PD VistA

Contingency Planning

Sites should have a local contingency plan to be used in the event of application problems in a live environment. Field station Information Security Officers (ISOs) can get assistance for the Regional ISO (RISO).

Interfacing

There are no specialized (not VA produced) products (hardware and/or software) embedded within or required by the MPI/PD VistA package.

Electronic Signatures

There are no electronic signatures used in the MPI/PD VistA package.

Menus

There are no options of particular interest to Information Security Officers (ISOs) in the MPI/PD VistA package.

Security Keys

There are no security keys exported with the MPI/PD VistA package.

File Security

File #	File Name	DD	RD	WR	DEL	LAYGO	AUDIT
984.1	MASTER PATIENT INDEX (LOCAL NUMBERS)	@	@	@	@	@	@
984.5	MPI CHECKDIGIT	@	@	@	@	@	@
984.8	MPI ICN BUILD MANAGEMENT	@	@	@	@	@	@
984.9	MPIF CMOR REQUEST	@	@	@	@	@	@
991.1	CIRN HL7 EXCEPTION LOG						
991.8	CIRN SITE PARAMETER	@	@	@	@	@	@
991.11	CIRN HL7 EXCEPTION TYPE	@	@	@	@	@	
995	CIRN EVENT ASSOCIATION						

Table 12-2: Software Product Security: File Access

Glossary

10-10EZ	Form used to apply for health benefits.
AAC	**A**ustin **A**utomation **C**enter.
ABBREVIATED RESPONSE	This feature allows you to enter data by typing only the first few characters for the desired response. This feature will not work unless the information is already stored in the computer.
ACCESS CODE	Code that allows the computer to identify you as a user authorized to gain access to the computer. Your code is greater than six and less than twenty characters long; can be numeric, alphabetic, or a combination of both; and is usually assigned by a site manager or application coordinator.
ACTIVE PATIENTS	Patients who have been seen at a site within the past three years.
ADPAC	**A**utomated **D**ata **P**rocessing **A**pplication **C**oordinator.
ADT	**A**dmission **D**ischarge and **T**ransfer- Part of the Patient Information Management System (PIMS).
ADT/HL7 PIVOT FILE	Changes to any of the fields of patient information will be recorded and an entry created in the ADT/HL7 PIVOT file (#391.71). When an update to a patient's treating facility occurs, this event is to be added to the ADT/HL7 PIVOT file (#391.71) and marked for transmission. A background job will collect these updates and broadcast the appropriate HL7 message (ADT-A08 Patient Update).
ALERTS	Brief online notices that are issued to users as they complete a cycle through the menu system. Alerts are designed to provide interactive notification of pending computing activities, such as the need to reorder supplies ore review a patient's clinical test results. Along with the alert message is an indication that the View Alerts common option should be chosen to take further action.
ANCILLARY REVIEWER	This can be a single person or group of people given the responsibility to conduct reviews of potential duplicate record pairs with data in files other than the PATIENT file (#2). For example, selected personnel in Laboratory, Radiology, and Pharmacy.
ANSI	**A**merican **N**ational **S**tandards **I**nstitute.
API	**A**pplication **P**rogramming **I**nterface.
APPLICATION	VistA software and documentation that supports the automation of a service (e.g., Laboratory or Pharmacy) within the Veterans Health Administration (VHA).

