DUPLICATE RECORD MERGE:

PATIENT MERGE

USER MANUAL

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Preface

This is the **User Manual** for the Veterans Health Information Systems and Technology Architecture (**V***IST***A**) Duplicate Record Merge: Patient Merge application. It provides descriptive information about the **V***IST***A** Duplicate Record Merge: Patient Merge application. It is expected to serve as a source of information to Information Resource Management (IRM) staff responsible for installing and implementing it and Veterans Affairs Medical Center (VAMC) facility personnel responsible for its operation.

The Patient Merge component of Duplicate Record Merge will enhance the ability to associate appropriate data with a single patient identifier. It provides the tools necessary to review patient records that have a high likelihood of being duplicates, and merge verified duplicates.

Revision History

Date	Description	Author
9/2026	Patch XT*7.3*164 Removed outdated note regarding merge process duration and the reference to IRM performing this function in 9.1.6 Schedule Process to Merge Verified Duplicates. A new screen capture (Figure 44 -Scheduling the merge process and Figure 81 -Scheduling a merge process) A new screen capture (Figure 72 -View individual test scores for each duplicate record pair).	Redacted
1/2015	Patch XT*7.3*137. Added Data Validation section. See page 67.	REDACTED
11/2011	Patch XT*7.3*126 documentation updates: A warning message proposed by the Healthcare Identity Management (HC IdM) has been added to the Duplicate Resolution software. This message is associated with the option Verify Potential Duplicates [XDR VERIFY ALL]. When using the VERIFIED DUPLICATE action in the final verification process, the following message is displayed: :"*** WARNING!!! You have verified these two records are the SAME patient. Once these records are merged, there is no automated way to "un-do" the merge. If you are not certain these are the same patient, edit the status back to 'Potential Duplicate, Unverified' and repeat the verification process. For additional assistance, please log a NOIS/Remedy ticket. ***"	REDACTED
12/2010	Patch XT*7.3*125 documentation updates: HC IdM requests a check be added at the time of the ADD action to the DUPLICATE RECORD file (#15) and to the MPI DO NOT LINK file (#985.28) file on the MPI. A new screen capture and descriptive text have been added to Chapter 7 (Utilities) showing the computer dialogue you will see when a patient pair is selected that already exists in the MPI DO NOT LINK file (#985.28) on the MPI.	REDACTED
11/2009	Final updates to documentation for release to Product Support (PS).	REDACTED

08/2009	Patch XT*7.3*1113 documentation updates: Changes were made to the KERNEL Duplicate Resolution System [XDR MAIN MENU] options in support of the new PSIM Probabilistic Search. This patch is related to VistA patch MPIF*1.0*52 and MPI patch MPI*1.0*62. Search for Potential Duplicate Record Pairs: As of Kernel Toolkit Patch XT*7.3*113, the PATIENT file (#2) will no longer be selectable from the Duplicate Record Merge Search option. Instead, the Initiate Probabilistic Search Implementation in Person Service Identity Management (PSIM) will perform searches for duplicate patients. Although users with access to the Duplicate Record Merge menus will still be allowed to add records to the DUPLICATE RECORD file, this file will mainly be populated when Initiate identifies patient pairs as matches or potential matches. In the case of potential matches, HC IdM will use a new PSIM (IMDQ) Toolkit option to review the patient traits and select the Integration Control Number to retain. This will cause the pair of potential matches to be added as a record to your local DUPLICATE RECORD file. After patient pairs are added to the DUPLICATE RECORD file, the review, verification, approval and merge processes will continue to be performed as before. New routine, XDRDADDS, and remote procedure call, XDR ADD POTENTIAL PATIENT DUP Both will be called from the Master Patient Index (MPI) system to add records to the local VistA DUPLICATE RECORD (#15) file, as potential matches are identified. New routine, XDRDEFLG, and remote procedure call, XDR UPD SUPPR EMAIL The remote procedure call is called from Healthcare Identity Management (HC IdM) options to remotely set the field SUPPRESS NEW DUP EMAIL (#99) on the DUPLICATE RESOLUTION file (#15.1) Modified Routines XDRDPICK : If the status on a pair of patient records is changed to VERIFIED, NOT A DUPLICATE, and if this VistA system is attached to the MPI, a new routine, MPIFDNL, calls a remote procedure, MPI DNLADD UPD, on the MPI server, to add a record to the MPI DO NOT LINK (#985.28) file.	REDACTED

	-XDRDEDT: If the status on a patient pair is changed from VERIFIED, NOT A DUPLICATE back to POTENTIAL DUPLICATE, UNVERIFIED, and if the VistA system is attached to the MPI, a new routine, MPIFDNL, calls a remote procedure MPI DNL ADD UPD on the MPI server to inactivate the record on the MPI DO NOT LINK (#985.28) file. Updated Options—Utilities [XDR UTILITIES MENU]: -Add Verified Duplicate Pair [XDR ADD VERIFIED DUPS] This option will no longer calculate a score on patient pairs. -Check Pair of Records to see if Duplicates [XDR CHECK PAIR] This option will no longer be available for patients. -Find Potential Duplicates for an Entry in a File [XDR FIND POTENTIAL DUPLICATES] This option will no longer be available for patients. Updated Options—Manager Utilities [XDR MANAGER UTILITIES] -Purge Duplicate Record File [XDR PURGE] This option will no longer be available for patients. -Start/Halt Duplicate Search [XDR SEARCH ALL] This option will no longer be available for patients. **ClearCase Requests/CodeCRs that cover updates to this manual:** MPI_CR1072(MPI_CodeCR1384)—3.2.1.4 - MPIF API to capture the "VERIFIED, NOT A DUPLICATE" action. MPI_CR1068(MPI_CodeCR1387)—3.2.1 - Duplicate record tools MPI_CodeCR1436—3.2.1.2 - KERNEL API to create POTENTIAL DUPLICATE, UNVERIFIED pairs	
12/2004	Implemented new conventions for displaying TEST data. See Orientation section for details.	REDACTED
04/1998	Initial release via PATCH XT*7.3*23	REDACTED

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.

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1 Orientation

1.1 How to Use This Manual

This manual is organized so that anybody can use it to do the work involved with the duplicate record merge process. The material is presented as sequential tasks-to-be-completed.

When questions come up, as they most certainly will, we hope to have pointed out where to find the answers. This was done by referring to portions of the manual where a particular task needs to be completed prior to performing the current task. Or even if it needs to be done later.

This manual is divided into one main section, a glossary, three appendices, and an index. The appendices can be extracted from the complete document for reproduction and distribution to authorized users as required.

This manual uses several methods to highlight different aspects of the material. "Snapshots" of computer dialogue (or other online displays) are shown in a non-proportional font and enclosed within a box. User responses to online prompts are highlighted in boldface. Boldface is also used to highlight a descriptive word or sentence. The Return or Enter key is illustrated by the symbol **<RET>** when displayed in computer dialogue and is included in examples only when it may be unclear to the reader that such a keystroke must be entered. The following example indicates that you should type two question marks followed by pressing the Return key when prompted to select an option.

Figure 1 - How to access online help

```
SELECT PRIMARY MENU OPTION: ??
```

M code, variable names, acronyms, the formal name of options, actual field names, file names, and security keys (e.g., XDR, XDRMGR, and DG ELIGIBILITY) are represented with all uppercase letters.

Conventions for displaying TEST data in this document are as follows:

- The first three digits (prefix) of any Social Security Numbers (SSN) will begin with either "000" or "666".
- Patient and user names will be formatted as follows: [Application Name]PATIENT,[N] and [Application Name]USER,[N] respectively, where "Application Name" is defined in the Approved Application Abbreviations document, located on the [web site] and where "N" represents the first name as a

number spelled out and incremented with each new entry. For example, Duplicate Record Merge test patient and user names would be documented as follows: MERGEPATIENT,ONE; MERGEPATIENT,TWO; MERGEPATIENT,10; etc. and MERGEUSER,ONE; MERGEUSER,TWO; MERGEUSER,10; etc.

1.2 Who Should Read This Manual?

This manual was written with many job functions in mind. These include the computer-related functions and the non-computer-related functions.

Since each site will determine who will control the patient merge process, what considerations are followed, how the review will be accomplished, and when the merge should be started/stopped, everyone involved with the merge should read this manual.

You don't necessarily have to read every chapter, however, unless it refers to a specific task or oversight responsibility that you have been assigned. We do encourage everyone to review the "Product Description" section, which provides an overview of the entire process. In which case, you will need to read those chapters detailing your assignment and those whose work you manage.

1.3 "Are You New to VistA?"

If you are just learning to use VistA, or if you feel you need to review some basic concepts, refer to Appendix A "Are You New to VistA?" This section introduces you to a small but important part of VistA: signing on, entering data, and getting out. It is designed to help you get started and feel more comfortable with the VistA computing environment. If you are an experienced VistA user, this chapter can serve as a reminder.

1.4 "Where Do I Find How To ...?"

Appendix B answers questions about which options to use to perform the various component functions involved with the duplicate record merge process. Tables present the menu structure in a question-and-answer format. The related menu options are presented in the right-hand column. This section is designed to answer questions about which options to use to perform the various functions involved with the duplicate record merge process.

1.5 Computer Dialogue (Sample Online Displays)

The following is a sample of computer dialogue:

Figure 2 - Sample dialogue for queuing a preliminary scan of PATIENT file (#2) to Task Manager

```
SELECT OPERATIONS OPTION: SCN  <RET>  PRELIMINARY SCAN OF FILE FOR ERRORS
SELECT DUPLICATE RESOLUTION FILE TO BE CHECKED: PATIENT

A RUN WAS COMPLETED ON FEB 13, 1997@16:16:51



DO YOU WANT TO VIEW THOSE RESULTS? YES// NO
REQUESTED START TIME: NOW//  <RET>  (NOV 22, 1997@11:11:55)

QUEUED AS TASK 2680
```

The screen border indicates that this is a dialogue with the computer on the terminal screen. It is an example of system prompts and responses. In these examples the user's response to the computer prompt is shown in **boldface** type**.**

Editor's comments may be used to emphasize user interaction with prompts in computer dialogue boxes and, when used, are displayed in Italics.

2 Introduction

This software has been developed to assist VA facility staff in identifying and merging duplicate records found in VistA files.

2.1 Initiate Probabilistic Search Implementation Performs Searches for Duplicate Patients in Patient File #2

As of Kernel Toolkit Patch XT*7.3*113, the PATIENT file (#2) is no longer selectable from the Duplicate Record Merge Search option. Instead, the Initiate Probabilistic Search Implementation in Person Service Identity Management (PSIM) will perform searches for duplicate patients. The DUPLICATE RECORD file (#15) will be populated as the search engine identifies patient pairs as matches or potential matches; however, users with access to the Duplicate Record Merge menus will still be allowed to add records to the DUPLICATE RECORD file (#15).

The potential duplicates populated in File #15 are then validated through a review process to verify that they are duplicates and then merged. This software is intended to provide a reliable approach to correctly identify and merge duplicate records.

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 at the following Web site:

REDACTED

In addition, "Appendix A" of this manual provides you with a brief overview of the VistA computing environment to help you get started or serve as a reminder for experienced users.

A detailed understanding of VA FileMan is not required to successfully use this application. However, reviewing the *VA FileMan User's Manual* provides you with a good background for how the system works.

Online help is provided at all prompts by typing one or two question marks.

2.2 Product Description

Patient Merge provides an automated method to eliminate duplicate patient records within the VistA database. It is an operational implementation of the Duplicate Resolution Utilities, which were released to the field with Kernel Toolkit.

The overall process consists of three major subject areas: the search for potential duplicate record pairs, review, verification, and approval of those pairs, and the merge process.

NOTE: As of Patch XT*7.3*113, the PATIENT file (#2) will no longer be selectable from the Search option described below. Although users with access to the Duplicate Record Merge menus will still be allowed to add records to the DUPLICATE RECORD file (#15), this file will mainly be populated automatically when Person Service Identity Management (PSIM) identifies patient pairs as matches or potential matches.

After patient pairs are added to the DUPLICATE RECORD file (#15), the review, verification, approval, and merge processes will continue to be performed as before.

The search and identification of potential duplicate records perform comparisons on key patient traits in the centralized Person Service Identify Management (PSIM) database. The goal of PSIM is to provide an authoritative source for persons' identity traits throughout the Veterans Health Administration (VHA). The Initiate Probabilistic Search Implementation in PSIM adds advanced search capabilities to improve the overall matching process during Search, Add and Update processes. The advanced search capabilities also provide enhanced capabilities for Healthcare Identity Management (HC IdM) case workers who perform patient Healthcare Identity Management tasks.

PSIM determines that a pair of patients is a duplicate, or potential duplicates. Potential duplicates are further reviewed by the Healthcare Identity Management team (HC IdM). If a pair of patients is determined to be duplicates, and if both patients are known at a VistA site, the patient pair is added to the local VistA DUPLICATE RECORD file (#15). An email is sent to members of the mail group found in the DUPLICATE MANAGER MAIL GROUP field of the record associated with patients, in the DUPLICATE RESOLUTION file (#15.1).

Once a potential duplicate pair has been identified, the process of verifying record pairs begins.

The review and verification process includes two levels of review. The primary reviewer, initially seen as an MAS responsibility, performs a review of patient demographic information. The primary reviewer initially determines if the pair represents a duplicate record. If so, the primary reviewer selects the merge direction. If data from ancillary services is present, notification (via MailMan message or alert – or both) is sent to those designated as ancillary reviewers. A site may determine reviewers based upon their business practices. Reviewers determine whether the record pair is a duplicate, not a duplicate (so that subsequent processing need not occur), or that they are unable to determine the status. Where appropriate, reviewers may mark data to be overwritten. Those record pairs that are determined to be verified duplicates are marked as such and are then available for approval to be merged.

The intent of the approval step is to ensure that a conscious decision will be made in taking verified duplicate record pairs and making them available for a merge process. All verified record pairs, or selected pairs, can be approved. The approval step follows a site defined waiting period. Reviewers are responsible for approving verified duplicates.

The merge process is available for initiation by IRM personnel. All approved record pairs are included in a merge process when scheduled. The merge process is a lengthy process that is recommended for off-peak hours. Utilities are available for pausing and restarting the merge process. The merge process merges verified duplicate records in the following order: first, files that require special handling, then the primary file, then the resolution of pointers. The resolution of pointers for the primary file or any of those involving special processing involves three phases. The first two phases permit identification of entries requiring modification based on their IENs (DINUMed) or by cross-references and are rapid. The third phase involves all other pointers and can be lengthy. Several special processing routines have been written to handle those database entries that point to the PATIENT file (#2) in an unusual manner. Entries for each special processing routine have been made in the PACKAGE file (#9.4) multiple, AFFECTS RECORD MERGE field (#20). A stub record is maintained to disallow reuse of PATIENT file (#2) internal entry numbers.

Concurrent with the merge, entries are made in a new global for each record making up the pair. The entries are intended to provide a "before-merge" image. However, please note that the merge is a non-reversible process. Once the pair of records is merged, there is no automated way of undoing the process.

The application has been written to support multiple parallel jobs (threads - as specified by the site) during the merge process. However, decreased overall processing time is exchanged for increased system utilization.

ADVISORY: The merge process is a background job. Be aware that it should not be running when changes are being made to Data Dictionaries or when data conversions are taking place.

2.3 Quick Start: Patient Merge Checklist

On the following pages is a checklist you may find helpful as a step-by-step information guide. It has been designed to help you through the review, verification, and approval of potential duplicate patient pairs, and through the actual merge process itself. References are made to chapters and sections of this manual where you can find further information on each step documented in the checklist.

You may also find Appendix B of this manual helpful, ("Where Do I Find How To ...?"). It has been designed to help you in maneuvering through the Duplicate Resolution System menus to accomplish the Patient Merge process.

2.4 Quick Start: Patient Merge Checklist

Disclaimer: Not all options are referenced. This is an overview of the basic sequence of operations.

Table 1 -Quick Start: Patient Merge checklist

Task	Done
Authorized personnel holding the XDRMGR security key may run the option Preliminary Scan of File for Errors. This option identifies records in the PATIENT file (#2) that have missing identifiers and/or other anomalies. **REF:** For more information see the section "Finding Errors in the Patient File" of this manual.	
Obtain a pool of potential duplicate record pairs that you want to be merged using one of the following three methods: Authorized personnel holding the XDRMGR security key use the option Start/Halt Duplicate Search to run a search of the PATIENT file (#2), from which potential duplicate records are automatically entered into the DUPLICATE RECORD file (#15). **REF:** For more information see the section "Searching the Database for Potential Duplicates" of this manual. **NOTE:** This option can't be used on the PATIENT file (#2) after Patch XT*7.3*113 is installed. PSIM will populate the DUPLICATE RECORD file (#15) automatically with potential matches. Use the option Add Verified Duplicate Pair to enter specific record pairs into the DUPLICATE RECORD file (#15). **REF:** For more information see the section "Add Verified Duplicate Pair" of this manual. Use the option Find Potential Duplicates for an Entry in a File to search for potential duplicates against a single record. Retrieved potential duplicate records are then automatically added to the DUPLICATE RECORD file (#15). **REF:** For more information see the section "Find Potential Duplicates for an Entry in a File" of this manual. **NOTE:** This option can't be used on the PATIENT file after Patch XT*7.3*113 is installed. PSIM will populate the DUPLICATE RECORD file (#15) automatically with potential matches.	
The primary reviewer examines a record pair for duplicate status using the option Verify Potential Duplicates. Once the review is completed, several steps may be taken.	

Task	Done
REF: For more information see the section "Primary Review" of this manual.	
Should the primary reviewer choose a record pair as verified duplicates, the next step is to select the correct merge direction. **REF:** For more information see the section "Primary Review" of this manual. **ADVISORY: Although a default direction for the merge is provided, it may not always be the best one. You should not assume that the record containing the most data is the record to be merged into. It's important, therefore, that the data in both records are thoroughly checked before selecting a merge direction.**	
Ancillary reviewers provide a secondary review, if data is available in files other than the primary file for both records being compared. Alerts and/or MailMan messages serve to inform designated ancillary reviewers associated with these files to begin the secondary review process. **REF:** For more information see the section "Ancillary Review" of this manual.	
Your site should print a paper backup of the local patient records using a site specified Health Summary (which should be as complete as possible). **REF:** For more information see the chapter "Backup Before Merge" of this manual.	
Site Specified Waiting Period: Verified duplicate record pairs must elapse the site specified waiting period (i.e., the time between when they are verified as duplicates, and the time they are ready to be merged). After the waiting period, these duplicate records are categorized with the status of READY to merge.	
The primary reviewer uses the option Approve Verified Duplicates for Merging to give final approval for selected duplicate record pairs to be included in the next merge process. **REF:** For more information see the chapter "Approve Verified Duplicates for Merging" of this manual.	
Authorized personnel holding the XDRMGR security key initiate a merge process using the option Schedule Process to Merge Verified Duplicates. **REF:** For more information see the chapter "The Merge Process" of this manual.	
Site Specified Waiting Period: Each merge process will automatically include all approved duplicate record pairs that have met the site specified waiting period (i.e., the time between when they were approved as duplicate records ready to be merged, and the time they are actually merged).	

2.5 Site Configuration

This portion of the User Manual covers the options available with the Duplicate Record Merge: Patient Merge application that offers managerial control over files being searched for potential duplicate records.

Several parameters are involved in the operation of this application. They are related to how potential duplicates are identified, defining reviewers, naming users to a mail group, and defining the length of waiting periods applied in the process.

IRM staff, perhaps the ADPACs, will set up patient identification and merge capability for the PATIENT file. This depends largely on who holds the XDRMGR security key. This key allows access to the Manager Utilities menu used in the site configuration of the application. Either IRM, or the ADPACs, whoever is determined as responsible for editing this data, should be given this security key. Care should be used, however, in granting this key since other options that impact system resources (e.g., Schedule Process to Merge Verified Duplicates) are controlled by it.

Three default ancillary services for the PATIENT file (#2) come with this application. They are Laboratory, Radiology, and Pharmacy. Your local IRM might want to add more, for example Dentistry. Individuals in the ancillary services will be designated to receive MailMan messages and/or alerts in the file setup process.

2.5.1 File Setup and Default Site Parameters

To set up patient identification and merge parameters for the PATIENT file (#2), it is necessary to enter the desired data into the DUPLICATE RESOLUTION file (#15.1). This can be accomplished by using the option Edit Site Parameters located on the Manager Utilities menu. It is through this option that the necessary entries to the File #15.1 are made. File #15.1 contains the parameters by which the DUPLICATE RECORD file (#15) is populated. File #15.1 also contains parameters that are specific to the merge process.

You must possess the XDRMGR security key to access this option. By entering PATIENT at the prompt "Select DUPLICATE RESOLUTION FILE TO BE CHECKED:" you are designating the PATIENT file (#2) as your primary file for patient identification and merge processing.

NOTE: If you don't have existing mail groups to designate as recipients of the various bulletins involved with the patient identification and merge processes, your site will have to create them using MailMan V. 7.1 utilities. If your site chooses to create mail groups, they must be added to the MAIL GROUP file (#3.8)

(For more information on application-specific bulletins, see the section "Assign Mail Groups" of the Patient Merge Installation Guide.) [For information on creating mail groups, see the VA Electronic Mail System (MailMan) Technical Manual and Systems Management Guide V. 7.1.].

2.5.1.1 Edit Site Parameters (Duplicate Resolution File [#15.1])

The default parameters exported with this application are related to how potential duplicates are identified, to designating ancillary reviewers, and to defining the length of waiting periods applied in the process of identifying and merging duplicate records.

Your site may edit any one of these parameters in the DUPLICATE RESOLUTION file (#15.1) by selecting the option Edit Site Parameters located on the Manager Utilities menu. Included in this section is the list of the default parameters released with this application.

The following example shows you how to access the option Edit Site Parameters:

```
DUPLICATE MANAGER UTILITIES MENU



   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT MANAGER UTILITIES OPTION: EDT  <RET>  EDIT SITE PARAMETERS
```

The next figure shows the data entry screen for editing site parameters:

Figure 3 - Editing site parameters

```
                          DUPLICATE RESOLUTION FILE
FILE TO BE CHECKED: PATIENT

_____________________________________________________________________________

                  MERGE MAIL GROUP:
      DUPLICATE MANAGER MAIL GROUP:
    POTENTIAL DUPLICATE THRESHOLD%: 60
          DAYS BEFORE FINAL VERIFY: 5
     DAYS BETWEEN VERIFY AND MERGE: 5
                NUMBER OF THREADS: 3

                         ANCILLARY SERVICE
                         -----------------
                         LABORATORY
                         PHARMACY
                         RADIOLOGY


_____________________________________________________________________________


COMMAND:                                      PRESS <PF1>H FOR HELP    INSERT
```

Notice in this first data entry screen, shown in the previous figure, that the file currently being checked is displayed in the top left corner. In the case of the Patient Merge application, this is the PATIENT file (#2). Further down the screen the underlined data entry fields represent the VA FileMan required fields. Notice that several fields have data in them. These are the default parameters exported with this application. They are described below.

MERGE MAIL GROUP—The mail group entered in this parameter has the following three functions:

1) A bulletin is sent when a merge process has been completed.
2) A MailMan message is sent comprised of FROM and TO record pairs detected as having data errors during the beginning of the actual merge process. Records contained in this message are excluded from the merge process. The subject of this MailMan message is "MERGE PAIRS EXCLUDED DUE TO PROBLEMS".

3) A MailMan message is sent comprised of FROM and TO record pairs excluded from the merge process resulting from their multiple relationship(s) with the record pair selected to be merged. The subject of the MailMan message is "PAIRS EXCLUDED FROM MERGE DUE TO MULTIPLE REFERENCES".

   NOTE: See the section "Schedule Process to Merge Verified Duplicates" of this chapter for more information on data error and/or multiple pair processing excluding records from being merged.

This mail group must be an entry in the MAIL GROUP file (#3.8) and should contain at least one active member. Sites are required to supply their own mail groups.

DUPLICATE MANAGER MAIL GROUP—The mail group entered in this parameter will be sent an email when a pair of potential duplicate patients is added to the DUPLICATE RECORD file (#15) by PSIM and will be sent a bulletin whenever any known problems occur during the duplicate checking or merging process. This mail group must be an entry in the MAIL GROUP file (#3.8). Sites are required to supply their own mail groups.

POTENTIAL DUPLICATE THRESHOLD%—This field contains a computed percentage based on the values defined in the duplicate tests. When record pair scores evaluate equal to or above this percentage, they are potential duplicates. Record pairs may differ on the maximum score to which the percentage threshold is applied. The default potential duplicate threshold with this application release is 60%.

NOTE: As of Patch XT*7.3*113, the data in the POTENTIAL DUPLICATE THRESHOLD% field will no longer be used for searching the PATIENT file (#2).

DAYS BEFORE FINAL VERIFY—This is the number of days within which ancillary reviewers are expected to conduct their reviews. All reviews must be resolved prior to merging the affected record pair. If action is still pending by any ancillary reviewers after this period, the site may take alternative action to:

- notify designated persons via a mail group,
- establish an additional reviewer,
- otherwise, to resolve the review.

This would only apply if verification of a potential duplicate pair were not completed before the site configurable time runs out. The number of days entered in this field

should be between zero and 30. This application is exported with the default value set to five days.

DAYS BETWEEN VERIFY AND MERGE—This is the number of days to elapse between final verification of a duplicate pair and the earliest possible merge date (i.e., the date records are approved to be merged). This parameter is available for sites that may be concerned about possible on-going actions related to entries that will be merged and want to establish a period of inactivity prior to the actual merge. The value of this field is set by IRM. The number of days entered in this field should be between zero and 30. The default with this application release is five days.

NUMBER OF THREADS—This field is used to help manage the most time-consuming portion of the merge process. It is used to indicate the number of threads that should be used during the longest phase of the merge process. (Phase 3 is the longest phase of the merge process. It is described in more detail in the "Merge Process" section of this manual.) Your site can set the number of threads (jobs) according to your system resources.

> For example, an entry of 1 would indicate that only the main process would be running. An entry of 2 to 3 indicates that the main process along with 1 to 2 other threads should be used during this phase. The greater the number of threads, the more parallel processing occurs. Each thread is used to process one of the more time-consuming files, which reduces the amount of time the overall process takes, at the expense of increased system utilization.

The site parameter NUMBER OF THREADS is exported with the Patient Merge application as a default of 3. The maximum allowable value is 5. It is resident in the DUPLICATE RESOLUTION file (#3.8).

2.5.1.1.1 Edit Ancillary Service Subfile

The necessary default values associated with each of the three ancillary services (e.g., Laboratory, Pharmacy, and Radiology) are included with this application. Sites are required to supply mail groups and/or assign individuals to receive alerts. Your site can add more ancillary services to the ancillary service multiple if desired.

The table, shown in the next figure, provides an "at a glance" view of the site parameters for all three ancillary services exported with this release. References are made to both site parameters that are default values included with this application release, and to fields that require the site assignment of values. Ancillary service, field name, and default data value(s) list the information.

Table 2 - Ancillary service default site parameters table

Ancillary Service	Field Name	Default Data Value
LABORATORY	PRIMARY FILE NUMBER	63
	SUBFILES (FIELD NUMBERS)	1;.085;2;4;5;8;
	DISPLAY NAMES FOR SUBFILES	Bld Bank;Transfusn;EM;Lab Tests;Mic
	MAIL GROUP NAME	*provided by site*
	INDIVIDUAL FOR ALERTS	*provided by site*
PHARMACY	PRIMARY FILE NUMBER	55
	SUBFILES (FIELD NUMBERS)	N/A
	DISPLAY NAMES FOR SUBFILES	N/A
	MAIL GROUP NAME	*provided by site*
	INDIVIDUAL FOR ALERTS	*provided by site*
RADIOLOGY	PRIMARY FILE NUMBER	70
	SUBFILES (FIELD NUMBERS)	2
	DISPLAY NAMES FOR SUBFILES	Radiology
	MAIL GROUP NAME	*provided by site*
	INDIVIDUAL FOR ALERTS	*provided by site*

The next figure shows the ancillary service data displayed in the data entry screen exported with this application. This is the actual format for the default site parameters as viewed by the site.

Figure 4 - Ancillary service data entry screen

```
      ANCILLARY SERVICE INFORMATION
ANCILLARY SERVICE:  LABORATORY
PRIMARY FILE NUMBER:       63
SUBFILES (FIELD NUMBERS):  1;.085;2;4;5;8
DISPLAY NAMES FOR SUBFILES:      BLD BANK;TRANSFUSN;EM;LAB TESTS;MIC
MAIL GROUP NAME:
       INDIVIDUAL FOR ALERTS:
```

The following are field names and descriptions for the ancillary service site parameters. References are made to both site parameters that are default values included with this application release, and to fields that require the site assignment of values.

ANCILLARY SERVICE—Duplicate record pairs may require secondary reviews when data is present in ancillary files. This field is the name of the VistA ancillary service associated with each duplicate record pair. Three default ancillary services are released with Patient Merge: Laboratory, Pharmacy, and Radiology. Each of these ancillary services has an associated primary file, which could provide information on whether the entries are in fact, duplicates or not. In addition, the ancillary reviewers' expertise in evaluating other data in health summaries may provide information on the duplicate question. This entry must be from three to 30 characters in length.

PRIMARY FILE NUMBER—Primary file number for the main file associated with the ancillary service. Enter the file number to be used for identifying duplicate record pairs for this ancillary service [e.g., LAB DATA file (#63), RADIOLOGY PATIENT file (#70), PHARMACY PATIENT file (#55), etc.]. Each ancillary service distributed with this application release contains a default value for this field.

SUBFILES (FIELD NUMBERS)— Subfiles in the primary file. To show how many particular types of data, or entries, exist for some of the subfiles, you can enter the field numbers for the subfile(s) that should be displayed. These entries should be separated by semicolons (e.g., 1;.085;2;4;5;8). Each ancillary service distributed with this application release contains a default value for this field.

DISPLAY NAMES FOR SUBFILES—Respective subfile names for each of the specified subfiles in the primary file. Specify the names that will be associated with the subfile numbers as they are entered in the field SUBFILES (FIELD NUMBERS). The names entered must be in the same position as their corresponding field numbers. These names will appear on the screen so you might want to make them descriptive. Semicolons (e.g., Bld Bank; Transfusn; EM; Lab Tests; Mic) should separate these entries. Each ancillary service distributed with this application release contains a default value for this field.

MAIL GROUP NAME—Optional. This field is a pointer to the MAIL GROUP file. Your answer must be the name of an actual mail group entry in that file. Once potential duplicate record pairs are established from the search, populated into File #15, and reviewed by the primary reviewers, MailMan messages are automatically sent to these designated mail groups if data is present for both entries in the potential duplicate pair in the file specified as the primary file for the ancillary service. Alerts can also be sent to individuals separately by designating one or more reviewers in the INDIVIDUAL FOR ALERTS field. Sites are required to supply their own mail groups.

INDIVIDUAL FOR ALERTS—Optional. Enter one or more ancillary reviewer. Once potential duplicate record pairs are established from the search, populated into File #15, and reviewed by the primary reviewers, alerts are automatically sent to these designated individuals if data is present for both entries in the potential duplicate pair in the file

specified as the primary file for the ancillary service. Answer with the NEW PERSON NAME, INITIAL, SSN, NICK NAME, DEA#, or VA#.

Sites are required to supply individuals with alerts. For a review by an ancillary service to be active, there must be at least one member in a specified mail group OR at least one individual specified to receive alerts.

2.5.2 Menu Structure

The Patient Merge application is distributed with three menus. They are the Operations, Utilities, and Manager Utilities menus. The Duplicate Resolution System menu diagram is shown in the next figure:

Figure 5 - Duplicate Resolution System main menu

```
DUPLICATE RESOLUTION SYSTEM MENU


   XDRO   OPERATIONS ...
   XDRU   UTILITIES ...
   XDRM   MANAGER UTILITIES ...


SELECT DUPLICATE RESOLUTION SYSTEM OPTION:
```

The Operations and the Utilities menus should be made accessible to personnel who would be involved with the review and verification of duplicate records. These people must be authorized to hold the XDR security key to access these menus. The Manager Utilities menu is restricted to those personnel authorized to hold the XDRMGR security key.

2.5.2.1 Operations Menu

This menu contains options for approving duplicate records for merging and for verifying actual duplicate record pairs. The next figure shows you the available options under this menu. They are described in detail later in this manual.

Figure 6 - Operations Menu

```
DUPLICATE RESOLUTION OPERATIONS MENU

   APP    APPROVE VERIFIED DUPLICATES FOR MERGING
   VPD    VERIFY POTENTIAL DUPLICATES
   ADR    ANCILLARY DATA REVIEW

SELECT OPERATIONS OPTION:
```

2.5.2.2 Manager Utilities Menu

This menu is comprised of various manager utilities that give IRM personnel control over critical decision elements involved with the merge process. They are designed to assist with editing site parameters, identifying potential duplicate records in the primary file, merging verified duplicate records, and purging files involved with the merge process that are specific to Patient Merge.

The next figure shows you the available options under this menu. They are described in detail later in this manual. Only authorized personnel holding the XDRMGR security key can use these utilities.

Figure 7 -Manager Utilities Menu

```
DUPLICATE MANAGER UTILITIES MENU

   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT MANAGER UTILITIES OPTION:
```

2.5.3 Security Keys

Three security keys are involved with the Patient Merge release. Their purpose is to set a layer of protection on the range of available computing capabilities. Two of which (i.e.,

XDR and XDRMGR) are used in the Duplicate Resolution System menu. The accessibility of this menu is based on the level of system access granted to each user. These security keys are described below:

1. The **XDR** security key authorizes access to the Duplicate Resolution System menu on the Application Utilities menu.
2. The **XDRMGR** security key is required to access the Manager Utilities menu. This key should be given to IRM personnel responsible for managerial control over the file being searched for duplicate record pairs and the subsequent merge process.

   The **XDRMGR** security key also authorizes the holder to add a pair of records directly into the DUPLICATE RECORD file (#15) through the option Add Verified Duplicate Pair, bypassing the Potential Duplicate Threshold Percentage.

   NOTE: Care should be used in granting the **XDRMGR** security key, since other options that impact system resources (e.g., Schedule Process to Merge Verified Duplicates) are controlled by it.

3. Although distributed by another package, the person initiating the merge process must be authorized to hold the **DG ELIGIBILITY** security key.

   The **DG ELIGIBILITY** security key, although not required to select and run the option Identify Potential Merge Problems, is required to provide valid error checking results. The key may or may not be required to make the necessary edits.

3 Identifying Duplicate Records: Searching the Patient File (#2)

NOTE: As of Patch XT*7.3*113, the PATIENT file (#2) will no longer be selectable from the Search option described below. Although users with access to the Duplicate Record Merge menus will still be allowed to add records to the DUPLICATE RECORD file (#15), this file will mainly be populated automatically when Person Service Identity Management (PSIM) identifies patient pairs as matches or potential matches.

You will still be allowed to run the Preliminary Scan of Patients to search for errors that might affect the merge.

After patient pairs are added to the DUPLICATE RECORD file (#15), the review, verification, approval, and merge processes will continue to be performed as before.

Before you begin the process of searching the PATIENT file (#2), it is suggested that you run the option Preliminary Scan of File for Errors to identify errors in patient records. This option scans through the file checking for records that have missing identifiers (which are presumed to be significant data elements) or checking for records that have other anomalies. Although it is not mandatory to the process of merging records, the results from this preliminary scan of the File #2 might indicate that some maintenance work needs to be conducted on your files before you begin the search for potential duplicate records. Based on this computer-generated list, erroneous records might be removed or other repairs made. This reduces the number of errors in the patient identification and merge process, allowing the system to run much faster.

3.1 Preliminary Scan of the File to be Searched

Only authorized persons holding the XDRMGR security key should be responsible for using this option. To run the scan from the Manager Utilities menu, select the option Preliminary Scan of File for Errors, shown in the next figure.

NOTE: If the merge parameters for your site are set up for more than one primary file, this option will prompt you to select the duplicate resolution file you want to check for errors (i.e., "Select DUPLICATE RESOLUTION FILE TO BE CHECKED:"), as shown in the next figure. If your site is only set up for one primary file, this prompt will not be displayed.

Figure 8 -Running a preliminary scan of the patient records

```
DUPLICATE MANAGER UTILITIES MENU


   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS



SELECT MANAGER UTILITIES OPTION: SCN  <RET>  PRELIMINARY SCAN OF FILE FOR ERRORS
SELECT DUPLICATE RESOLUTION FILE TO BE CHECKED: PATIENT

A RUN WAS COMPLETED ON JAN 25, 1997@13:50:19



DO YOU WANT TO VIEW THOSE RESULTS? YES// YES
```

Answering Yes to the prompt "Do you want to view those results?", shown in the previous figure, will generate the output from the scan of the PATIENT file (#2) shown in the next figure. You can step out of this option and go back into it at any time. This option can run concurrently with other processes such as the search or merge process.

This option looks at fields like SOCIAL SECURITY NUMBER, specifically for invalid ones (e.g., SSNs that do not contain nine digits may contain spaces and numbers, or characters, etc.). It reports entries containing missing zero nodes. It looks at the identifiers for the file it is running the search on, assuming that the identifiers should be there.

Notice, in the next figure, that there are several missing identifiers in the fields listed. For example, the fields SEX, REVIEWER CONNECTED? and VETERAN (Y/N)? are missing a particularly high number of identifiers.

Figure 9 -Error list generated from the preliminary scan of the PATIENT file

```
RUN TIME: 0:13:28     CURR IEN: 151052     FILE ENTRIES: 66720


      2159 PATIENT ENTRIES ARE MISSING FIELD # .02  SEX
      1376 PATIENT ENTRIES ARE MISSING FIELD # .03  DATE OF BIRTH
         3 PATIENT ENTRIES ARE MISSING FIELD # .09  SOCIAL SECURITY NUMBER
      4572 PATIENT ENTRIES ARE MISSING FIELD # .301  REVIEWER CONNECTED?
      3295 PATIENT ENTRIES ARE MISSING FIELD # 1901  VETERAN (Y/N)?
         4 PATIENT ENTRIES ARE MISSING FIELD # 391  TYPE
       128 PATIENT ENTRIES HAVE NO ZERO NODE!
      1332 PATIENT ENTRIES HAVE BAD SSN VALUES (NON-NUMERIC, ETC.)

      1403 PATIENT ENTRIES ARE MISSING 1 OF THESE VALUES
      1868 PATIENT ENTRIES ARE MISSING 2 OF THESE VALUES
       261 PATIENT ENTRIES ARE MISSING 3 OF THESE VALUES
        78 PATIENT ENTRIES ARE MISSING 4 OF THESE VALUES
      1299 PATIENT ENTRIES ARE MISSING 5 OF THESE VALUES
         2 PATIENT ENTRIES ARE MISSING 6 OF THESE VALUES
```

Notice, in the previous figure, that the zero node is missing for 128 patients. The zero node of a record is where you will find the most common identifying information for a patient (e.g., Name, SSN, Sex, Date of Birth, etc.). If the zero node for an entry is missing, it may mean that the entire record had been deleted at some point. However, an invalid partial entry of that record could have been triggered back in. If the zero node is missing, the main identifying information is gone. The remaining partial record entry should be reviewed by IRM for potential removal.