APPLICATION COORDINATOR	Designated individuals responsible for user-level management and maintenance of an application package such as IFCAP, Lab, Pharmacy, Mental Health, etc.
APPLICATION PACKAGE	In VistA, software and documentation that support the automation of a service, such as Laboratory or Pharmacy, within VA medical centers. The Kernel is like and operating system relative to other VistA applications.
APPLICATION PROGRAMMER INTERFACE (API)	Programmer calls provided for use by application programmers. APIs allow programmers to carry out standard computing activities without needing to duplicate utilities in their own software. APIs also further DBA goals of system integration by channeling activities, such as adding new users, through a limited number of callable entry points.
ARRAY	An arrangement of elements in one or more dimensions. An M array is a set of nodes referenced by subscripts that share the same variable name.
BATCH ACKNOWLEDGEMENTS	The format of a HL7 batch acknowledgement message consists entirely of a group of ACK (acknowledgment) messages. In the case of MPI, batch acknowledgements are returned during the initialization process and during the Local/Missing ICN Resolution job. The background job files the ICN, ICN checksum and CMOR, updates the MPI, and then the associated treating facilities and systems. Data returned from this process constitute the acknowledgment of the batch message.
BATCH MESSAGES	There are instances when it is convenient to transfer a batch of HL7 messages. Common examples related to MPI are queries sent to the MPI for an ICN during the initialization process, the resolution of Local or Missing ICNs, and CMOR Batch Comparisons. Such a batch could be sent online using a common file transfer protocol. In the case of the MPI, the HL7 Batch Protocol uses the Batch Header Segment (BHS) and Batch Trailer Segment (BTS) message segments to delineate the batch.
BATCH PROTOCOL, HL7	Protocol utilized to transmit a batch of HL7 messages. The protocol generally uses File Header Segment (FHS), BHS, BTS, and File Trailer Segment (FTS) segments to delineate the batch. In the case of the MPI, the protocol only uses the BHS and BTS segments.
BULLETINS	Electronic mail messages that are automatically delivered by VistA MailMan under certain conditions. For example, a bulletin can be set up to "fire" when database changes occur, such as adding a new Institution in the INSTITUTION file (#4). Bulletins are fired by bulletin-type cross-references.
CALLABLE ENTRY POINT	Authorized programmer call that may be used in any VistA application software. The DBA maintains the list of DBIC-approved entry points.

CHUI	**CH**aracter-based **U**ser **I**nterface (i.e., roll-and-scroll).
CLINICAL PATIENT RECORD SYSTEM (CPRS)	**C**linical **P**atient **R**ecord **S**ystem provides a computer-based patient record and organizes and presents all relevant data on a patient in a way that directly supports clinical decision-making. CPRS integrates the extensive set of clinical and administrative applications available within VistA.
COMMON MENU	Options that are available to all users. Entering two question marks at the menus select prompt displays any secondary menu options available to the signed-on user, along with the common options available to all users.
CONTROLLED SUBSCRIPTION INTEGRATION AGREEMENT	This applies where the IA describes attributes/functions that must be controlled in their use. The decision to restrict the IA is based on the maturity of the custodian package. Typically, these IAs are created by the requesting package based on their independent examination of the custodian package's features. For the IA to be approved, the custodian grants permission to other VistA packages to use the attributes/functions of the IA; permission is granted on a one-by-one basis where each is based on a solicitation by the requesting package. An example is the extension of permission to allow a package (e.g., Spinal Cord Dysfunction) to define and update a component that is supported within the Health Summary package file structures.
COORDINATING MASTER OF RECORD (CMOR)	The CMOR site is the designated "owner" of the patient's clinical and descriptive data. A patient only has one CMOR at a time, but the CMOR can change. Initially, the MPI assigns the CMOR based upon the first site at which the MPI encounters the patient. The designation of a site as the CMOR for a patient does not provide "workload credit" or any other distinction. The CMOR is a field that can be found in the PATIENT file (#2).
CROSS REFERENCE	There are several types of cross-references available. Most generally, a VA FileMan cross-reference specifies that some action be performed when the field's value is entered, changed, or deleted. For several types of cross-references, the action consists of putting the value into a list; an index used when looking-up an entry or when sorting. The regular cross-reference is used for sorting and for lookup; you can limit it to sorting only.
DATA	A representation of facts, concepts, or instructions in a formalized manner for communication, interpretation, or processing by humans or by automatic means. The information you enter for the computer to store and retrieve. Characters that are stored in the computer system as the values of local or global variables. VA FileMan fields hold data values for file entries.