Also notice, in the previous figure, that three patients have no Social Security Number. Notice that 1332 patients have bad Social Security Numbers. (That can mean various things, but most commonly the bad SSNs might be filled with spaces, or alphabetic characters.)

Answering No to the prompt "Do you want to view those results?", shown in the next figure, will generate a new scan. This job is queued off to Task Manager.

Figure 10 -Queue a preliminary scan of the PATIENT file (#2) to Task Manager

```
SELECT MANAGER UTILITIES OPTION: SCN   <RET>   PRELIMINARY SCAN OF FILE FOR
ERRORS
SELECT DUPLICATE RESOLUTION FILE TO BE CHECKED: PATIENT


A RUN WAS COMPLETED ON JAN 25, 1997@13:50:19


DO YOU WANT TO VIEW THOSE RESULTS? YES// N   <RET>   NO
REQUESTED START TIME: NOW//   <RET>   (JAN 26, 1997@17:15:51)


QUEUED AS TASK 3025
```

As was recommended previously, the results from this preliminary search might indicate that some maintenance work needs to be conducted on your files before you begin the search for potential duplicate records. Based on this information, you can focus your repair efforts.

The option Preliminary Scan of File for Errors has replaced the old Kernel Toolkit option View Duplicate Record Entries.

Once you have run this preliminary scan you can use the LIST option described in the next section to identify specific patient names/records where errors are found.

3.1.1 Listing Patient Records with Errors

The option Preliminary Scan of File for Errors, documented in the previous section, creates a summary of the errors found in the PATIENT file (#2). These errors are missing identifiers and invalid fields. Use this option, List File Entries Identified in Preliminary Scan, to view the detailed lists of errors in the PATIENT file (#2) generated from the SCN option.

This option is located on the Manager Utilities menu, shown in the next figure. Only authorized persons holding the XDRMGR security key may use this option.

```
DUPLICATE MANAGER UTILITIES MENU


   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS


SELECT MANAGER UTILITIES OPTION: LIST  <RET>  LIST FILE ENTRIES IDENTIFIED IN
PRELIMINARY SCAN
```

The following figure illustrates how to generate an error list of patients that are missing, for example, Social Security Numbers:

Figure 11 -List patient records with missing fields previously identified in preliminary scan

```
SELECT MANAGER UTILITIES OPTION: LIST  <RET>  LIST FILE ENTRIES IDENTIFIED IN
PRELIMINARY SCAN


ENTER THE NUMBER OF THE DESIRED LIST TO OUTPUT:


 1  BAD SSN
 2  MISSING #.02
 3  MISSING #.03
 4  MISSING #.09
 5  MISSING #.301
 6  MISSING #1901
 7  MISSING #391
 8  MISSING 1 VAL
 9  MISSING 2 VALS
10  MISSING 3 VALS
11  MISSING 4 VALS
12  MISSING 5 VALS
13  MISSING 6 VALS
14  NO ZERO NODE


LIST NUMBER:  (1-14): 1
```

The system displays the error list by missing fields and identifiers. Choose the number corresponding to the list you want to view.

The following table indicates the missing field and identifier numbers with their corresponding descriptions:

Table 3 - Missing field and identifier numbers with corresponding descriptions

Missing fields and identifiers	Descriptions of fields and identifiers missing from patient records
BAD SSN	Bad Social Security Number
MISSING #.02	Missing Sex identification
MISSING #.03	Missing Date of Birth
MISSING #.09	Missing Social Security number
MISSING #.301	Missing Service Connected
MISSING #1901	Missing Veteran (Y/N)?

Missing fields and identifiers	Descriptions of fields and identifiers missing from patient records
MISSING #391	Missing Type of Patient
MISSING 1 VAL	Patient records missing 1 value
MISSING 2 VALS	Patient records missing 2 values
MISSING 3 VALS	Patient records missing 3 values
MISSING 4 VALS	Patient records missing 4 values
MISSING 5 VALS	Patient records missing 5 values
MISSING 6 VALS	Patient records missing 6 values
NO ZERO NODE	Zero node of Patient File is missing

The following figure identifies the missing values. The default display is to your terminal, but you can also print the list if you need to. (See "Appendix A" of this manual on How to Print.)

Figure 12 -Patient records with missing SSNs

```
DEVICE: HOME//  <RET>  REMOTE LOGIN  <RET>

LISTING OF ENTRIES IN FILE 2 WITH IDENTIFIER OR OTHER PROBLEMS SELECTED LISTING:
BAD SSN

DATA LISTED ACROSS THE PAGE IN THE FOLLOWING ORDER:

INTERNAL ENTRY NUMBER
NAME
SEX
DATE OF BIRTH
SOCIAL SECURITY NUMBER
SERVICE CONNECTED?
TYPE
VETERAN (Y/N)?

XXXXXXXXXX  XXXXXXXXXXXXXXXXXXXXXXXXXX   X  XXXXXXXX  XXXXXXXXX  X  XX  X

    100004  MERGEPATIENT,ONE                                        13
    100007  MERGEPATIENT,TWO                                9249    13
    100009  MERGEPATIENT,THREE                                      13
    100010  MERGEPATIENT,FOUR                                       13
```

Each of the patient lists that you generate can be used to identify specific patient records with errors. You can then access these records to update them by correcting incorrect entries or adding entries that don't already exist.

3.1.2 Searching the Database for Potential Duplicates

NOTE: As of Patch XT*7.3*113, the PATIENT file (#2) will no longer be selectable from the Search option described below. Although users with access to the Duplicate Record Merge menus will still be allowed to add records to the DUPLICATE RECORD file (#15), this file will mainly be populated automatically when Person Service Identity Management (PSIM) identifies patient pairs as matches or potential matches.

You will still be allowed to run the Preliminary Scan of Patients to search for errors that might affect the merge.

After patient pairs are added to the DUPLICATE RECORD file (#15), the review, verification, approval, and merge processes will continue to be performed as before.

Now we are ready to begin the search.

Applying comparisons (duplicate tests) to records as they are encountered in the search identifies potential duplicates. These comparisons result in a computed value based on the similarity of one record to others. Both records must have data in the field being tested for a duplicate test score to be obtained. The fields from the PATIENT file (#2) that are used in comparing both entries are: Name, Social Security Number, Sex, Date of Birth, Date of Death, Last Separation Date (Last Discharge Date), Mother's Maiden Name, and Claim Number. Positive values are assigned to record pairs that meet the test (scaled on how well they match). Negative values are assigned to record pairs that do not meet the test. The resulting value is measured against the Potential Duplicate Threshold Percentage. This value is a site parameter resident in the DUPLICATE RESOLUTION file (#15.1). It is exported with the Patient Merge application set as a default of 60%. When record pair scores evaluate equal to or above this percentage, they are potential duplicates and are added to the DUPLICATE RECORD file (#15).

The search process may be halted at any point by using the option Start/Halt Duplicate Search. When restarted, the search will pick up where it left off. It will not begin again at the start of the file, recycling through records that have already been searched. This enables a site to control their system resources.

Should the decision be made to stop the search process mid-search, the user can halt the search, indicate the search as complete, change criteria (e.g., Potential Duplicate Threshold Percentage), and reinitiate the search.

NOTE: Be advised that searching the database for duplicate record pairs can take a long time to run to completion. Actual time for a search has been known to exceed 100 hours.

3.1.3 Start/Halt Duplicate Search Option

NOTE: As of Patch XT*7.3*113, the PATIENT file (#2) will no longer be selectable from the Search option. Although users with access to the Duplicate Record Merge menus will still be allowed to add records to the DUPLICATE RECORD file (#15), this file will mainly be populated automatically when Person Service Identity Management (PSIM) identifies patient pairs as matches or potential matches.

The Start/Halt Duplicate Search option on the Manager Utilities menu is used to initiate a search of the database. Only authorized persons holding the XDRMGR security key should be responsible for using this option.

Once you've accessed this option, you have a choice of two methods for searching the primary file:

1) A Basic search checks all records in a file from beginning to end. This search can be halted and restarted, beginning with the next available record after the last record that was processed. If you are running a search for potential duplicate records on a file for the first time, you will probably want to run a Basic search.
2) A New search checks only those records that have been added or edited since the last search was run based on a user-specified cross-reference. It will begin with the next record number after the last one that was processed. The New search, like the Basic, can also be halted and restarted beginning with the next available record after the last record that was processed.

NOTE: If you Halt a search and immediately go back into the Start/Halt option to verify that the search has been halted, you may experience some lag time. It's going to take a moment for Task Manager to react to the command and halt the search.

This is a tasked job that can be started and halted until the entire file has been checked. You will initially want to perform the Basic search of the database. Once this search is started, its progress can be monitored with the Display Search Status option on the Utilities menu.

We are going to start a Basic search in this next example. To begin the search, select the option Start/Halt Duplicate Search located on the Manager Utilities menu, shown below.

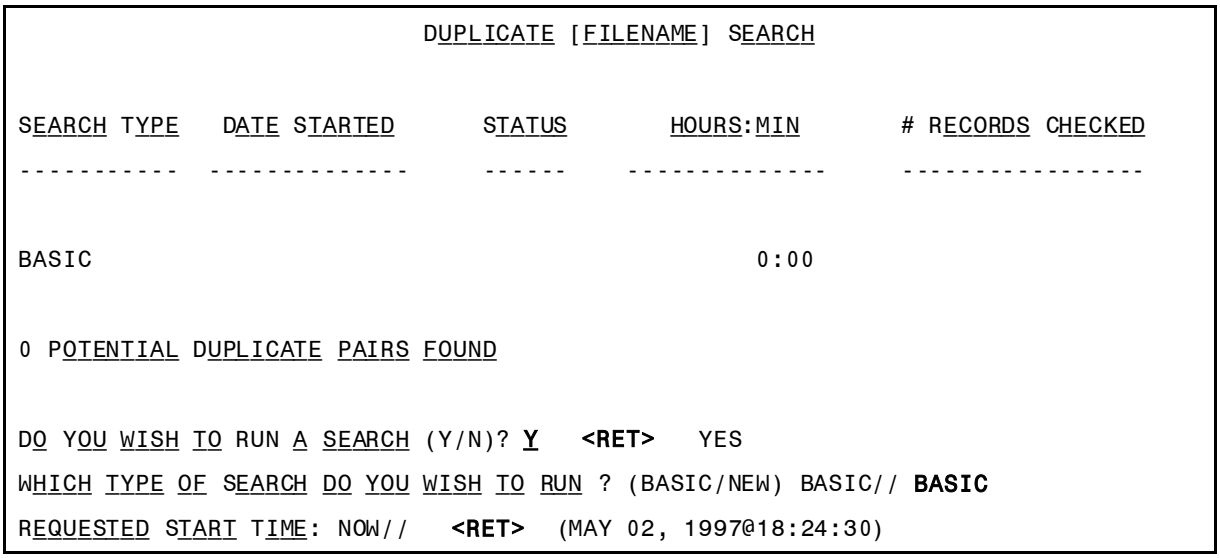
NOTE: If the merge parameters for your site are set up for more than one primary file, this option will prompt you to select a file to be searched for duplicates (i.e., "Select file to be checked for duplicates:"), as shown in the next example. If your site is only set up for one primary file, this prompt will not be displayed.

```
DUPLICATE MANAGER UTILITIES MENU


   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT MANAGER UTILITIES OPTION: SRCH  <RET>  START/HALT DUPLICATE SEARCH
SELECT FILE TO BE CHECKED FOR DUPLICATES: [FILENAME]

THIS PROCESS WILL TAKE A **LONG** TIME (KNOWN TO EXCEED 100  HOURS),
BUT YOU CAN STOP AND RESTART THE PROCESS WHEN YOU WANT USING
THE OPTIONS.  OK? YES
```

Enter primary file.

The next figure shows the resulting screen display from accessing the option Start/Halt Duplicate Search:

Figure 13 -Start a BASIC search of the primary file for duplicate records

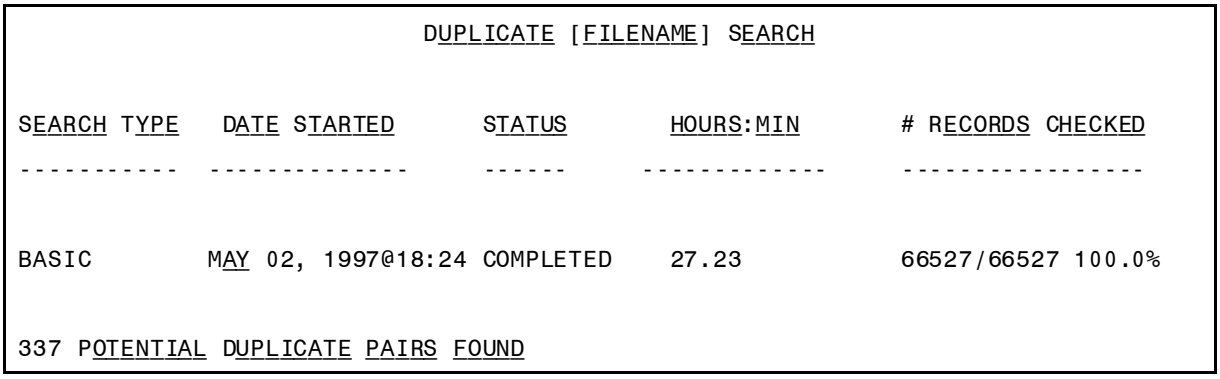


```
                          DUPLICATE [FILENAME] SEARCH

SEARCH TYPE   DATE STARTED      STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------     ------    --------------     -----------------

BASIC                                          0:00

0 POTENTIAL DUPLICATE PAIRS FOUND

DO YOU WISH TO RUN A SEARCH (Y/N)? Y   <RET>   YES
WHICH TYPE OF SEARCH DO YOU WISH TO RUN ? (BASIC/NEW) BASIC// BASIC
REQUESTED START TIME: NOW//   <RET>  (MAY 02, 1997@18:24:30)
```

You can start the search NOW, or queue it for a different date and time. This is a tasked job that can be started and halted until the entire file has been checked for potential duplicates.

The next figure shows the resulting screen display from a completed search of the primary file.

Figure 14 -Completed BASIC search of the primary file for duplicate records



```
                          DUPLICATE [FILENAME] SEARCH

SEARCH TYPE   DATE STARTED      STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------     ------     -------------     -----------------

BASIC        MAY 02, 1997@18:24 COMPLETED    27.23          66527/66527 100.0%

337 POTENTIAL DUPLICATE PAIRS FOUND
```

Notice in the previous figure that:

- a search was started on May 02, 1997 at 18:24
- it was completed,
- it took 27 hours and 23 minutes,
- it searched through 66527 records in the primary file,
- it searched through 100% of the file, and

- the search found 337 potential duplicate pairs.

When a user starts a search, that search may be monitored by the Display Search Status option from the Utilities menu. This option is explained further in the next topic.

NOTE: The previous figure shows that the search took 27 hours and 23 minutes to run to completion. Be advised that searching the database for duplicate record pairs can take a long time to run to completion. However, actual time for a search has been known to exceed 100 hours.

3.1.4 Display Search Status

The option Display Search Status is located on the Utilities menu. You can use this option to display the status of potential duplicates found from searching the primary file.

Figure 15 -heck on the search for duplicate records

```
DUPLICATE RESOLUTION UTILITIES MENU



   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES


SELECT UTILITIES OPTION: DSS  <RET>  DISPLAY SEARCH STATUS
```

The next figure shows the Duplicate PATIENT Search status report. The following information about the search is displayed in this report:

- type of search (Basic or New)

- date and time the search was started (or last restarted)
- search statuses [The different types are: Completed, Halted, Running, and Error (Stop)]
- length of time the search has been running
- number of potential duplicate records that have been checked
- percentage of the primary file that has been searched

Figure 16 -Duplicate Patient Search status screen shows the search is still running

```
                          DUPLICATE PATIENT SEARCH

SEARCH TYPE   DATE STARTED       STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------     ------    --------------     -----------------

BASIC        MAY 02, 1997@18:24 RUNNING            0:02      212/66572   0.3%



1 POTENTIAL DUPLICATE PAIRS FOUND
```

In the next figure we will halt the Basic search already in progress by using the option Start/Halt Duplicate Search. After indicating that we wish to halt the search, notice that the next prompt answer is "Requested Start Time". Although it says "Start", that is Task Manager asking when you want to start the process that will actually "Halt" the search. The Start/Halt Duplicate Search option located on the Manager Utilities menu acts as a "toggle" switch for this purpose.

You have two options to halt a search:

1. Select the VA FileMan command NOW to begin halting immediately
2. Halt the search at a specified time in the future.

Figure 17 -Halting the search for duplicate records

```
SELECT MANAGER UTILITIES OPTION: SRCH  <RET>  START/HALT DUPLICATE SEARCH
SELECT FILE TO BE CHECKED FOR DUPLICATES: PATIENT


                          DUPLICATE PATIENT SEARCH

SEARCH TYPE  DATE STARTED       STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------     ------    --------------     -----------------

BASIC        MAY 02, 1997@18:24 RUNNING            0:02      232/66572   0.3%


1 POTENTIAL DUPLICATE PAIRS FOUND

DO YOU WISH TO HALT THIS SEARCH (Y/N)? Y  <RET>  YES
REQUESTED START TIME: NOW//  <RET>  (MAY 02, 1997@18:27:00)
```

NOTE: Once a search is started, you cannot start another search. You can only halt a search in progress. The search can then be restarted using the NOW command, or it can be queued for a later date and time.

When we run the option Display Search Status again notice that the date and time of the last action is recorded, and the status field reflects that you've halted the search.

Figure 18 -Duplicate Patient Search status screen shows the search for duplicate records has been halted

```
SELECT UTILITIES OPTION: DSS  <RET>  DISPLAY SEARCH STATUS


                            DUPLICATE PATIENT SEARCH

SEARCH TYPE  DATE STARTED        STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------      ------    --------------     -----------------

BASIC        MAY 02, 1997@18:24 HALTED             0:02      232/66572   0.03%


1 POTENTIAL DUPLICATE PAIRS FOUND
```

You can begin the search again exactly where you left off by using the option Start/Halt Duplicate Search. Indicate that you want to continue it by responding Yes to the prompt "Do You wish to CONTINUE this search (Y/N)?".

Figure 19 - Continuing the search for duplicate records

```
SELECT MANAGER UTILITIES OPTION: SRCH  <RET>  START/HALT DUPLICATE SEARCH
SELECT FILE TO BE CHECKED FOR DUPLICATES: PATIENT


                            DUPLICATE PATIENT SEARCH

SEARCH TYPE  DATE RESTARTED      STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------      ------    --------------     -----------------

BASIC        MAY 02, 1997@18:24 HALTED             0:02      232/66572   0.03%


1 POTENTIAL DUPLICATE PAIRS FOUND


DO YOU WISH TO CONTINUE THIS SEARCH (Y/N)? Y  <RET>  YES
REQUESTED START TIME: NOW//  <RET>  (MAY 02, 1997@18:31:40)
```

And again, the next figure shows that when we run the option Display Search Status the Status field reflects the search is RUNNING, the number of records searched, and the percentage of records checked has again continued to increment.

Figure 20 -Duplicate Patient Search status screen shows the search has been continued

```
SELECT UTILITIES OPTION: DISPLAY SEARCH STATUS



                          DUPLICATE PATIENT SEARCH

SEARCH TYPE  DATE RESTARTED      STATUS        HOURS:MIN       # RECORDS CHECKED
-----------  --------------      ------     --------------     -----------------

BASIC        MAY 02, 1997@18:31 RUNNING            0:04      325/66572   0.5%



3 POTENTIAL DUPLICATE PAIRS FOUND
```

You may come across errors while running a search. When an error is encountered, the duplicate record search stops and informs you of the type of error found. Once that error is fixed, you can then restart the search and it will continue from where it left off. You don't have to go back to the beginning of the file and start from the first entry again.

4 Review Process to Determine Duplicate Record Status

The review and verification process includes two levels of review. The primary reviewer, initially seen as an MAS responsibility, performs a review of patient demographic information. The primary reviewer initially determines if the pair represents a duplicate record. If so, the primary reviewer selects the merge direction. If data from ancillary services is present, notification (via MailMan message or alert – or both) is sent to those designated as ancillary reviewers. A site may determine reviewers based upon their business practices. Reviewers determine whether the record pair is a duplicate, not a duplicate (so that subsequent processing need not occur), or that they are unable to determine the status. Where appropriate, reviewers may mark data to be overwritten. Those record pairs that are determined to be verified duplicates are marked as such and are then available for approval to be merged.

NOTE: As of Kernel Toolkit Patch XT*7.3*113, the DUPLICATE RECORD file (#15) will mainly be populated automatically when Person Service Identity Management (PSIM) identifies patient pairs as matches or potential matches.

When a record is added to the DUPLICATE RECORD file by PSIM, an email message is sent to members of the mail group defined in the DUPLICATE MANAGER MAIL GROUP field of the DUPLICATE RESOLUTION file. See Figure 21 for an example of the email sent when entries are added to the DUPLICATE RECORD file (#15). It will be important to review the DUPLICATE RECORD file frequently to see whether PSIM has identified potential duplicate records that you need to review.

The following is an example of the email message sent when entries are added to the DUPLICATE RECORD file (#15).

Figure 21 -Email message sent when entries are added to the DUPLICATE RECORD file (#15)

```
SUBJ: POTENTIAL DUPLICATE PATIENT RECORDS FOUND BY MPI  [#127964] 09/03/08@15:45
8 LINES
FROM: POSTMASTER  IN 'IN' BASKET.   PAGE 1
-------------------------------------------------------------------------------
THE FOLLOWING TWO PATIENT RECORDS HAVE BEEN FOUND TO BE POTENTIAL DUPLICATES
BY THE MPI MATCHING ALGORITHM. THESE RECORDS HAVE BEEN ADDED TO THE LOCAL
DUPLICATE RECORD FILE AND ASSIGNED RECORD NUMBER 12345.
PLEASE REVIEW THESE RECORDS TO VERIFY WHETHER THEY ARE DUPLICATES
AND IF SO MERGE USING THE DUPLICATE RECORD MERGE SOFTWARE.

  PATIENT 1: TESTPATIENT,ONE  000-27-3002  (IEN #100001302)
  PATIENT 2: TESTPATIENT,ONE JR  000-28-3002  (IEN #100001304)
```

The search process for potential duplicate records is independent from the verification of duplicates and the merge process. Primary and ancillary reviews may be started as soon as any potential duplicates are identified. There is no need to wait for the search process to reach completion.

4.1 Primary Review

Primary reviewers initiate the review process. Potential duplicate record pairs can be selected from a list produced by a search of the selected primary file (or in the case of this application, the PATIENT file [#2], duplicate entries are added automatically when the PSIM system identifies potential duplicates). The primary reviewer can browse the list, or enter a selected record pair by name. Comparative data from the primary file is displayed for reviewers to determine the status of potential duplicate record pairs. Health Summaries can be used as additional reports, viewed through the VA FileMan browser or printed to any device, to help primary reviewers further verify the status of potential duplicate record pairs.

4.1.1 Begin the Verification Process

Once reviewers have identified potential duplicate record pairs, the next step is to verify that the records are duplicates. To begin this process, select the option Verify Potential Duplicates from the Operations menu, shown in the next figure.

NOTE: If the merge parameters for your site are set up for more than one primary file, this option will prompt you to select the file you want to verify

potential duplicates from (i.e., "Which FILE are the potential duplicates in (e.g., PATIENT)? PATIENT//"), as shown in the next figure. If your site is only set up for one primary file, this prompt will not be displayed.

Figure 22 -Begin the duplicate record verification process

```
DUPLICATE RESOLUTION OPERATIONS MENU



   APP    APPROVE VERIFIED DUPLICATES FOR MERGING
   VPD    VERIFY POTENTIAL DUPLICATES
   ADR    ANCILLARY DATA REVIEW



SELECT OPERATIONS OPTION: VPD  <RET>  VERIFY POTENTIAL DUPLICATES
WHICH FILE ARE THE POTENTIAL DUPLICATES IN (E.G., PATIENT)? PATIENT//  <RET>
```

You can either know who the patient is that you're interested in finding duplicates for, or if you need to look at a list of patients, you can do one of the following two things:

1) To see a list of potential duplicate record pairs displayed by name and duplicate status, enter a question mark (?) at the "Select a POTENTIAL DUPLICATE ENTRY:" prompt. Answering Yes will display the entire list of potential duplicate record pairs resident in the DUPLICATE RECORD file (#15) , shown in the next figure:

Figure 23 -Select a potential duplicate record pair from a list displaying the name and duplicate record status for each patient

```
AT THE FOLLOWING PROMPT SELECT A POTENTIAL DUPLICATE ENTRY.  IF A SELECTION
IS NOT MADE, YOU WILL BE GIVEN A CHANCE TO SELECT FROM A LIST IF YOU
WANT TO.  OTHERWISE, YOU WILL BE RETURNED TO THE MENU SYSTEM.


SELECT A POTENTIAL DUPLICATE ENTRY:  ?
 ANSWER WITH DUPLICATE RECORD RECORD1
 DO YOU WANT THE ENTIRE DUPLICATE RECORD LIST? Y  <RET>  (YES)
CHOOSE FROM:
  MERGEPATIENT,FIVE D.  MERGEPATIENT,FIVE R    POTENTIAL DUPLICATE, UNVERIFIED
  MERGEPATIENT,SIX U.  MERGEPATIENT,SIX JR.     POTENTIAL DUPLICATE, UNVERIFIED
  MERGEPATIENT,SEVEN I.  MERGEPATIENT,SEVEN I.     POTENTIAL DUPLICATE,
UNVERIFIED
  MERGEPATIENT,EITHT J.  MERGEPATIENT,SEVEN S.     POTENTIAL DUPLICATE,
UNVERIFIED
  MERGEPATIENT,NINE I.  MERGEPATIENT,NINE A.     POTENTIAL DUPLICATE, UNVERIFIED
  MERGEPATIENT,10 J.M  MERGEPATIENT,10 JOHN MARK    POTENTIAL DUPLICATE,
UNVERIFIED
  MERGEPATIENT,11 D. MERGEPATIENT,11 JR.     POTENTIAL DUPLICATE, UNVERIFIED
  MERGEPATIENT,11 D. MERGEPATIENT,11     POTENTIAL DUPLICATE, UNVERIFIED



SELECT A POTENTIAL DUPLICATE ENTRY: MERGEPATIENT,10 J.M


     SEARCHING FOR A PATIENT    MERGEPATIENT,10 J.M         06-29-46
000060969  YES    SC    VETERAN
        ...OK? YES//   <RET>  (YES)   MERGEPATIENT,10 JOHN MARK   POTENTIAL
DUPLICATE, UNVERIFIED
```

Press the Enter key to generate a list of the zero nodes for each potential duplicate record.

Figure 4-

2) Otherwise, by pressing the Enter key at the prompt "Do you want to select from a list of potential duplicates? YES//" you can display a list of top-level data (i.e., the zero node for each potential duplicate record pair), shown in the next figure:

Figure 24 - Select a potential duplicate record pair from a list of top-level patient data

```
SELECT A POTENTIAL DUPLICATE ENTRY:  <RET>
DO YOU WANT TO SELECT FROM A LIST OF POTENTIAL DUPLICATES? YES// <RET>


    1.  MERGEPATIENT,10 J.M^M^2450629^^2^^^^000060969^^SAN ANTOINIO^48^^^^^
        MERGEPATIENT,10 JOHN MARK^M^2460629^^2^3^LABORER^^000060996^^^^^^^^


    2.  MERGEPATIENT,12^M^2450629^^1^3^LABORER^25^000060969^**PAY FIDUCIARY**OUT
        OF CATCHMENT**^EDMONDS^53^^^^^
        ZZ MERGEPATIENT,12^M^2450629^^1^^SURVEYOR^25^000062945P^**PAY FIDUCIARY*
        *^EDMONDS^53^^^^^^^^1

ENTER RETURN TO CONTINUE LISTING OR
SELECT THE DESIRED ENTRY BY NUMBER:  (1-4): 1
```

At the "Select a POTENTIAL DUPLICATE ENTRY:" prompt, shown in the previous figure, you can also enter the first letter of the last name followed by the last four digits of the patient's Social Security Number. This will bring up the patient's record, if it exists as a potential duplicate.

Once you've selected your patient record from the list, the Patient Name, Date of Birth, Social Security Number, and other primary file (e.g., PATIENT file [#2]) identifiers are displayed. This gives you an "at a glance" look at the kind of data these records contain.

NOTE: There are times when patients will have an alias name in their record. Patient Merge does check for aliases. The application checks the complete name and then parses it to compare pieces (i.e., last name only, first name only, middle initial or name only).

Primary reviewers can indicate whether a record pair is a verified duplicate, not a duplicate, or that they are unable to determine the duplicate status. The following set of screen captures display a duplicate record pair for a fictitious patient. This lists all of the data at the top level of the file (i.e., subfile data is not displayed).

NOTE: The size of the screen capture (the record size) in the following figure has been reduced for the sake of brevity.

Figure 25 - Verify duplicate records using the duplicate record compare screen

```
RECORD1 CONTAINS FEWER DATA ELEMENTS, USUALLY THIS WOULD INDICATE
                THAT THIS RECORD WOULD BE MERGED INTO THE OTHER.


DETERMINE IF THESE PATIENTS ARE OR ARE NOT DUPLICATES.


                    RECORD1 [#1212]          RECORD2 [#888]
NAME                MERGEPATIENT,10 J.M.     MERGEPATIENT,10 JOHN MARK

SSN                 000-06-0969              000-06-0996
BIRTH DATE          JUN 29,1945              JUN 29,1946
AGE                 51                       50
SEX                 MALE                     MALE


ENTER RETURN TO CONTINUE OR '^' TO EXIT:  <RET>


                            RECORD1 [#1212]          RECORD2 [#888]
                            MERGEPATIENT,10 J.M.     MERGEPATIENT,10 JOHN MARK
------------------------------------------------------------------------------

****  NAME                  "MERGEPATIENT,10 J.M."   "MERGEPATIENT,10 JOHN
MARK"

      SEX                   MALE                     MALE

****  DATE OF BIRTH         06/29/45                 06/29/46

      MARITAL STATUS        DIVORCED                 DIVORCED

      RACE                                           WHITE, NOT OF HISPANIC
                                                     ORIGIN

      OCCUPATION                                     "LABORER"
```

Notice that by entering an up-arrow (^) at this prompt, we've jumped past the remainder of the record to the selection of the duplicate record status.

```
ENTER RETURN TO CONTINUE OR '^' TO EXIT: ^
```

After you have examined the data, comparing the potential duplicate record pair(s), you are presented with the options shown in the next figure:

Figure 26 - Review actions for potential duplicate records

```
SELECT ONE OF THE FOLLOWING:

          V         VERIFIED DUPLICATE
          N         VERIFIED, NOT A DUPLICATE
          U         UNABLE TO DETERMINE
          H         HEALTH SUMMARY
          R         REVIEW DATA AGAIN
          S         SELECT/REVIEW OVERWRITES

SELECT ACTION: HEALTH SUMMARY//
```

The following is a list of the options displayed in the previous figure, with a brief description. A lengthier explanation is provided on the following pages for the options Health Summary, Select/Review Overwrites, and Verified Duplicate.

1. By selecting the option Verified Duplicate, you (the primary reviewer) have determined that the record pairs are duplicates. If the records contain ancillary service data, alerts, and/or MailMan message notifications are sent to designated ancillary reviewers for a secondary review.

   NOTE: If no ancillary reviewers are named by your site, full responsibility lies with the primary reviewer for duplicate resolution. When the primary reviewer determines that the pair is a duplicate, then the record is verified and moves to a pending approval status.

2. By selecting the option Verified, Not A Duplicate, you've determined that the record pairs are not duplicates and processing ends here. A remote procedure will run on the MPI system to record the patient pair in the MPI DO NOT LINK FILE (#985.28), so that these patients will not be identified as potential duplicates in the future.
3. By selecting the option Unable To Determine, the record pair will continue to be displayed in the Verify Potential Duplicate List. In order for these entries to be processed again you must use the option Edit the Status Field of a Duplicate Record to change their status back to potential duplicates.

NOTE: See the section "Utilities" of this manual for more information on this option.

4. By selecting the Health Summary option, you can view additional patient data via the health summaries.
5. By selecting the option Review Data Again, the system redisplays the data for the record pair you've just viewed.
6. By selecting the option Select/Review Overwrites, the system will display only those fields that contain dissimilar data for both records. You can choose to overwrite the selected data in Record 2 (the merged TO record) with the corresponding fields in Record 1 (the merged FROM record).

4.1.2 Health Summary to View Duplicate Record Pair(s)

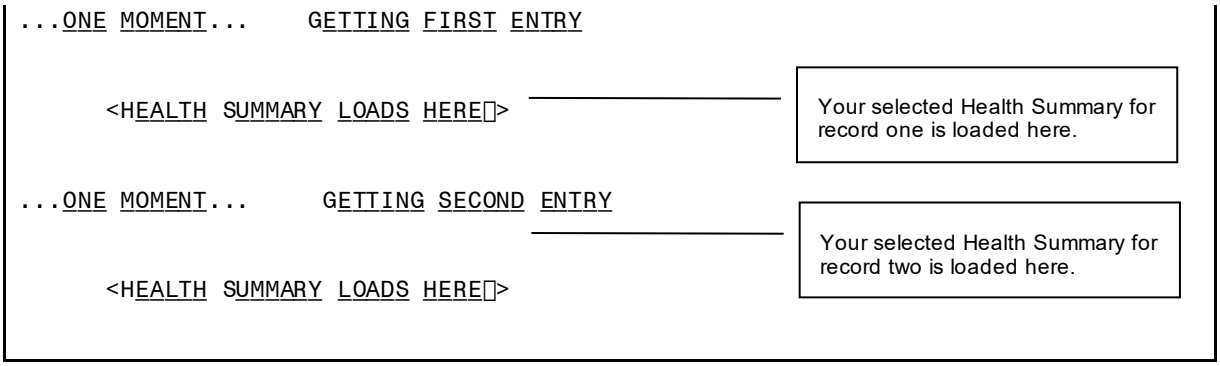
Additional patient data can be examined by viewing selected Health Summary reports prior to verifying the duplicate record status. To view a Heath Summary, select the Health Summary option shown in the next figure.

NOTE: The list of Health Summary reports referenced in the next figure are for the purposes of this example, only. Your site has the option to choose available Health Summaries for use in this application.

Figure 27 -Verifying duplicate records using selected Health Summaries

```
SELECT ONE OF THE FOLLOWING:

          V         VERIFIED DUPLICATE
          N         VERIFIED, NOT A DUPLICATE
          U         UNABLE TO DETERMINE
          H         HEALTH SUMMARY
          R         REVIEW DATA AGAIN
          S         SELECT/REVIEW OVERWRITES


SELECT ACTION: HEALTH SUMMARY//  <RET>
SELECT HEALTH SUMMARY TYPE NAME:  ?
 ANSWER WITH HEALTH SUMMARY TYPE NAME, OR TITLE, OR OWNER, OR
     LOCATION(S) USING THE SUMMARY
 DO YOU WANT THE ENTIRE 15-ENTRY HEALTH SUMMARY TYPE LIST? Y  <RET>  (YES)
CHOOSE FROM:
   BRIEF CLINICAL
   SAMPLE HEALTH SUMMARY
   INPATIENT
   INPATIENT (ALVAMC)
   MEDICINE SUMMARY
   MEDTEST
   NURSE
   OUTPATIENT
   OUTPATIENT (ALVAMC)
   POLLARD
   PROGRESS NOTE
   REMOTE USER
   TEGRETOL
   WHC (WOMEN'S HEALTH SUMMARY)
   XRAY

SELECT HEALTH SUMMARY TYPE NAME:  SAMPLE HEALTH SUMMARY

WOULD YOU LIKE TO USE THE FM BROWSER TO
VIEW THE RECORD PAIR? YES//   <RET>
```

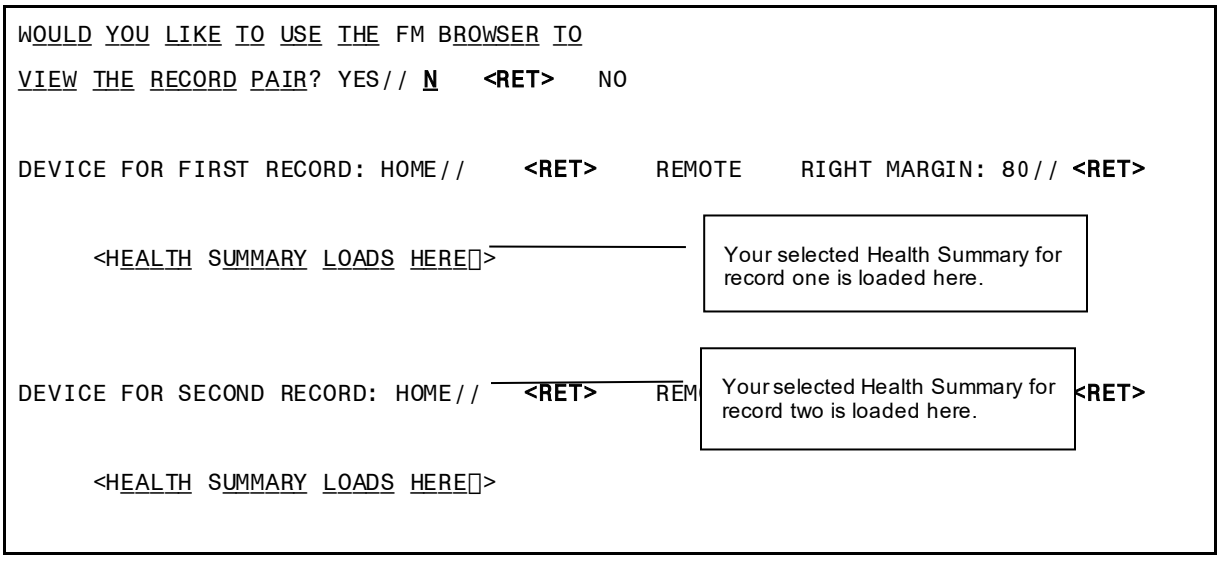
List of Health Summaries



You have the option of sending your selected Health Summary to the VA FileMan browser, or to any device found in your local DEVICE file (#3.5). The bottom of the previous figure shows you how to invoke the Browser to view your Health Summary reports. Respond Yes to the prompt "Would you like to use the FM Browser to view the record pair? YES//". (The next topic section shows an example of a Health Summary report for potential duplicate records, as they would appear viewed through the Browser.)