DATA DICTIONARY (DD)	The **D**ata **D**ictionary is a global containing a description of what kind of data is stored in the global corresponding to a particular file. VA FileMan uses the data internally for interpreting and processing files. A Data Dictionary contains the definitions of a file's elements (fields or data attributes); relationship to other files; and structure or design. Users generally review the definitions of a file's elements or data attributes; programmers review the definitions of a file's internal structure.
DATA DICTIONARY ACCESS	A user's authorization to write/update/edit the data definition for a computer file. Also known as DD Access.
DATABASE	A set of data, consisting of at least one file, that is sufficient for a given purpose. The VistA database is composed of a number of VA FileMan files. A collection of data about a specific subject, such as the PATIENT file (#2); a data collection has different data fields (e.g. patient name, SSN, Date of Birth, and so on). An organized collection of data about a particular topic.
DATABASE MANAGEMENT SYSTEM	A collection of software that handles the storage, retrieval, and updating of records in a database. A **D**atabase **M**anagement **S**ystem (DBMS) controls redundancy of records and provides the security, integrity, and data independence of a database.
DBA	**D**ata**b**ase **A**dministrator, oversees software development with respect to VistA Standards and Conventions (SAC) such as namespacing. Also, this term refers to the Database Administration function and staff.
DBIA	**D**ata**b**ase **I**ntegration **A**greement, see Integration Agreements.
DEFAULT	Response the computer considers the most probable answer to the prompt being given. It is identified by double slash marks (//) immediately following it. This allows you the option of accepting the default answer or entering your own answer. To accept the default you simply press the Enter (or Return) key. To change the default answer, type in your response.
DELIMITER	Special character used to separate a field, record, or string. VA FileMan uses the caret character ("^") as the delimiter within strings.
DEMOGRAPHIC DATA	Identifying descriptive data about a patient, such as: name, sex, date of birth, marital status, religious preference, SSN, address, etc.
DEPARTMENT OF VETERANS AFFAIRS	The Department of **V**eterans **A**ffairs, formerly called the **V**eterans **A**dministration.
DEVICE	Peripheral connected to the host computer, such as a printer, terminal, disk drive, modem, and other types of hardware and equipment associated with a computer. The host files of underlying operating systems may be treated like devices in that they may be written to (e.g., for spooling).

DHCP	**D**ecentralized **H**ospital **C**omputer **P**rogram now known as Veterans Health Information Systems and Technology Architecture (VistA).
DIRECT CONNECT	The Direct Connect is a real-time TCP/IP connection to the MPI to allow for an immediate request for an ICN. Direct Connect is activated when using any of the following PIMS options: • Register A Patient, • Load/Edit Patient Data, • 10-10T Registration and when using the following MPI options: • Single Patient Initialization to MPI • Display Only Query
DIRECT MODE UTILITY	A programmer call that is made when working in direct programmer mode. A direct mode utility is entered at the MUMPS prompt (e.g., >D ^XUP). Calls that are documented as direct mode utilities *cannot* be used in application software code.
DUPLICATE RECORD MERGE: PATIENT MERGE	Patient Merge is a VistA application that provides an automated method to eliminate duplicate patient records within the VistA database (i.e., the VistA PATIENT file (#2)). It consists of three steps: 1. Search for potential duplicate records pairs 2. Review, verification, and approval of those pairs 3. Merge process.
DUZ	Local variable holding the user number that identifies the signed-on user.
ELECTRONIC SIGNATURE CODE	Secret password that some users may need to establish in order to sign documents via the computer.
ELIGIBILITY CODES	Codes representing the basis of a patient's eligibility for care.
ENCRYPTION	Scrambling data or messages with a cipher or code so that they are unreadable without a secret key. In some cases encryption algorithms are one directional, that is, they only encode and the resulting data cannot be unscrambled (e.g. access/verify codes).
ENTER (<RET>)	Pressing the return or enter key tells the computer to execute your instruction or command or to store the information you just entered.
ENTRY	VA FileMan record. An internal entry number (IEN, the .001 field) uniquely identifies an entry in a file.