The next figure shows you how to send your selected Health Summary to a device. Do this by responding No to the prompt "Would you like to use the FM Browser to view the record pair? YES//". You will be prompted to send your selected Health Summary to a device type. For example, you can send it to a local printer, your terminal screen, or you can queue it to run at a specified date and time. Notice that you will be prompted to enter a device type for both patient records.

Figure 28 -Send Health Summaries to any device for viewing



NOTE: For information on how to create a Health Summary inclusive of all the patient data see "Build a Health Summary Backup" in the Merge Process section of this manual. Please note that this section is written to accommodate backup purposes. However, you can use this information to build a suitable Health Summary for review purposes, as well.

4.1.2.1 VA FileMan Browser Evoked to View Health Summary

You can view your selected Health Summary by sending it to the VA FileMan Browser, or to any device. The following is an example of a Health Summary report for potential duplicate records as they would appear viewed through the VA FileMan Browser. Notice that the merge FROM record is displayed first.

NOTE: The record size for the following Health Summary examples have been reduced for the sake of brevity.

Figure 29 -Send Health Summaries to any device for viewing

```
                    (1212) MERGEPATIENT,10 J.M.   000-06-0969  --  ENTER  <PF1>S
TO VIEW OTHER
                                                                  05/01/97 17:58
*********  CONFIDENTIAL General Clinical Information SUMMARY   pg. 1 **********
 MERGEPATIENT,10  J.M.           000-06-0969                     DOB: 06/29/45

----------------------------- DEM - Demographics -----------------------------

           Address: VAMC                              Phone:
                    NHCU
                    AMERICAN LAKE
                    ANY TOWN, ANY STATE  98493       County: PIERCE

     Marital Status: DIVORCED                           Age: 51
           Religion: UNKNOWN/NO PREFERENCE              Sex: MALE
  Period of Service: VIETNAM ERA
  Branch of Service: ARMY 04/10/65 TO 02/16/70
             Combat: N                                  POW: N
        Eligibility: SERVICE CONNECTED 50% to 100%   Status: VERIFIED
              S/C %: 50
                NOK: MERGENEXTOFKIN                Relation: NIECE

                     BOX 412                          Phone: 555-5555
                     ANY TOWN, ANY STATE  98649

---------------- CVP - Past Clinic Visits (max 10 occurrences) ----------------

03/31/88 10:30  L. MERGEPATIENT,10  Mineral Metab
01/07/88 09:00  L. MERGEPATIENT,10  Mineral Metab            CANCELLED BY CLINIC &
             Col>  1 |<PF1>H=Help  <PF1>E=Exit|  Line>  1 of 32   Screen>  1 of 2
```

You can switch back and forth between the Health Summary listings for the merge FROM record and the merge TO record while in the Browser by selecting the keys PF1<S>, shown below.

```
                                    BROWSE SWITCH MANAGER
DO YOU WISH TO SELECT FROM CURRENT LIST? ? YES//  <RET>

CHOOSE FROM:
   2               (1212)   MERGEPATIENT,10 JOHN MARK    000-06-0996

SELECT CURRENT LIST: 2
                                    BROWSE SWITCH MANAGER
```

We are now looking at the merge TO record:

Figure 30 - Example of Health Summary merge "TO" record viewed through VA FileMan Browser

```
            (888) MERGEPATIENT,10 JOHN MARK  000-06-0996  --  ENTER  <PF1>S  TO
VIEW OTHER
                                                                  05/01/97 17:58
*********  CONFIDENTIAL General Clinical Information SUMMARY   pg. 1 **********
MERGEPATIENT,10 JOHN MARK        000-06-0996                     DOB: 06/29/46

---------------------------- DEM - Demographics ----------------------------

           Address: P.O. BOX 412                     Phone: 555-5555
                    ANY TOWN, ANY STATE  98444

     Marital Status: DIVORCED                          Age: 50
           Religion: BAPTIST                           Sex: MALE
         Occupation: LABORER
  Period of Service: VIETNAM ERA
  Branch of Service: ARMY 04/10/66 TO 02/16/86
             Combat: N                                 POW: N
       Eligibility: SERVICE CONNECTED 50% to 100%   Status: VERIFIED
                    NSC, VA PENSION
              S/C %: 50
                NOK: RENNI VON LIPSHNICK           Relation: COUSIN
                     P.O BOX 648                     Phone: 555-5555
                     NORTH BEND, INDIANA  51515
                            COL>   1 |<PF1>H=HELP <PF1>E=EXIT| LINE>    1 OF 51
SCREEN>     1 OF 3
```

Figure 31 -Example of Health Summary merge "TO" record viewed through VA FileMan Browser (continued...)

```
              (888) MERGEPATIENT,10 JOHN MARK  000-06-0996 --  ENTER  <PF1>S  TO
VIEW OTHER
                                                                  05/01/97 17:58
*********  CONFIDENTIAL General Clinical Information SUMMARY   pg. 3 **********
MERGEPATIENT,10 JOHN MARK          000-06-0996                   DOB: 06/29/46

----------------- CH - Chem & Hematology (max 10 occurrences) -----------------

                                  (continued)

!!  Indicates COMMENTS AVAILABLE...Refer to Interim Lab Report.

------------------------ RXOP - Outpatient Pharmacy ------------------------

Patient Has Archived OP Prescriptions
No data available

-------------------------- RXUD - Unit Dose Pharmacy --------------------------

No data available
----------------------------- RXIV - IV Pharmacy -----------------------------

No data available

*** END *  CONFIDENTIAL General Clinical Information SUMMARY   pg. 3 *********
           COL>   1 |<PF1>H=HELP <PF1>E=EXIT| LINE>    1 OF 51     SCREEN>     3
OF 3
```

You can split the screen by entering PF2 and S. Realize, however, that the screen becomes very narrow when split. Splitting the screen allows you to look at two different sets of data on the same screen at the same time. Enter PF1 and E or PF1 and Q to exit the split screen.

NOTE: For more information on how to use the VA FileMan Browser see the *VA FileMan User Manual*.

4.1.3 Designate Primary Fields for Overwriting

Should the primary reviewer determine that a particular record pair is a duplicate, they have the option to select fields to be overwritten, regardless of the merge direction for

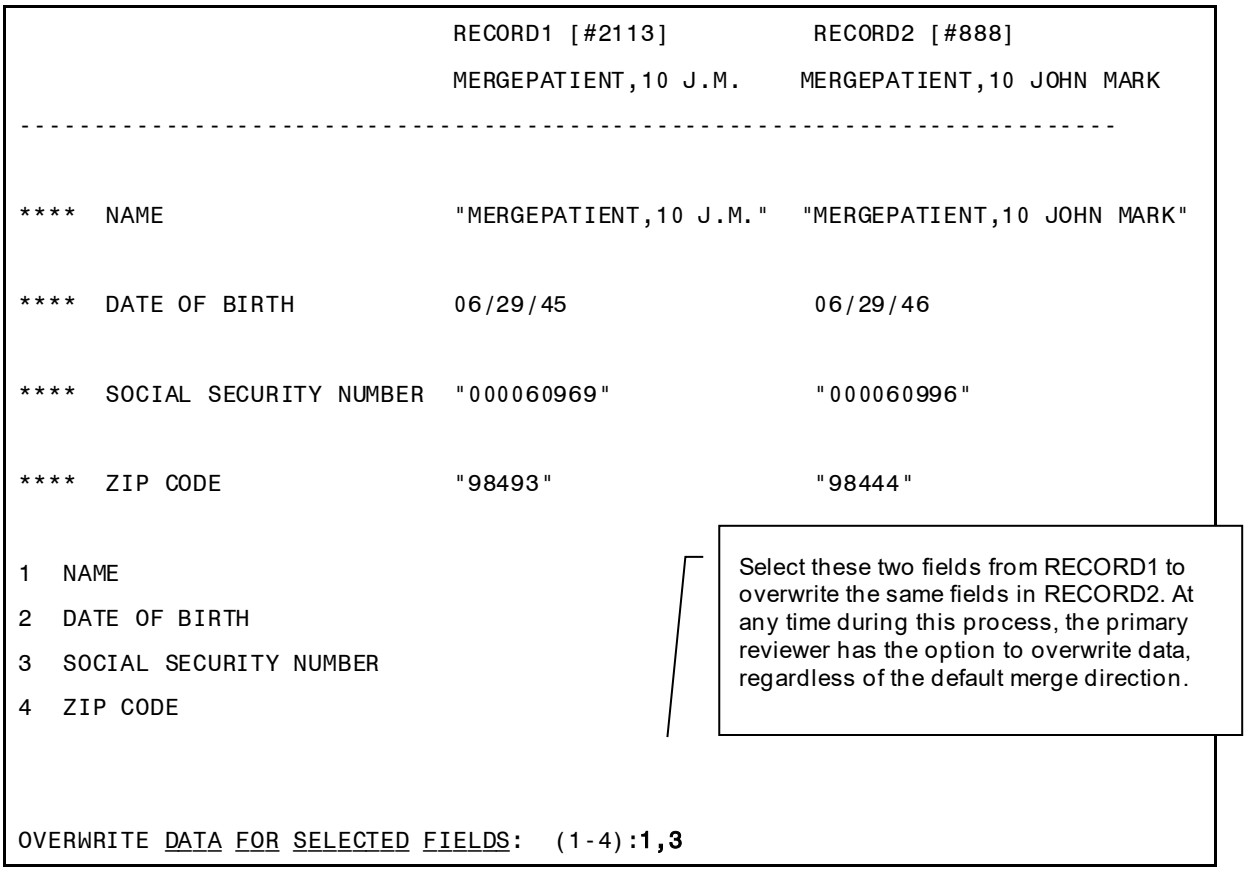
that record pair. Anytime during the verification process, primary and ancillary reviewers have the option to overwrite data, regardless of merge direction.

During the actual merge, if data exists in the merge FROM field (in Record 1) but not in the corresponding merge TO field (in Record 2), that data is merged to the merge TO field. However, if data exists in both the merge FROM and merge TO fields, the merge TO field is not overwritten unless you specify otherwise using this overwrite feature.

When you choose the option Select/Review Overwrites, the system displays only those fields that contain dissimilar data for both records. Notice in the next figure that the fields NAME, DATE OF BIRTH, SOCIAL SECURITY NUMBER, and ZIP CODE are preceded by four asterisks (****). The asterisks indicate that these particular fields have data in both Record 1 and Record 2. However, in both records the data is different. Notice the prompt "OVERWRITE data for selected fields: (1-4):" at the bottom of the screen in the next figure. You are presented with the choice of selecting 1 through 4, representing each field respectively. By selecting numbers 1 and 3 you are choosing to overwrite the fields NAME and SOCIAL SECURITY NUMBER in Record 2 with the corresponding fields in Record 1.

NOTE: Keep in mind that if data exists in the merge FROM field (in Record 1) but not in the corresponding merge TO field (in Record 2), that data is merged to the merge TO field. If you don't want to merge data from a particular merge FROM field (in Record 1) to the corresponding merge TO field (in Record 2), you will have to delete the merge FROM data independently from this software.

Figure 32 -Designate fields in potential duplicate records for overwriting



Once a field is designated to be overwritten by another, that action will not take place until the actual merge process.

If you choose the option Review Data Again, as shown in the next figure, the system redisplays the data for the record pair you've just selected to overwrite.

Figure 33 -Review duplicate records again from the beginning

```
SELECT ONE OF THE FOLLOWING:

          V         VERIFIED DUPLICATE
          N         VERIFIED, NOT A DUPLICATE
          U         UNABLE TO DETERMINE
          H         HEALTH SUMMARY
          R         REVIEW DATA AGAIN
          S         SELECT/REVIEW OVERWRITES

SELECT ACTION: HEALTH SUMMARY// REVIEW DATA AGAIN
```

Notice in the next figure that the asterisks (****) have been replaced with bars (||||). The bars indicate that the fields in Record 1 will overwrite the fields in Record 2.

Figure 34 - Bars on left indicate that the fields in record 1 will overwrite the fields in record 2

```
                              RECORD1 [#1212]          RECORD2 [#888]
                              MERGEPATIENT,10 J.M.     MERGEPATIENT,10 JOHN MARK
------------------------------------------------------------------------------

||||  NAME                    "MERGEPATIENT,10 J.M."   "MERGEPATIENT,10 JOHN
MARK"

****  DATE OF BIRTH           06/29/45                 06/29/46

||||  SOCIAL SECURITY NUMBER  "000060969"              "000060996"

****  ZIP CODE                "98493"                  "98444"
```

4.1.4 Determine Duplicate Record Status

Once the primary reviewer is fully satisfied that a record pair is a duplicate, the next step is to select the option Verified Duplicate, shown in the next figure. If ancillary data exists for that record pair, alerts, and/or MailMan message notifications are sent to designated ancillary reviewers for a secondary examination. This secondary data review is the last step involved in the verification process. It is explained in more detail in the Ancillary Review section that follows.

Figure 35 - Select a record pair as a Verified Duplicate

```
SELECT ONE OF THE FOLLOWING:

          V         VERIFIED DUPLICATE
          N         VERIFIED, NOT A DUPLICATE
          U         UNABLE TO DETERMINE
          H         HEALTH SUMMARY
          R         REVIEW DATA AGAIN
          S         SELECT/REVIEW OVERWRITES

SELECT ACTION: HEALTH SUMMARY // V  <RET>  VERIFIED DUPLICATE

*** WARNING!!!  YOU HAVE VERIFIED THESE TWO RECORDS ARE THE SAME
PATIENT.  ONCE THESE RECORDS ARE MERGED, THERE IS NO AUTOMATED WAY TO
"UN-DO" THE MERGE.  IF YOU ARE NOT CERTAIN THESE ARE THE SAME PATIENT,
EDIT THE STATUS BACK TO 'POTENTIAL DUPLICATE, UNVERIFIED' AND REPEAT THE
VERIFICATION PROCESS.  FOR ADDITIONAL ASSISTANCE, PLEASE LOG A SNOW
TICKET. ***
```

As of Patch XT*7.3*126, a warning message was added to the Verify Potential Duplicates [XDR VERIFY ALL] option. The previous figure shows that when using the VERIFIED DUPLICATE action in the final verification process, the following message is displayed:

```
"*** WARNING!!!  YOU HAVE VERIFIED THESE TWO RECORDS ARE THE SAME PATIENT.  ONCE
THESE RECORDS ARE MERGED, THERE IS NO AUTOMATED WAY TO "UN-DO" THE MERGE.  IF YOU
ARE NOT CERTAIN THESE ARE THE SAME PATIENT, EDIT THE STATUS BACK TO 'POTENTIAL
DUPLICATE, UNVERIFIED' AND REPEAT THE VERIFICATION PROCESS.  FOR ADDITIONAL
ASSISTANCE, PLEASE LOG A SNOW TICKET. ***"
```

If the primary reviewer determines that a record pair is not a duplicate, the next step is to select the option Verified, Not A Duplicate, shown in the next figure. Once this action has been taken, ancillary reviewers are not notified regardless if the record pair contain ancillary data. Processing for the record pair ends and these records will not be merged. A remote procedure will run on the MPI system to record the patient pair in the MPI DO NOT LINK file (#985.28), so that these patients will not be identified as potential duplicates in the future.

Figure 36 -Select a record pair as Verified, Not A Duplicate

```
SELECT ONE OF THE FOLLOWING:

          V         VERIFIED DUPLICATE
          N         VERIFIED, NOT A DUPLICATE
          U         UNABLE TO DETERMINE
          H         HEALTH SUMMARY
          R         REVIEW DATA AGAIN
          S         SELECT/REVIEW OVERWRITES

SELECT ACTION: HEALTH SUMMARY // VERIFIED, NOT A DUPLICATE
```

If the primary reviewer is unable to determine the duplicate status of a record pair, the next step is to select the option Unable To Determine, shown in the next figure. Once this action has been taken, alerts, and/or MailMan message notifications are not sent to any ancillary reviewers. The records remain in a potential duplicate status in the DUPLICATE RECORD file (#15) and the pair will continue to be displayed in the Verify Potential Duplicate List.

Figure 37 -Select a record pair as Unable To Determine

```
SELECT ONE OF THE FOLLOWING:

          V         VERIFIED DUPLICATE
          N         VERIFIED, NOT A DUPLICATE
          U         UNABLE TO DETERMINE
          H         HEALTH SUMMARY
          R         REVIEW DATA AGAIN
          S         SELECT/REVIEW OVERWRITES

SELECT ACTION: HEALTH SUMMARY // U  <RET>  UNABLE TO DETERMINE
```

4.1.5 Select Merge Direction

Once the primary reviewer has verified a record pair as duplicates, the next step is to determine the correct merge direction between records. The most likely direction of the overall merge is offered as a default to the primary reviewer. The Patient Merge

application automatically determines the default direction the merge should take based on which record contains more data. The overall direction can, however, be changed.

IMPORTANT: Although a default direction for the merge is provided, it may not always be the best one. You should not assume that the record containing the most data is the record to be merged into. It's important, therefore, that the data in both records are thoroughly checked before selecting a merge direction.

In this next example we will verify that the record pair for the fictitious patient John Doe is a duplicate:

Figure 38 -Primary reviewer chooses the merge direction for duplicate records

```
SELECT ONE OF THE FOLLOWING:

          V         VERIFIED DUPLICATE
          N         VERIFIED, NOT A DUPLICATE
          U         UNABLE TO DETERMINE
          H         HEALTH SUMMARY
          R         REVIEW DATA AGAIN
          S         SELECT/REVIEW OVERWRITES

SELECT ACTION: HEALTH SUMMARY // V  <RET>  VERIFIED DUPLICATE



*** WARNING!!!  YOU HAVE VERIFIED THESE TWO RECORDS ARE THE SAME
PATIENT.  ONCE THESE RECORDS ARE MERGED, THERE IS NO AUTOMATED WAY TO
"UN-DO" THE MERGE.  IF YOU ARE NOT CERTAIN THESE ARE THE SAME PATIENT,
EDIT THE STATUS BACK TO 'POTENTIAL DUPLICATE, UNVERIFIED' AND REPEAT THE
VERIFICATION PROCESS.  FOR ADDITIONAL ASSISTANCE, PLEASE LOG A SNOW
TICKET. ***


                    RECORD1 [#1212]          RECORD2 [#888]
                    MERGEPATIENT,10 J.M.     MERGEPATIENT,10 JOHN MARK

     SELECT ONE OF THE FOLLOWING:

          1         RECORD1 INTO RECORD2
          2         RECORD2 INTO RECORD1

WHICH RECORD (1 OR 2) SHOULD BE MERGED INTO THE OTHER RECORD: RECORD1 INTO
RECORD2//
```

You can select the direction to merge the duplicate record pair.

Notice in the previous figure that the merge direction is automatically selected for you as the default value. The record being merged into (Record 2) contains more data than the record merging into it (Record 1). The Patient Merge application automatically determines the default direction the merge should take depending on which records contain more data. Only the primary reviewer can reverse this direction. As you can see from this example, you have the choice of which direction to merge the records, regardless of the default merge direction.

NOTE: Remember, this is an example of the primary reviewer selecting the merge direction for a duplicate record pair. The actual merging of the records has NOT taken place yet. The next step is for the ancillary reviewers to concur with the primary reviewer, thus indicating that this record pair is a Verified Duplicate. The actual merging of the duplicate records will not take place until the ancillary reviewers have had a chance to make their determinations.

4.2 Ancillary Review

Once the primary reviewer has verified record pairs as duplicates and selected the merge direction for both, there is the potential for a secondary (or ancillary) review of patient data to occur. An ancillary review is designed to allow the examination of data in files other than the primary file. It provides a mechanism for other individuals to assist in the determination of their duplicate status. Several conditions must exist for the ancillary review to occur:

1. Designated ancillary reviewers must be entered during the package setup either as members of a specified mail group, or as individuals specified to receive alerts.

   NOTE: For more information see the topic "Edit Ancillary Service Subfile" in the "Site Configuration" section of this manual.

2. The primary reviewer must have identified records as verified duplicate pairs. No ancillary review is conducted for those records determined by the primary reviewer to be verified non-duplicates or unable to determine.

3. Each verified duplicate record pair must have data in one or more VistA ancillary file. (For example, both records must have data in files such as LABORATORY DATA, PHARMACY PATIENT, RADIOLOGY PATIENT, to name a few.)

If data is available in both records being compared, alerts, and/or mail messages are automatically sent to the ancillary reviewers associated with these files. These notifications serve to inform ancillary reviewers to begin the secondary review process. However, if data exists in only one verified duplicate record for a particular ancillary file, sufficient information is not available to make a comparison, and the secondary review is not necessary for the records to be merged.

Reviewers designated to receive alerts are automatically taken into the review process. Reviewers designated to receive MailMan messages process potential duplicates through the option Ancillary Data Review. Either way, the same ancillary verification process takes place.

Alert and MailMan message notifications of duplicate record activity are explained further in the next sections.

Ancillary reviewers are able to view the same patient records as primary reviewers. However, this secondary review process examines ancillary service-specific data for each duplicate record pair. The default ancillary services released with the Patient Merge application are Laboratory, Radiology, and Pharmacy.

4.2.1 Alerts Sent to Ancillary Reviewers

The next example shows alerts that have been generated by the primary review process. Once the primary reviewer determines that a record pair is a verified duplicate, if the records contain ancillary data, alerts are automatically sent to the designated ancillary reviewers. This process depends upon ancillary reviewers having been assigned by the site configuration process to receive alerts.

Figure 39 -Example of an alert

```
  LABORATORY POSSIBLE DUPLICATES: MERGEPATIENT,10 J.M. AND MERGEPATIENT,10 JOHN
MARK

  RADIOLOGY POSSIBLE DUPLICATES: MERGEPATIENT,10 J.M. AND MERGEPATIENT,10 JOHN
MARK

  PHARMACY POSSIBLE DUPLICATES: MERGEPATIENT,10 J.M. AND MERGEPATIENT,10 JOHN
MARK

             ENTER  "VA   VIEW ALERTS     TO REVIEW ALERTS
```

If any ancillary reviewer does not concur with the primary reviewer, by selecting the option Verified, Not A Duplicate, all of the alerts for that particular record pair disappear for all ancillary reviewers. The records will not be merged.

Recipients can be designated to receive alert notifications of potential duplicate record pairs, as well as belong to mail groups designated to receive MailMan message notifications for the same duplicate records. If recipient's, who are designated to receive both forms of notification, process duplicate records through alerts first, the same duplicate record pairs will not be accessible through the option Ancillary Data Review for that ancillary service. The opposite is also true. Should the recipient's process duplicate records using the option Ancillary Data Review first, the alert goes away.

4.2.1.1 Causes for Appearance and Disappearance of Alerts

It is important to distinguish between what causes both the appearance and disappearance of alerts. Two scenarios are described below:

1) If, at any point, an ancillary service determines that two records are not duplicates, all pending alerts related to duplicate identification for that patient

disappear for all ancillary reviewers. Processing for that potential duplicate record pair ends there. The records will not be merged.

2) If, for example, one Pharmacy reviewer verifies that a record pair is a duplicate, then that alert disappears for any other designated recipient in Pharmacy. However, the pending alerts related to that same patient remain for the other ancillary services, because they still have to be processed.

4.2.2 MailMan Messages sent to Ancillary Reviewers

The next example shows a MailMan message that has been generated by the primary review process. Once the primary reviewer determines that a record pair is a verified duplicate, if the records contain ancillary data, MailMan messages are automatically sent to designated ancillary reviewers. This process depends upon assigning ancillary reviewers as members of Patient Merge-specific mail groups in the site configuration process. The following is an example of a MailMan message sent to Pharmacy:

Figure 40 -Example of a MailMan message sent to ancillary reviewers

```
*=NEW/+=PRIORITY    ###### SUBJECT ######         ### FROM ###
*  1. PHARMACY POSSIBLE DUPLICATES: DOE           MERGEPATIENT,10 JOHN
ENTER '?HELP' OR '???' TO SEE ALL THE OTHER EXCITING THINGS YOU CAN DO !

IN BASKET MESSAGE: 1//  <RET>

SUBJ: PHARMACY POSSIBLE DUPLICATES: MERGEPATIENT,10 J.M. AND MERGEPATIENT,10 JOHN
MARK
  [#2138376] 27 SEP 96 09:42  4 LINES
FROM: POSTMASTER (SENDER: MERGESENDER,ONE)  IN 'IN' BASKET.   PAGE 1  **NEW**
---------------------------------------------------------------------------

FROM RECORD              000060969  MERGEPATIENT,10 J.M.  [#1212]
INTO RECORD              000060996  MERGEPATIENT,10 JOHN MARK  [#888]

ANCILLARY SERVICE NAME:  PHARMACY



SELECT MESSAGE ACTION: DELETE (FROM IN BASKET)//
```

Ancillary reviewers use information contained in MailMan messages to process record pairs using the Ancillary Data Review option. Options are assigned in the site configuration process. It first prompts you to enter the name of the ancillary service you

represent (e.g., Pharmacy). You will next be prompted to enter the potential duplicate record pair you want to process. Entering a question mark (?) will display a list of potential duplicates.

Figure 41 - Using the option Ancillary Data Review to review ancillary data

```
ADR     ANCILLARY DATA REVIEW



SELECT OPERATIONS OPTION: ADR  <RET>  ANCILLARY DATA REVIEW
SELECT ANCILLARY SERVICE: ?
 ANSWER WITH ANCILLARY SERVICE
CHOOSE FROM:
   LABORATORY
   PHARMACY
   RADIOLOGY

SELECT ANCILLARY SERVICE: PHARMACY
SELECT A POTENTIAL DUPLICATE ENTRY:
```

Designated ancillary reviewers will only see the ancillary services listed for which they are members of the associated mail groups.

Notice in the previous figure that entering a question mark (?) at the prompt "Select ANCILLARY SERVICE:" displayed a list of ancillary services. People will only see the ancillary services listed here for which they are members of the associated mail groups.

NOTE: See the *Patient Merge Technical Manual* for more information.

On the record comparison screen, Record 1 will always be displayed as the merged FROM record to ancillary reviewers, and Record 2 will always be displayed as the merged TO record. The merge direction is standardized for the ancillary reviewer based on the direction set by the primary reviewer. This will keep the review process uniform.

Recipients can be designated to receive alert notifications of potential duplicate record pairs, as well as belong to mail groups designated to receive MailMan message notifications for the same duplicate entries. Should the recipient's process alerts first, the same duplicate record pairs will not be accessible through the option Ancillary Data Review. The opposite is also true. Should the recipient's process duplicate entries using the option Ancillary Data Review first, the alert goes away.

4.2.3 Health Summary for Ancillary Service Review

Ancillary reviewers can examine additional patient data by viewing selected Health Summary reports prior to verifying the duplicate record pair status. See the previous section "Health Summary to View Duplicate Record Pair(s)" of this manual.

4.2.3.1 Designate Ancillary Fields for Overwriting

During the actual merge, if data exists in the merge FROM field (in Record 1) but not in the corresponding merge TO field (in Record 2), that data is merged to the merge TO field. However, if data exists in both the merge FROM and merge TO fields, the merge TO field is not overwritten unless you specify otherwise using this overwrite feature.

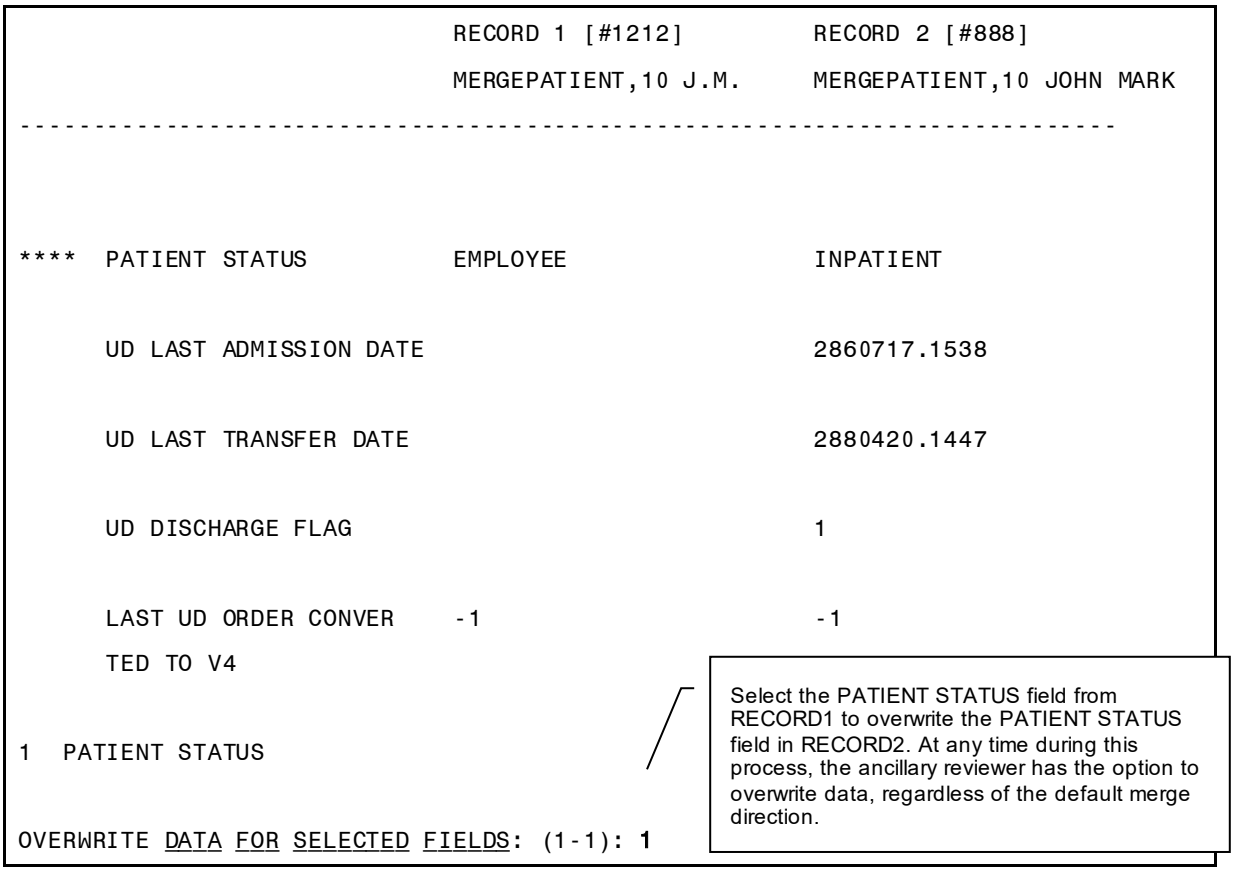
Ancillary reviewers examine their service-specific data (e.g., Pharmacy reviewers examine pharmacy data). Once reviewers determine that particular record pairs are duplicates, they have the option to select fields to be overwritten.

Notice in the Pharmacy-specific record display, shown in the next figure, that the PATIENT STATUS field is again preceded by four asterisks (****). As was explained for the primary review, the asterisks indicate that these particular fields have data in both Record 1 and Record 2. However, the data is different in both records. Notice the prompt "OVERWRITE data for selected fields: (1-1):" at the bottom of the screen. By selecting the number 1, you are choosing to overwrite the PATIENT STATUS field in Record 2 with the PATIENT STATUS field in Record 1.

Anytime during this verification process, ancillary and primary reviewers have the option to overwrite data, regardless of merge direction.

NOTE: Keep in mind that if data exists in the merge FROM field (in Record 1) but not in the corresponding merge TO field (in Record 2), that data is merged to the merge TO field. If you don't want to merge data from a particular merge FROM field (in Record 1) to the corresponding merge TO field (in Record 2), you will have to delete the merge FROM data independently from this software.

Figure 42 -Designate fields containing ancillary data in potential duplicate records for overwriting



As was explained in the Primary Review section, if you choose the option Review Data Again to view the fields that you've selected to overwrite, you'll see that the asterisks have been replaced by bars. The bars indicate that the fields in Record 1 will overwrite the fields in Record 2.

5 Backup before Merge

Making a backup is an important step in the process of identifying and merging patient records. It serves as a means of providing a "snapshot" of patient data just prior to duplicate record pairs being merged. It is intended to make accessible what data was available when previous clinical decisions were made. This application provides two methods of backup, the:

1. printing of Health Summaries, and
2. saving information to a global.

5.1 Build a Health Summary

Prior to merging your local patient records, it is recommended that your site specify a Health Summary (which should be as complete as possible) to produce a paper record for each entry in a duplicate record pair. Specification of the Health Summary must be accompanied by the designation of a printer for automatic printing to occur.

A Health Summary is a customized clinical summary, which can be created by selecting any combination of modular patient information components. A Health Summary component is a brief patient data extract from various VistA software packages. You can build a Health Summary template, or Type, containing user-defined components and unique attributes to produce a comprehensive backup of all patient data available for multiple patients.

Parameters are available in the Health Summary package for determining occurrence and time limits for data extracts. Use them to display the most recent data for a specified time period within each selected component. Pressing the Return key gives you the default, if there is one, for each parameter within a selected component. You will want to consider selecting an appropriate occurrence value and time period to develop a paper backup inclusive of all the patient data.

Additionally, a Health Summary parameter is available that lets you print patient data for a specific date range of a pre-defined summary type for multiple patients. After patients are selected, you can pick a date range. The data for component summaries is based on the date range you've selected. This date range overrides time limits for components.

These date and time parameters give you the opportunity to develop a report inclusive of all the patient data.

NOTE: See "Appendix C" of this manual for Health Summary component descriptions.

See the *Health Summary* documentation or the Health Summary web site located on the VistA Software Development home page under the Product Lines category for information on how to create a Health Summary.

5.1.1 "Before Image" Global

Prior to merging your local patient records, the saving of information to a global occurs within the merge process. This global "before-image" is designed for archiving. It includes pointer values.

Saving this information to the global is intended as a method to reflect the before merge data and structure of the FROM and TO record. It is a separate global to facilitate movement to another media (e.g., tape). It is not intended as a source for restoration, as the changing structure does not lend itself to making this process easy.

The name, file number is: MERGE IMAGES file (#15.4). The global location is ^XDRM(.

NOTE: See the *Patient Merge Technical Manual* for more information on the structure of this global.

6 Approve Verified Duplicates for Merging

Before verified record pairs can be included in the next merge process, they must be marked as approved. Use the option Approve Verified Duplicates for Merging located in the Operations menu to give final approval.

The reviewer responsible for duplicate resolution performs this operation. The next example shows you how to access the option Approve Verified Duplicates for Merging:

```
DUPLICATE RESOLUTION OPERATIONS MENU



   APP    APPROVE VERIFIED DUPLICATES FOR MERGING
   VPD    VERIFY POTENTIAL DUPLICATES
   ADR    ANCILLARY DATA REVIEW

SELECT OPERATIONS OPTION: APP  <RET>  APPROVE VERIFIED DUPLICATES FOR MERGING
```

Depending upon the number of entries verified, the system could take several minutes to display the following list.

Figure 43 -Verified duplicate records awaiting approval for merging

```
4  ENTRIES ARE AWAITING APPROVAL FOR MERGING  RETURN TO CONTINUE... <RET>


  1     MERGEPATIENT,13 U.          000-02-7082       [121212]
        MERGEPATIENT,13 JR.         000-02-7082       [6543]

  2     MERGEPATIENT,14 A.          000-02-8495       [123456]
        MERGEPATIENT,14TH A.        000-02-4895       [787878]

  3     MERGEPATIENTS,15 D.          000-04-5972       [999699]
        MERGEPATIENT,15 D.           000-04-5972       [098765]

  4     MERGEPATIENT,16 W.          000-04-6995       [123234]
        MERGEPATIENT,16 I.          000-04-6995       [232323]

SELECT ENTRIES TO APPROVE THEM FOR MERGING:  (1-4): 1
```

Verified duplicate record pairs must have elapsed the site specified waiting period (i.e., the time between when they were verified as duplicates, and the time they are ready to be merged) to appear on the list shown in the previous figure.

As each screen lists the records for approval, shown in the previous figure, enter the number corresponding to the record(s) that you are approving for merging. You can enter your selection in anyone of the following formats:

1. You can enter a range of numbers, such as 1–4,
2. You can enter individual number in the format 1,2,3, or
3. You can randomize the selection process such as 1,3, 4.

NOTE: Once you've approved a duplicate record pair to be merged, that pair will no longer appear on the list of entries waiting for approval to be merged.

NOTE: The approval process checks the record pair as it's being selected for approval to be merged to ensure that both records still exist. The record pair can't be approved if one of the pair no longer exists, or has been merged into another record.

6.1 Data Validation Before and During a Merge

Data validation can be done before running a merge by selecting the Identify Potential Merge Problems option under the Duplicate Resolution Utilities submenu. In addition, a different data validation occurs during the Data Checking phase of every merge process (i.e. when someone has used the "Schedule Process to Merge Verified Duplicates" option to start a merge). Both use existing FileMan input transforms to validate data, but they check the data in different ways as described below.

The Identify Potential Merge Problems option only checks one individual record. The user is asked to select a specific record and it is checked against the FileMan Data Dictionary input transforms. If any data on the record does not pass the input transform "test", the field is listed in the output generated by the Identify Potential Merge Problems option. Although the list displayed by this option warrants attention to determine if data correction is needed, the items may or may not prevent a merge from running. The selected record can be any record in the Patient file #2, and does not necessarily have to be in any entry of the Duplicate Record file #15.

The other data checking is done during the Data Checking phase of the merge process. The input transform is used again, but this time the "merge-from" patient data is "previewed" to see if it is valid for the merge-to patient. The Data Checking phase of a merge process is completed before any data is merged. If any fields do not pass this test, the pair will be excluded from the merge and a MailMan bulletin will be sent to members of the site-specified mail group (which can be found on the Duplicate Manager Utilities Menu, Edit Site Parameters option, labeled as "MERGE MAIL GROUP"). If more than one pair was included in the merge, it is possible that the merge will continue with merging the remaining pairs as long as there were no data issues with them. If no pairs are left in the merge due to data issues, a second MailMan bulletin is sent out immediately, saying that the merge completed. When the second bulletin arrives within seconds of the first, it means that although the process is no longer running, nothing was merged.