EXCEPTION MESSAGE	MPI/PD VistA generates messages and bulletins to alert the user to problems that occur in generating or processing HL7 messages. The MPI/PD Message Exception Menu contains options to manage the problems.
EXTRINSIC FUNCTION	Extrinsic function is an expression that accepts parameters as input and returns a value as output that can be directly assigned.
FACILITY	Geographic location at which VA business is performed.
FIELD	In a record, a specified area used for the value of a data attribute. The data specifications of each VA FileMan field are documented in the file's data dictionary. A field is similar to blanks on forms. It is preceded by words that tell you what information goes in that particular field. The blank, marked by the cursor on your terminal screen, is where you enter the information.
FILE	Set of related records treated as a unit. VA FileMan files maintain a count of the number of entries or records.
FILE MANAGER (VA FILEMAN)	VistA's Database Management System (DBMS). The central component of Kernel that defines the way standard VistA files are structured and manipulated.
FORCED QUEUING	Device attribute indicating that the device can only accept queued tasks. If a job is sent for foreground processing, the device rejects it and prompt the user to queue the task instead.
FORM	Please refer to the Glossary entry for "ScreenMan Forms."
FORUM	The central E-mail system within VistA. Developers use FORUM to communicate at a national level about programming and other issues. FORUM is located at the OI Field Office—Washington, DC (162-2).
FREE TEXT	A DATA TYPE that can contain any printable characters.
GAL	**G**lobal **A**ddress **L**ist.
GLOBAL VARIABLE	Variable that is stored on disk (M usage).
GUI	**G**raphical **U**ser **I**nterface.
HEALTH LEVEL SEVEN (HL7)	National level standard for data exchange in all healthcare environments regardless of individual computer application systems.
HEALTH LEVEL SEVEN (HL7) VISTA	Messaging system developed as a VistA software that follows the HL7 Standard for data exchange.
HEC	**H**ealth **E**ligibility **C**enter.
HINQ	**H**ospital **Inq**uiry- The HINQ module provides the capability to request

	and obtain veteran eligibility data via the VA national telecommunications network. Individual or group requests are sent from a local computer to a remote Veterans Benefits Administration (VBA) computer where veteran information is stored. The VBA network that supports HINQ is composed of four computer systems located in regional VA payment centers.
HIPAA	**H**ealth **I**nsurance **P**ortability and **A**ccountability **A**ct
HSD&D (Formerly SD&D—System Design and Development)	Health Systems Design and Development
INPATIENT	Patient who has been admitted to a hospital in order to be treated for a particular condition.
INPUT TEMPLATE	A pre-defined list of fields that together comprise an editing session.
INSTITUTION	A Department of Veterans Affairs (VA) facility assigned a number by headquarters, as defined by Directive 97-058. An entry in the INSTITUTION file (#4) that represents the Veterans Health Administration (VHA).
INTEGRATION AGREEMENTS (IA)	**I**ntegration **A**greements (IA) define agreements between two or more VistA software applications to allow access to one development domain by another. Any software developed for use in the VistA environment is required to adhere to this standard; as such it applies to vendor products developed within the boundaries of DBA assigned development domains (e.g., MUMPS AudioFax). An IA defines the attributes and functions that specify access. All IAs are recorded in the Integration Agreement database on FORUM. Content can be viewed using the DBA menu or the System Design & Development's web page.
INTEGRATION CONTROL NUMBER (ICN)	The **I**ntegration **C**ontrol **N**umber is a unique identifier assigned to patients when they are added to the MPI. The ICN follows the ASTM-E1714-95 standard for a universal health identifier. ICNs link patients to their records across VA systems.
INTERNAL ENTRY NUMBER (IEN)	The number used to identify an entry within a file. Every record has a unique internal entry number.
IRA	**I**nitial **R**equest **A**nalysis.
IRM	**I**nformation **R**esource **M**anagement. A service at VA medical centers responsible for computer management and system security.
ISO	**I**nformation **S**ecurity **O**fficer.
ISS	**I**nfrastructure and **S**ecurity **S**ervices.