Chapters on the Merge Process and Utilities contain more details on data validation.

Example scenarios

1) Identify Potential Merge Problems option: If the "merge-from" patient has STATE and COUNTY entered, but the county is not located within the state, the COUNTY will be listed as a problem.
2) Identify Potential Merge Problems option: If the "merge-from" patient has a correct COUNTY that is located within the STATE, no problem will be listed.

Merge: If the "merge-from" record has a correct COUNTY and STATE combination, but the STATE of the "merge-to" patient is blank, the merge will fail because FileMan won't accept a COUNTY entry without a STATE in the record.
Merge: If the "merge-from" entry has a correct COUNTY and STATE combination, and the "merge-to" entry doesn't have either, the merge will flag the COUNTY as invalid and fail.

3) Identify Potential Merge Problems option: If the "merge-from" record has MILITARY DISABILITY RETIREMENT field.3602 and DISCHARGE DUE TO DISABILITY field .3603 set to 'NO', and the ELIGIBILITY STATUS field .3611 and ELIGIBILITY VERIF. SOURCE field .3613 are blank, no problems for fields .3602 and .3603 will be listed.
4) Identify Potential Merge Problems option: If the MILITARY DISABILITY RETIREMENT field .3602 and the DISCHARGE DUE TO DISABILITY field .3603 are both set to "NO", the ELIGIBILITY STATUS field .3611 is set to "VERIFIED", and the ELIGIBILITY VERIF. SOURCE field .3613 is set to "HEC", then fields .3602 and .3603 will be listed as problems.
   Merge: With the fields as above, the merge process would still complete with no validation errors if the "merge-to" record is blank in all of those fields.
   Merge: If on the "merge-to" record, the MILITARY DISABILITY RETIREMENT field .3602 and the DISCHARGE DUE TO DISABILITY field .3603 are both blank, and the ELIGIBILITY STATUS field .3611 is set to "VERIFIED", and the ELIGIBILITY VERIF. SOURCE field .3613 is set to "HEC", then the merge will fail with validation errors on .3602 and .3603.

7 The Merge Process

This chapter documents in detail the operations involved in completing the merge process. Options are available with the Patient Merge application to further assist you with the merge process. The following is a brief outline of the options available to run a successful merge job. Each option is documented in expanded detail on the following pages.

To begin a merge process:

Use the option — Schedule Process to Merge Verified Duplicates to merge all approved verified duplicate record pairs. This option is located on the Manager Utilities menu.

The following options are available to further assist you with the merge process:

Use the option — Tally STATUS and MERGE STATUS fields to produce a tally report of verified duplicate records that are ready to be merged. This option is located on the Utilities menu.

Use the option — Check Merge Process Status to track the status of a selected merge process. This option is located on the Utilities menu.

Use the option — STOP an Active Merge Process to stop a currently running merge process and any associated threads. This option is located on the Manager Utilities menu.

Use the option — Restart a Merge Process to schedule the restart of a merge process at the current time, or at some point in the future. This option is located on the Manager Utilities menu.

NOTE: Although distributed by another package, the person initiating the merge process must be authorized to hold the DG ELIGIBILITY security key.

7.1 Schedule Process to Merge Verified Duplicates

After you've approved verified duplicates for merging, the next step is to schedule the date and time for the merge process to run, shown in the next figure. To do this, select the option Schedule Process to Merge Verified Duplicates from the Manager Utilities menu.

IRM personnel will most likely perform this function. Only authorized persons holding the XDRMGR security key should be responsible for using this option.

NOTE: Duplicate records that are ready to be merged are displayed on a tally report accessed through the option Tally STATUS and MERGE STATUS fields on the Utilities menu. This is documented on the pages that follow.

Figure 44 -Scheduling the merge process

```
DUPLICATE MANAGER UTILITIES MENU



   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS



YOU HAVE PENDING ALERTS
          ENTER  "VA TO JUMP TO VIEW ALERTS OPTION

SELECT MANAGER UTILITIES <TEST ACCOUNT> OPTION: SCH  SCHEDULE PROCESS TO
MERGE VERIFIED DUPLICATES
WHICH FILE ARE THE POTENTIAL DUPLICATES IN (E.G., PATIENT)? PATIENT//

2  ENTRIES READY TO BE INCLUDED IN MERGE
THIS PROCESS WILL TAKE SOME TIME TO COMPLETE,
BUT YOU CAN STOP AND RESTART THE PROCESS WHEN YOU
WANT USING THE OPTIONS.  OK? YES



NAME FOR MERGE PROCESS:
```

Notice in the previous figure that you are prompted to give the merge process a name. Each merge process must have a unique name. Each merge process will automatically include all approved duplicate record pairs that have met the site specified waiting period (i.e., the time between when they were approved as duplicate records ready to be

merged, and the time they are actually merged). More than one merge process can be running concurrently providing each process has a unique name. However, the most practical and efficient approach is to run fewer merge processes containing multiple record pairs.

NOTE: A merge process will never include a duplicate record pair that was in another merge process.

The prompt START DATE/TIME, shown in the previous figure, is a Task Manager field. You can either queue this job to run at a later date and time, or by entering the VA FileMan command NOW, you can begin the merge process immediately. Your input to this prompt is based on the VA FileMan conventions for date and time. For more information, enter a question mark (?) at this prompt.

ADVISORY: The merge process is a background job. Be aware that it should not be running when changes are being made to Data Dictionaries or when data conversions are taking place.

7.1.1 Patient Data Validated before Merge

Many of the "broken database/bad data" events that would have upset an actual merge can be detected at the beginning of the merge process. Checks are made on the various fields of the patient's record as though the data were being filed in the record for the first time. The information is checked against any input transforms or edit routines as controlled by the custodian of the data. All verified duplicate record pairs that have been approved to be merged are checked first, before the actual merge begins.

Records found that have data errors are excluded from the actual merge. The record pairs STATUS is then reset to Verified Duplicate. They are written to a MailMan message and sent to the mail group that has been defined in the MERGE MAIL GROUP field. (This is a site parameter in the DUPLICATE RESOLUTION file (#15.1) and is defined at setup.) The subject of the MailMan message is "MERGE PAIRS EXCLUDED DUE TO PROBLEMS", shown below.

The intent of receiving this error report in a MailMan message is to give the site the opportunity to make any necessary edits prior to merging duplicate record pairs. Errors that are not resolved prior to the merge process will result in a pair not being merged.

The following figure displays a sample MailMan message containing data errors for one record pair. Notice that the patient identification information for both FROM and TO records, shown below, is displayed prior to the actual data errors in the MailMan message:

- FROM: DFN=14 MERGEPATIENT,17 S. [000110014]
- TO: DFN=16 MERGEPATIENT,18 A. [000110016]

This is respectively the:

- internal entry number of the record in the PATIENT file (#2),
- patient name, and
- social security number

NOTE: When a merge process results in a message stating that pairs were excluded, it will still automatically send a message saying the merge completed even if no pairs were merged. If both messages are sent, is necessary to review the information in the pairs excluded messages, address data discrepancies, and start another merge process to complete the merge on any previously excluded pairs.

Figure 45 -MailMan message containing records with data errors excluded from the merge process

```
SUBJ: MERGE PAIRS EXCLUDED DUE TO PROBLEMS  [#2224123] 22 MAR 98 20:17
  37 LINES
FROM: POSTMASTER (SENDER: MERGESENDER,TWO)  IN 'IN' BASKET.   PAGE 1  **NEW**
-------------------------------------------------------------------------------

FROM: DFN=14   MERGEPATIENT,17 S. [000110014]
TO:   DFN=16   MERGEPATIENT,18 A. [000110016]



FILE 2 [PATIENT FILE]
FIELD .2201 [E-ZIP+4]    IENS=16,
 VALUE: 98503
        'EMERGENCY CONTACT' NAME MUST BE SPECIFIED TO ENTER/EDIT THIS FIELD
FIELD .302 [SERVICE CONNECTED PERCENTAGE]    IENS=16,
 VALUE: 50
        ONLY APPLIES TO SERVICE-CONNECTED APPLICANTS.
FIELD .333 [E-STREET ADDRESS [LINE 1]]    IENS=16,
 VALUE: 5706 39TH AVE SE
        'EMERGENCY CONTACT' NAME MUST BE SPECIFIED TO ENTER/EDIT THIS FIELD
FIELD .338 [E-ZIP CODE]    IENS=16,
 VALUE: 85700
        'EMERGENCY CONTACT' NAME MUST BE SPECIFIED TO ENTER/EDIT THIS FIELD

FILE 2.0361 [OTHER ENTITLED ELIGIBILITIES SUBFILE OF PATIENT FILE]
FIELD .01 [ELIGIBILITY]    IENS=+1,16,
 VALUE: 1^SERVICE CONNECTED 50% TO 100%



FILE 2.04 [DISABILITY DX SUBFILE OF PATIENT FILE]
FIELD .01 [RATED DISABILITIES (VA)]    IENS=+1,16,
 VALUE: 291^IMPAIRED HEARING
    FIRST ENTRY IN ^DD(2.04,0,"NM", DOES NOT MATCH FIELD NAME RATED DISABILITIE
S (VA) IN FILE 2.  THIS WILL BE REJECTED BY UPDATE^DIE.



FILE 2.05 [DISABILITY CONDITION SUBFILE OF PATIENT FILE]
FIELD .01 [SERVICE CONNECTED CONDITIONS]    IENS=+1,16,
```

```
VALUE:  9304
   FIRST ENTRY IN ^DD(2.05,0,"NM", DOES NOT MATCH FIELD NAME SERVICE CONNECTED
CONDITIONS IN FILE 2.  THIS WILL BE REJECTED BY UPDATE^DIE.


SELECT MESSAGE ACTION: DELETE (FROM IN BASKET)//
```

The data errors found prior to being merged are reported in a detailed list immediately following the patient identification information. These errors are displayed in the following format iterations (references for each are made to the last example shown in the previous figure):

1. the file (or subfile) number and file (or subfile) name are displayed (e.g., "File 2.05 [DISABILITY CONDITION subfile of PATIENT file]"),
2. field number and field name (e.g., "Field .01 [SERVICE CONNECTED CONDITIONS]"),
3. internal entry number string — as used by VA FileMan (e.g., " IENS=+1,16,"),
4. field value (e.g., value: 9304), and
5. a descriptive statement when available (e.g., "First entry in ^DD(2.05,0,"NM",...").

NOTE: As referenced elsewhere in this manual, several special processing routines have been written to handle those database entries that point to the PATIENT file (#2) in an unusual manner. (See the section "How Are Patient Records Merged?" in this manual for more information on special processing routines.) This portion of the merge process will not examine files that are involved in the special processing routines. If, however, data errors are encountered during special processing, they are written to the ^XTMP("XDRTESTK", global in the merge process. The information is not lost; it's just not handled in advance of the merge. (See the topic "Use of ^XTMP Global" for more information.)

7.1.2 Merging Multiple Record Pairs

A single file entry may be involved in multiple potential duplicate pairs. Thus, a FROM or TO entry of a selected record pair may also be associated with the FROM or TO entry of other record pairs in the DUPLICATE RECORD file (#15).

7.1.2.1 Related Multiple Pairs Excluded from Current Merge

Given any one record pair in the DUPLICATE RECORD file (#15), if any subsequent record pairs have either member of the given pair as a component, then the subsequent pair(s)

will be excluded from the merge process. Thus, any record may be involved in only one merge in each merge process.

This does not imply that there are data errors in the record pairs being excluded. Only that they are excluded from the current merge, available for review and consideration in a subsequent merge process

For example, if three record pairs have the same FROM record, two of them will be excluded from the current merge process. The record pair with the lowest IEN value compared to the other multiples is included in the current merge process.

The following example tries to clarify this concept. In this example Record A, the three FROM records, paired up to be merged into Record B, C, and D, which are the three TO records:

FROM → TO

1. Record A into Record B
2. Record A into Record C
3. Record A into Record D

In the previous example, suppose that the Record A into B pair (i.e., number 1) has a lower IEN value than the other multiple pairs. Since Record A is a component of the other pairs, those remaining record pairs are excluded from the merge. Only the Record A and B pair are processed in the current merge job.

7.1.2.2 FROM Record References TO Record after Merge

After the merge completes, the TO record becomes a union of itself and the FROM record that was merged into it. It is important to note that any inquiries made to the original FROM record after the actual merge, will now reference the TO record. The FROM record simply goes away.

The following example tries to clarify this concept. Based on our previous example, Record A has been merged into Record B. Record A is gone. Record B now is the FROM record to be merged into Records C and D:

FROM →TO

1. Record B into Record C
2. Record B into Record D

7.1.2.3 STATUS Reset for Record Pairs Excluded from Merge

The STATUS for record pairs excluded from the merge is reset differently based on the following conditions:

- The STATUS is reset to Potential Duplicate, Unverified for record pairs excluded from the merge because the accepted pair's FROM record is part of the excluded pair. This is because the FROM record will have been merged and won't be available for selection.
- The STATUS is reset to Verified Duplicate for record pairs excluded from the merge because the accepted pair's TO record is part of the excluded pair.

7.1.2.4 Excluded Records Written to MailMan message

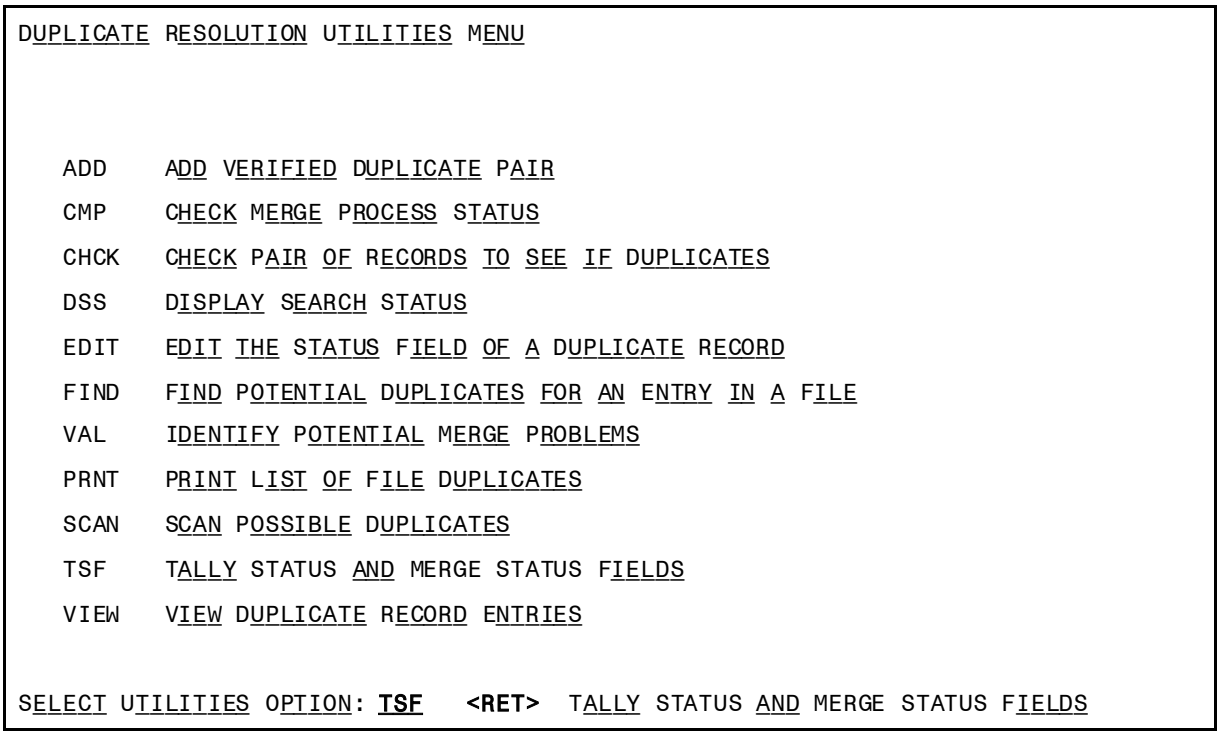
Records excluded from the merge are written to a MailMan message and sent to the mail group that has been defined in the MERGE MAIL GROUP field. (This is a site parameter in the DUPLICATE RESOLUTION file [#15.1] and is defined at setup.) The subject of the MailMan message is "PAIRS EXCLUDED FROM MERGE DUE TO MULTIPLE REFERENCES", shown below:

Figure 46 -MailMan message containing multiple record pair(s) excluded from the merge process

```
SUBJ: PAIRS EXCLUDED FROM MERGE DUE TO MULTIPLE REFERENCES  [#2224183]
06 APR 98 10:53  4 LINES
FROM: POSTMASTER (SENDER: MERGESENDER,THREE)  IN 'IN' BASKET.   PAGE 1  **NEW**
---------------------------------------------------------------------------


FROM: DFN=135054   MERGEPATIENT,19 Y. [000160581]    FILE 15 IEN: 1465
TO:   DFN=128031   MERGEPATIENT,19TH Y. [000153563]
   EXCLUDED AS A MULTIPLE TO ENTRY FOR IEN=128031


SELECT MESSAGE ACTION: DELETE (FROM IN BASKET)//
```

7.1.3 Summary of Records Merged and Ready to Merge

Select the option Tally STATUS and MERGE STATUS fields on the Utilities menu to produce an up-to-date summary of all records that have been merged and all records that are ready to be merged. This report also displays up-to-date totals of verified duplicate records, records verified as not duplicates, and unverified potential duplicate records. Current counts are produced for the STATUS and MERGE STATUS fields of all records in the DUPLICATE RECORD file (#15) based on the primary file that you've selected (i.e., the PATIENT file [#2]).



Duplicate records that are ready to be merged are displayed on the tally report in the figure below. They are defined in the MERGE STATUS field as READY. These records will be merged in the next merge process. When you set up a merge process, the number of patient records that are shown as READY to be merged on this report, is the exact number of records that will be merged.

Figure 47 -Using the tally report to view an up-to-date summary of the current merge process

```
THIS REPORT WILL TALLY THE STATUS AND MERGE STATUS FIELDS FOR ALL
ENTRIES IN THE DUPLICATE RECORD FILE FOR THE FILE THAT YOU SELECT.

TALLY DUPLICATE ENTRIES FOR WHICH FILE?  PATIENT

  SAN FRANCISCO                                NOV 13, 1997        PAGE 1

           TALLY OF DUPLICATE RECORDS' STATUS/MERGE STATUS FIELDS
                              FILE:  PATIENT


TOTAL NUMBER OF DUPLICATE RECORDS FOR FILE PATIENT:                1060

     STATUS FIELD:        VERIFIED, NOT A DUPLICATE                   6
                          POTENTIAL DUPLICATE, UNVERIFIED           920
                          REQUIRES RESOLUTION                         0
                          VERIFIED DUPLICATE                        134
                          VERIFICATION IN PROCESS                     0

     MERGE STATUS FIELD:  NOT READY                                  10
                          READY                                      62
                          MERGED                                     62
                          IN PROGRESS                                 0
```

The sum total of records reported in the STATUS field should equal the total number of duplicate records for the file selected for this report, shown in the previous figure. As of the date that this report was run, the total count of all records listed in the STATUS field is 1060.