ITAC	**I**nformation **T**echnology **A**pproval **C**ommittee was established as an advisory committee to the Chief Information Officer to ensure that the Information Technology (IT) program supports VHA goals and to provide guidance concerning priorities for IT initiatives.
KERNEL	Kernel is VistA software that functions as an intermediary between the host operating system and other VistA software applications (e.g., Laboratory, Pharmacy, IFCAP, etc.). Kernel provides a standard and consistent user and programmer interface between software applications and the underlying M implementation.
KERNEL TOOLKIT	Kernel Toolkit is a robust set of tools developed to aid the VistA development community, and Information Resources Management (IRM) in writing, testing, and analysis of code. They are a set of generic tools that are used by developers, documenters, verifiers, and packages to support distinct tasks.
KEY	The purpose of Security Keys is to set a layer of protection on the range of computing capabilities available with a particular software package. The availability of options is based on the level of system access granted to each user.
LAN	**L**ocal **A**rea **N**etwork.
LDAP	**L**ightweight **D**irectory **A**ccess **P**rotocol.
LINK	Non-specific term referring to ways in which files may be related (via pointer links). Files have links into other files.
MAIL MESSAGE	An entry in the MESSAGE file (#3.9). The VistA electronic mail system (MailMan) supports local and remote networking of messages.
MAILMAN	VistA software that provides a mechanism for handling electronic communication, whether it's user-oriented mail messages, automatic firing of bulletins, or initiation of server-handled data transmissions.
MANAGER ACCOUNT	UCI that can be referenced by non-manager accounts such as production accounts. Like a library, the MGR UCI holds percent routines and globals (e.g., ^%ZOSF) for shared use by other UCIs.
MANDATORY FIELD	Field that requires a value. A null response is not valid.
MASTER PATIENT INDEX (AUSTIN)	The **M**aster **P**atient **I**ndex is the master index of all VHA patients. The MPI assigns and maintains unique national patient identifiers known as ICNs that link patients to their records across VA systems. The MPI also assigns the initial CMOR (first site to identify the patient to the MPI). It contains patient's identifying descriptive information (e.g., name, SSN, date of birth, mother's maiden name, place of birth state, place of birth city, home address etc.)

MASTER PATIENT INDEX/PATIENT DEMOGRAPHICS (MPI/PD) VistA	This software resides in VistA and supports the Austin side of the MPI, as well as the CMOR change requests. MPI/PD VistA enables sites to query the MPI for the: • Assignment of ICN • Inactivation of an ICN for a patient • Known data on the MPI Any updates to patient data are sent to the MPI and then to the sites where the patient has been seen. MPI/PD VistA also manages incoming and outgoing Change CMOR requests. The Patient Demographics (PD) part of MPI/PD VistA, identifies descriptive information about a patient. With MPI/PD VistA, key demographic information for a patient should be the same at each of the treating facilities where that patient is seen.
MENU	List of choices for computing activity. A menu is a type of option designed to identify a series of items (other options) for presentation to the user for selection. When displayed, menu-type options are preceded by the word "Select" and followed by the word "option" as in Select Menu Management option: (the menu's select prompt).
MENU SYSTEM	The overall Menu Manager logic as it functions within the Kernel framework.
MENU TEXT	The descriptive words that appear when a list of option choices is displayed. Specifically, the Menu Text field of the OPTION file (#19). For example, User's Toolbox is the menu text of the XUSERTOOLS option. The option's synonym is TBOX.
MESSAGE SEGMENTS	Each HL7 message is composed of segments. Segments contain logical groupings of data. Segments may be optional or repeatable. A [ ] indicates the segment is optional, the { } indicates the segment is repeatable. For each message category, there will be a list of HL7 standard segments and/or “Z” segments used for the message.
NAMESPACING	Convention for naming VistA software elements. The DBA assigns unique two to four character string prefix for software developers to use in naming routines, options, and other software elements so that software can coexist. The DBA also assigns a separate range of file numbers to each software application.
NON CMOR SITES	Sites that are not the CMOR for a given patient but which nevertheless have an interest in the patient.
NUMERIC FIELD	Response that is limited to a restricted number of digits. It can be dollar valued or a decimal figure of specified precision.
NVS	**N**ational VistA **S**upport.

OIFO	**O**ffice of **I**nformation **F**ield **O**ffice.
OPTION	An entry in the OPTION file (#19). As an item on a menu, an option provides an opportunity for users to select it, thereby invoking the associated computing activity. Options may also be scheduled to run in the background, non-interactively, by TaskMan.
OPTION NAME	Name field in the OPTION file (e.g., XUMAINT for the option that has the menu text "Menu Management"). Options are namespaced according to VistA conventions monitored by the DBA.
PACKAGE	Please refer to the Glossary entry for "Software."
PIMS	**P**atient **I**nformation **M**anagement **S**ystem- VistA software package that includes Registration and Scheduling packages.
POINTER	The address at which a data value is stored in computer memory. A relationship between two VA FileMan files, a pointer is a file entry that references another file (forward or backward). Pointers can be an efficient means for applications to access data by referring to the storage location at which the data exists.
PRIMARY KEY	A Data Base Management System construct, where one or more fields uniquely define a record (entry) in a file (table). The fields are required to be populated for every record on the file, and are unique, in combination, for every record on the file.
PRIVATE INTEGRATION AGREEMENT	Where only a single application is granted permission to use an attribute/function of another VistA software application. These IAs are granted for special cases, transitional problems between versions, and release coordination. A Private IA is also created by the requesting software application based on their examination of the custodian software application's features. An example would be where one software application distributes a patch from another software application to ensure smooth installation.
PROMPT	The computer interacts with the user by issuing questions called prompts, to which the user issues a response.
PROTOCOL	Entry in the PROTOCOL file (#101). Used by the Order Entry/Results Reporting (OE/RR) package to support the ordering of medical tests and other activities.
PSEUDO-SSNs	False Social Security Numbers that are calculated internally to VistA and cannot be mistaken for valid SSNs because they end in P.
QUEUING	Requesting that a job be processed in the background rather than in the foreground within the current session. Jobs are processed sequentially (first-in, first-out). The Kernel’s Task Manager handles the queuing of tasks.

QUEUING REQUIRED	Option attribute that specifies that the option must be processed by Task Manager (the option can only be queued). The option may be invoked and the job prepared for processing, but the output can only be generated during specific time periods.
READ ACCESS	A user's authorization to read information stored in a computer file.
RECEIVING SITE	Receiving Site- As it relates to HL7 Messages, it is the site that the message was sent to.
RECORD	Set of related data treated as a unit. An entry in a VA FileMan file constitutes a record. A collection of data items that refer to a specific entity (e.g., in a name-address-phone number file, each record would contain a collection of data relating to one person).
REGISTRATION PROCESS	During a registration, if a patient does not have an ICN, the patient is checked against the entries in the MPI to determine if the patient already is established or needs to be added. The MPI may return a list of patients who are possible matches. If the patient is truly new and there are no potential matches on the MPI, the MPI will assign an ICN and assigns the requesting site as the CMOR. If the patient is already known at the MPI, the ICN and CMOR is returned and a HL7 message is sent to the CMOR to add this new facility to the list of Treating Facilities for this patient. Registration for patients who already have an ICN at the Facility. At the CMOR site, ADT-A04 Registration HL7 messages are sent to the MPI and the MPI then sends updates to those sites where the patient is known. These messages update the date of last activity and any changes to descriptive data. At a non-CMOR site an ADT-A04 message is sent to the CMOR, via the MPI.
REQUESTING SITE	Requesting Site- As is relates to HL7 Messages, it is the site initiating a message to another site requesting some action be taken.
REQUIRED FIELD	A mandatory field, one that must not be left blank. The prompt for such a field will be repeated until the user enters a valid response.
RG CIRN DEMOGRAPHIC ISSUES mail group	PIMS Personnel (e.g., ADPACs and/or Coordinators, etc.) are automatically notified of problems relating to data. Problems such as: • Patient's dates of death not being synchronized between your local PATIENT file (#2) and the MPI. • Potential matches were found during the initialization or during the Local/Missing ICN resolution job that need to be resolved manually in order to obtain an ICN.
ROUTINE	Program or a sequence of instructions called by a program that may have some general or frequent use. M routines are groups of program lines, which are saved, loaded, and called as a single unit via a specific name.

SAC	**S**tandards **a**nd **C**onventions. Through a process of quality assurance, all VistA software is reviewed with respect to SAC guidelines as set forth by the Standards and Conventions Committee (SACC).
SACC	VistA's **S**tandards **a**nd **C**onventions **C**ommittee. This Committee is responsible for maintaining the SAC.
SCHEDULING OPTIONS	The technique of requesting that Task Manager run an option at a given time, perhaps with a given rescheduling frequency.
SCREEN EDITOR	VA FileMan's Screen-oriented text editor. It can be used to enter data into any WORD-PROCESSING field using full-screen editing instead of line-by-line editing.
SCREENMAN FORMS	Screen-oriented display of fields, for editing or simply for reading. VA FileMan's Screen Manager is used to create forms that are stored in the FORM file (#.403) and exported with a software application. Forms are composed of blocks (stored in the BLOCK file [#.404]) and can be regular, full screen pages or smaller, "pop-up" pages.
SCREEN-ORIENTED	A computer interface in which you see many lines of data at a time and in which you can move your cursor around the display screen using screen navigation commands. Compare to Scrolling Mode.
SCROLLING MODE	The presentation of the interactive dialog one line at a time. Compare to Screen-oriented.
SECURITY KEY	The purpose of Security Keys is to set a layer of protection on the range of computing capabilities available with a particular software package. The availability of options is based on the level of system access granted to each user.
SENSITIVE PATIENT	Patient whose record contains certain information, which may be deemed sensitive by a facility, such as political figures, employees, patients with a particular eligibility or medical condition. If a shared patient is flagged as sensitive at one of the treating sites, a bulletin is sent to the DG SENSITIVITY mail group at each subscribing site telling where, when, and by whom the flag was set. Each site can then review whether the circumstances meet the local criteria for sensitivity flagging.
SHARED PATIENT	Patient who has been seen at more than one site. The CMOR keeps the Treating Facility list updated every time a new facility where the patient has been seen identifies itself to the MPI. The CMOR then broadcasts, through the MPI, the updated lists to all the other facilities that share this patient.
SITE MANGER/IRM CHIEF	At each site, the individual who is responsible for managing computer systems, installing and maintaining new modules, and serving as a liaison to the CIO Field Offices.

SOFTWARE	The set of programs, files, documentation, help prompts, and installation procedures required for a given application (e.g., Laboratory, Pharmacy, and PIMS). A VistA software environment is composed of elements specified via the PACKAGE file (#9.4). Elements include files, associated templates, namespaced routines, and namespaced file entries from the OPTION, HELP FRAME, BULLETIN, and FUNCTION files. As public domain software, VistA software can be requested through the Freedom of Information Act (FOIA).
SPACEBAR RETURN	You can answer a VA FileMan prompt by pressing the spacebar and then the Return key. This indicates to VA FileMan that you would like the last response you were working on at that prompt recalled.
SPECIAL QUEUING	Option attribute indicating that Task Manager should automatically run the option whenever the system reboots.
SUPPORTED REFERENCE INTEGRATION AGREEMENT	This applies where any VistA application may use the attributes/functions defined by the IA (these are also called "**Public** "). An example is an IA that describes a standard API such as DIE or VADPT. The software that creates/maintains the Supported Reference must ensure it is recorded as a Supported Reference in the IA database. There is no need for other VistA software applications to request an IA to use these references; they are open to all by default.
TASK MANAGER	Kernel module that schedules and processes background tasks (also called TaskMan)
TEMPLATE	Means of storing report formats, data entry formats, and sorted entry sequences. A template is a permanent place to store selected fields for use at a later time. Edit sequences are stored in the INPUT TEMPLATE file (#.402), print specifications are stored in the PRINT TEMPLATE file (#.4), and search or sort specifications are stored in the SORT TEMPLATE file (#.401).
TOOLKIT	Toolkit (or Kernel Toolkit) is a robust set of tools developed to aid the VistA development community, and Information Resources Management (IRM), in writing, testing, and analysis of code. They are a set of generic tools that are used by developers, technical writers, software quality assurance (SQA) personnel, and software applications to support distinct tasks. Toolkit provides utilities for the management and definition of development projects. Many of these utilities have been used by the OI Field Office–Oakland for internal management and have proven valuable. Toolkit also includes tools provided by other OI Field Offices based on their proven utility.

TREATING FACILITY	Any facility (VAMC) where a patient has applied for care, or has been added to the local PATIENT file (#2) (regardless of VISN) and has identified this patient to the MPI will be placed in the TREATING FACILITY LIST file (#391.91).
TREATING FACILITY LIST	Table of institutions at which the patient has received care. This list is used to create subscriptions for the delivery of patient clinical and demographic information between sites.
TRIGGER	A type of VA FileMan cross-reference. Often used to update values in the database given certain conditions (as specified in the trigger logic). For example, whenever an entry is made in a file, a trigger could automatically enter the current date into another field holding the creation date.
TRIGGER EVENTS	An activity in VistA that creates HL7 messages.
UCI	**U**ser **C**lass **I**dentification, a computing area. The MGR UCI is typically the manager's account, while VAH or ROU may be production accounts.
USER ACCESS	This term is used to refer to a limited level of access, to a computer system, which is sufficient for using/operating a package, but does not allow programming, modification to data dictionaries, or other operations that require programmer access. Any option, for example, can be locked with the key XUPROGMODE, which means that invoking that option requires programmer access. The user's access level determines the degree of computer use and the types of computer programs available. The System Manager assigns the user an access level.
VA	The Department of **V**eterans **A**ffairs.
VA FILEMAN	Set of programs used to enter, maintain, access, and manipulate a database management system consisting of files. A software application of online computer routines written in the M language, which can be used as a standalone database system or as a set of application utilities. In either form, such routines can be used to define, enter, edit, and retrieve information from a set of computer-stored files.
VAMC	**V**eterans **A**ffairs **M**edical **C**enter.
VARIABLE	Character, or group of characters, that refer(s) to a value. M (previously referred to as MUMPS) recognizes 3 types of variables: local variables, global variables, and special variables. Local variables exist in a partition of main memory and disappear at sign-off. A global variable is stored on disk, potentially available to any user. Global variables usually exist as parts of global arrays. The term "global" may refer either to a global variable or a global array. A special variable is defined by systems operations (e.g., $TEST).

VDSI	VistA **D**ata **S**ystems & **I**ntegration.
VERIFY CODE	Additional security precaution used in conjunction with the Access Code. Like the Access Code, it is also 6 to 20 characters in length and, if entered incorrectly, will not allow the user to access the computer. To protect the user, both codes are invisible on the terminal screen.
VHA	**V**eterans **H**ealth **A**dministration.
VISN	**V**eterans **I**ntegrated **S**ervice **N**etwork.
VISTA	**V**eterans Health **I**nformation **S**ystems and **T**echnology **A**rchitecture (VistA) of the Veterans Health Administration (VHA), Department of Veterans Affairs (VA). VistA software, developed by the VA, is used to support clinical and administrative functions at VHA sites nationwide. Server-side code is written in M, and, via Kernel, runs on all major M implementations regardless of vendor. VistA is composed of software that undergoes a quality assurance process to ensure conformity with namespacing and other VistA standards and conventions.
WAN	**W**ide **A**rea **N**etwork.

Appendix A: Exceptions and Bulletins

For information on exception messages, their resolution, and the MPI/PD Exception Handling option [RG EXCEPTION HANDLING] introduced in Patch RG*1.0*3, see the Master Patient Index/Patient Demographics (MPI/PD) VistA Exception Handling manual at the following web site:

http://www.va.gov/vdl/Infrastructure.asp?appID=16

This document gives Master Patient Index/Patient Demographics (MPI/PD) sites information and assistance in dealing with exception messages.