The STATUS field indicates that there are 134 records reported as VERIFIED DUPLICATE. The MERGE STATUS field indicates that:

- 62 records were MERGED,
- 62 others are READY to be merged, and
- 10 records populate the NOT READY field.

The value of the NOT READY to merge field is affected by the site parameter DAYS BETWEEN VERIFY AND MERGE. This field represents the site-specified number of days that must pass before verified duplicate record pairs can be merged. In this example, 10

verified duplicate record pairs are waiting out this time period. Once this time has elapsed, these records will be READY to be merged.

7.1.4 Track Status of Merge Process

Data is maintained on each part of the merge. It can be displayed by using the option Check Merge Process Status located on the Utilities menu, shown in the next figure. This option allows you to check the status of all merge processes, including the current process. It is a valuable tool for charting the progress of a merge process to its completion.

```
DUPLICATE RESOLUTION UTILITIES MENU



   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES


SELECT UTILITIES OPTION: CMP  <RET>  CHECK MERGE PROCESS STATUS
```

The merge process keeps track of itself by making checkpoints in 5-second intervals. As it's checkpointing it updates the Last Chk column with the date and time of each inquiry.

This report, shown in the next figure, allows IRM or reviewers to follow the merge process, insuring its completion. The values displayed in the next figure illustrate the chronological order of events that occur during the various phases of the merge process. It is a reassuring indication to the reviewer that the job is still running.

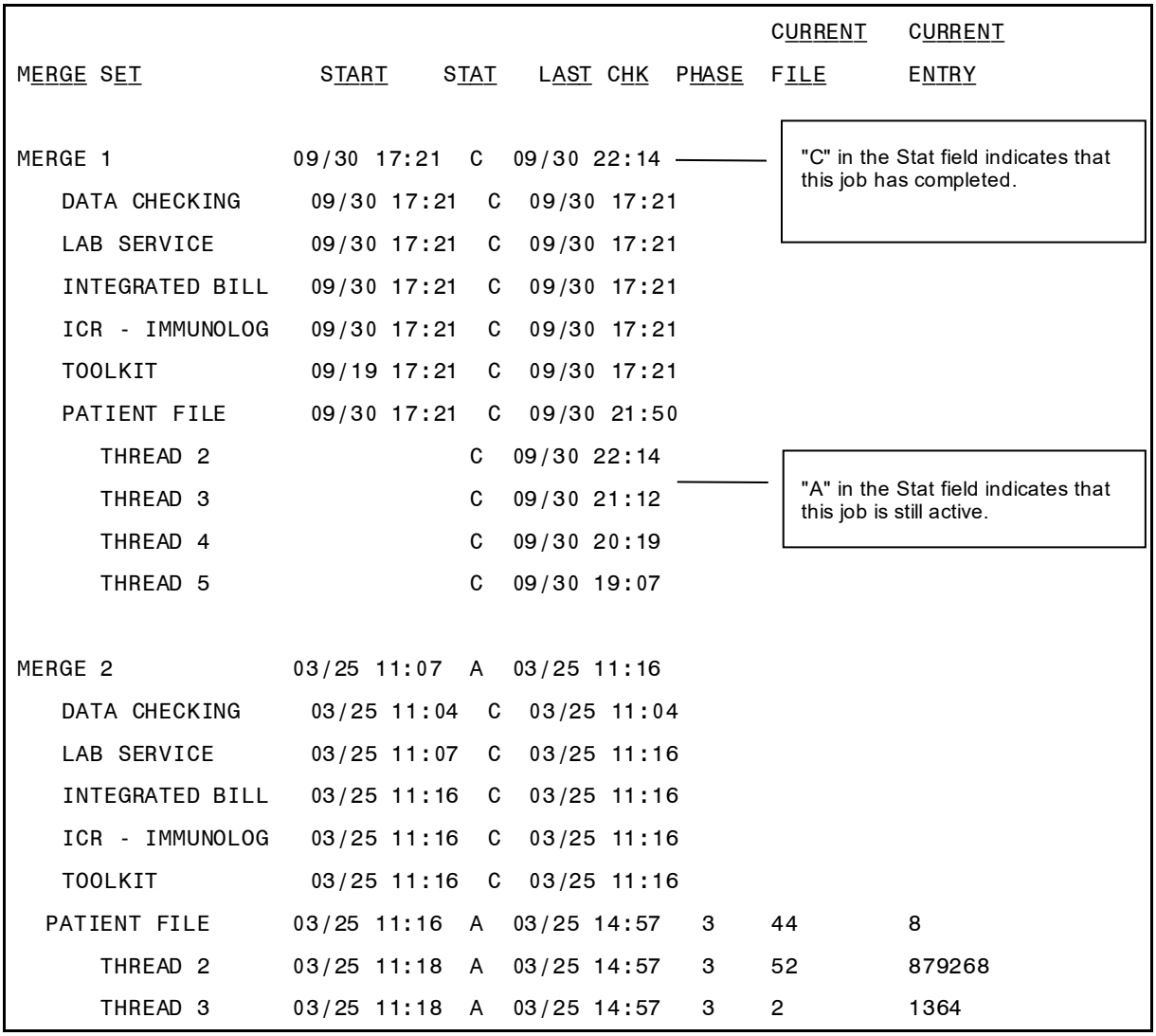
The range of information found on this report covers:

- tracking merge progress for data validation, special processing, and primary files by phases,
- indicating the start and completion times,
- showing the current file being processed, and

- showing the entry in the current file that was last processed.

If additional threads are specified for processing the third phase of the primary file, the progress of these additional threads is tracked as well. This is discussed further in this section.

Figure 48 -Status report of merge processes



7.1.4.1 Merge Process Status Screen—Field Descriptions

The following are descriptions of the fields in the previous figure.

NOTE: Phases one, two, and three of the merge process are explained in detail in a following section titled "Merging Verified Duplicates by Phases".

1. **Merge Set** is the user-defined name for a merge process.

2. **Start** represents the date and time the merge process started corresponding to the merge set name.
3. **Stat** (status codes)—The following status codes are used to track the current status of the merge process:

   S (SCHEDULED)—This status code indicates that the merge process has been scheduled, or queued, for some later time based on your entry at the START DATE/TIME prompt. If you enter the VA FileMan command, NOW, the code S (SCHEDULED) is bypassed and the job begins with the code A (ACTIVE).

   A (ACTIVE)—As soon as the job starts running it sets the time it actually started and sets the Stat to A for ACTIVE. The process is currently running and is actively updating the CURRENT TIME value in the Last Chk column.

   C (COMPLETED)—This indicates that the job has run through all the file entries to normal completion.

   H (HALT)—If something happens to interrupt the job, for instance, if Task Manager is notified to interrupt the process, Stat would display an H for HALT.

   U (UNKNOWN-LOST)—This is an abnormal status and is set when an active job is no longer updating the current time value for the process (and has not for over 30 minutes).

   R (RESCHEDULED)—This indicates that the process has been scheduled to restart and will continue from its last check-pointed location. The restart time is indicated in field .05, RESTART DATE/TIME, of File #15.2 . You can restart a merge process using the option Restart a Merge Process on the Duplicate Manager Utilities menu.

   E (ERROR EXIT)—This status indicates that the merge process has recorded an error and is no longer running. The error message appears on the next line, just below the job that errored out.
4. **Last Chk** (Last Check)—This value indicates the most recent date/time checkpoint of the active merge process. It displays the last date and time as recorded by the checkpoint process. This value is used to determine whether the process is still active or not.
5. **Phase—**Phases one, two, and three of the merge process are explained in detail in a following section titled "Merging Verified Duplicates by Phases".
6. **Current File**—This is the current file being processed as indicated at the last checkpoint of the active merge process. During a merge process, there is the merge

of the primary file. There may also be merges of related files which require special processing [as indicated by entries within the AFFECTS MERGE multiple of the PACKAGE file (#9.4)]. This entry indicates which file the associated data is related to. The entry is a file number for which a merge is being run.

7. **Current Entry**—This value indicates the most recent internal entry number as check pointed within the current file being processed by the active merge process. This value (in conjunction with the other checkpoint data) is intended for use in tracking the progress of the merge process and, if necessary, to permit the merge process to be restarted in the vicinity where it was last processing.

   The fields: Phase, Current File, and Current Entry are closely associated. The processing phase is displayed for the current file entry, inclusive of file number and record IEN, in five-second intervals.

   If something happens to interrupt the merge process, all of these pieces of information you see displayed for that five-second interval are recorded in the XDR MERGE PROCESS file (#15.2). Once this job is restarted, it can begin exactly where it left off based on this tracking information.

   This guarantees that once a merge process is started, it can be tracked, and restarted if necessary, until it runs to completion.

7.1.4.2 Merge Process Status Screen—Data Checking

Many of the "broken database/bad data" events that would have upset an actual merge can be detected at the beginning of the merge process. This is done by checking the various fields of the patient's record as though data were being filed in the record for the first time. The information is checked against any input transforms or edit routines as controlled by the custodian of the data. All verified duplicate record pairs that have been approved to be merged are checked first, before the actual merging of records. This event is in progress when the message "Data Checking" is displayed on this report. The field "Last Chk" indicates the date and time this procedure completed. Records found that have data errors are excluded from the actual merge. They are written to a MailMan message and sent to the mail group that has been defined in the MERGE MAIL GROUP field.

7.1.4.3 Merge Process Status Screen—File Descriptions

The following are descriptions of the files involved with this application. They are displayed in the previous figure on the merge process status screen. Intermittently

launching the option Check Merge Process Status shows the progress as they are being merged.

PATIENT FILE is the primary file being merged in this process (as is designated in the option Edit Site Parameters).

LAB SERVICE, **INTEGRATED BILLING**, **ICR - IMMUNOLOGY CASE REGISTRY, and TOOLKIT** are names denoting the actual ancillary files being processed, which reference the primary file (i.e., PATIENT file [#2]). These files contain records having fields that are affected by record entries in the PATIENT file (#2). In some cases, related data in still other files reference them. These files must be merged first, before the record entries in File #2 are merged because, they reference the PATIENT file (#2).

7.1.4.4 Merge Process Status Screen—Number of Threads

The following is a description of the Thread field as shown in the previous figure.

Thread—The site parameter NUMBER OF THREADS is used to indicate the number of threads (multiple parallel jobs) that should be used during the longest phase of the merge process (Phase 3). A value of 1 indicates that only the main process would run. A value of 2 to 5 indicates that the main process as well as 1 to 4 other threads would be used during this phase. The greater the number of threads, the more parallel processing occurs. Each thread is used to process one of the more time-consuming files, which reduces the amount of time the overall process takes, at the expense of increased system utilization. Your site can set the number of threads (jobs) according to your system resources.

The reference to THREAD, shown in the previous figure, corresponds to the file and record number (i.e., IEN) that was being processed at the time this report was run.

7.1.4.5 Merge Process Status Screen—Merging Verified Duplicates by Phases

The merge process is performed in phases. There are up to three phases that any one-merge process can take depending on the file references to the primary file being merged. Using the option Check Merge Process Status will display these phases by number in the field named "Phase", shown in the previous figure, during processing.

The three phases are:

Phase one—The first phase of the merge process is the merging of verified duplicate records in the main or primary file (i.e., PATIENT file [#2], or any one of the special processing files). In the case of Patient Merge, the primary file is File #2. For example, the special processing file ICR IMMUNOLOGY will only process through Phase 1. This is because this file is simply merging two duplicate record entries together.

After the merge is completed the FROM record is deleted. A stub record containing only the .01 field and a -9 node is then inserted in the PATIENT file (#2). The -9 node has a value equal to the internal entry number of the TO entry. If anyone tries to access the FROM entry while the merge is in progress, or any time after that, the expected value will be returned without an undefined error. Additionally, the Name and the Social Security Number fields originally contained in the FROM record are moved into the ALIAS subfile in the TO record.

Phase two—The second phase includes the processing of all pointers to the main file which are DINUMed .01 fields, or fields which can be accessed by cross-references. DINUMed and cross-referenced pointers facilitate rapid identification. As files containing DINUMed pointers to the main file are identified, any pointers to these files are also identified and included in the processing.

Phase three—The third phase is the processing of all other pointers, including pointers that are not DINUMed, to the main file (i.e., the file currently being processed randomly points to the PATIENT — its pointers are not DINUMed, nor are they cross-referenced). Each entry in a file must be searched for any possible pointer values.

Any file containing one or more pointer fields which fall into this third phase must be searched record by record (and in some cases subfile by subfile) for possible pointers. This phase requires a longer processing time to successfully complete re-pointing affected files to the PATIENT file (#2).

NOTE: If the site has set the NUMBER OF THREADS parameter to a number greater than one, one or more jobs will be created to run in parallel. Each thread will process one of the more time consuming files. Additional threads may be used to reduce the total time required for completion of the merge process in this manner, at the expense of increased system utilization by the additional jobs.

7.1.4.6 Merge Process Status Screen—Message: NO PAIRS LEFT

When you see the message **NO PAIRS LEFT** on the merge process status screen, it means that either due to data errors or multiple pair processing that the merge job has completed. There are no pairs left in the merge job to process. Hence, the job has run to completion.

NOTE: See the section "Schedule Process to Merge Verified Duplicates" of this chapter for more information on data error and/or multiple pair processing excluding records from being merged.

Figure 49 -Status report of merge processes – NO PAIRS LEFT

```
                                                        CURRENT   CURRENT
MERGE SET              START     STAT   LAST CHK  PHASE  FILE      ENTRY

MERGE 2              04/08 09:20  C    04/08 09:21
   DATA CHECKING      04/08 09:20  C     04/08 09:21
   NO PAIRS LEFT                   C     04/08 09:21
```

7.1.5 Stop Merge from Any Point in Processing

Once a merge has started you can stop it by using the option STOP an Active Merge Process located on the Manager Utilities menu. The merge process can also be stopped using the Task Manager option under the TBOX common menu option.

Figure 50 -Stopping an active merge process

```
DUPLICATE MANAGER UTILITIES MENU



   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT OPERATIONS OPTION: STOP  <RET>  STOP AN ACTIVE MERGE PROCESS
DO YOU WANT TO STOP TEST3? YES  <RET>  YES
```

7.1.6 Restart Merge from Any Point in Processing

If the merge process has been stopped, either manually or as a result of the system being stopped, etc., it may be restarted again using the option Restart a Merge Process located on the Manager Utilities menu. This will begin the merge process again at the phase and location, file, and internal entry number (IEN), where processing had stopped.

7.2 Use of ^XTMP Global

Although some data checking occurs at the beginning of the merge process, the possibility still exists that other problems may appear that were not previously identified. These are the data errors that are recorded in the ^XTMP("XDRTESTK", global. It is recommended that this global location be checked for any other problems. Hopefully, there will consistently be nothing there other than the zero node.

Patient Merge establishes the subscript XDRTESTK in the ^XTMP global to record data errors occurring during the merge process. This information is then available for review by IRM personnel. These errors must be manually corrected and then filed back in the TO record(s) to ensure a fully merged patient record.

The errors recorded in this global may be a result of data failing to pass the constraints of an input transform, if available. These errors may also result from the situation of combining the FROM and TO record data, which until filing, is undetectable as an error. Entries may actually incorporate correct data, but errors may be considered due to data in other related fields. Therefore, sometimes the entries in ^XTMP("XDRTESTK", are only indicators of errors elsewhere in the record.

A date is associated with the XDRTESTK entry that allows for purging of the entries 30 days following the date of the most recent merge process.

Here are some examples of errors that may be logged:

- Subfiles which are missing data in fields that have been indicated as identifiers.
- Period of service incorrect because veteran does not have a DATE OF BIRTH entered. This logs an error for Period of service. However, the actual error is due to the lack of information in the DATE OF BIRTH field.
- The length of a value in a free text field is longer (or shorter) than allowable.
- "NM" node content doesn't match that in the parent file or subfile. Some subfiles may have changed names over time. The UPDATE^DIE call checks that the field name indicated by the "NM" node in the subfile Data Dictionary matches that in the parent file or subfile. (The "NM" node is the VA FileMan convention for the name of a file or subfile.) Unfortunately, if there are multiple "NM" nodes it only checks the first entry. If this does not match the current name, the data entry is rejected.

The following information is displayed related to the error that occurred:

1. date and time,
2. file, or sub-file being processed,

3. IENS,
4. field being processed, and
5. the data value in error

The global structure is: ^XTMP("XDRTESTK"^date/time^file, or sub file number^IENS^field number). This structure is set equal to the data value passed to it. Each error consists of an "XX" subscript node with descendant "ZZ" subscript nodes.

Following the "XX" subscript is the information as it appeared in the FDA array passed to the UPDATE^DIE call in VA FileMan including: file or subfile number, the IENS string, and the field number. The value of the node is the value passed to VA FileMan for that entry in the FDA array.

Descendant to the "ZZ" subscript is the information about the error passed back from VA FileMan in the "DIERR" array. While this information is in a standard format, usually it doesn't offer actual information about why the value "is not valid."

The next figure displays a sample file capture of the ^XTMP("XDRTESTK", global with an explanation of its contents. Blank lines separate each group of "XX" and "ZZ" subscript nodes for the purposes of this example, only.

Figure 51 -^XTMP("XDRTESTK", global provides a "snapshot" of unforeseen data errors

```
GLOBAL ^XTMP("XDRTESTK",
        XTMP("XDRTESTK",
^XTMP ("XDRTESTK", 0) = 2980403^2980304
^XTMP ("XDRTESTK", 2980302.165841,1,"XX",63.08,"+1,15950,",.01) = OCT 21, 1988
^XTMP("XDRTESTK",2980302.165841,1,"ZZ","DIERR") = 1^1
^XTMP("XDRTESTK",2980302.165841,1,"ZZ","DIERR",1) = 311
^XTMP("XDRTESTK",2980302.165841,1,"ZZ","DIERR",1,"PARAM",0) = 1
^XTMP("XDRTESTK",2980302.165841,1,"ZZ","DIERR",1,"PARAM","IENS") = +1,15950,
^XTMP("XDRTESTK",2980302.165841,1,"ZZ","DIERR",1,"TEXT",1) = THE NEW RECORD '+1,
15950,' LACKS SOME REQUIRED IDENTIFIERS.

^XTMP("XDRTESTK",2980302.175623,2,"XX",63.05,"+1,70735,",.01) = AUG 14, 1997@22
:28:35
^XTMP("XDRTESTK",2980302.175623,2,"ZZ","DIERR") = 1^1
^XTMP("XDRTESTK",2980302.175623,2,"ZZ","DIERR",1) = 701
^XTMP("XDRTESTK",2980302.175623,2,"ZZ","DIERR",1,"PARAM",0) = 3
^XTMP("XDRTESTK",2980302.175623,2,"ZZ","DIERR",1,"PARAM",3) = AUG 14, 1997@22:2
8:35
^XTMP("XDRTESTK",2980302.175623,2,"ZZ","DIERR",1,"PARAM","FIELD") = .01
^XTMP("XDRTESTK",2980302.175623,2,"ZZ","DIERR",1,"PARAM","FILE") = 63.05
^XTMP("XDRTESTK",2980302.175623,2,"ZZ","DIERR",1,"TEXT",1) = THE VALUE 'AUG 14,
 1997@22:28:35' FOR FIELD DATE/TIME SPECIMEN TAKEN IN MICROBIOLOGY SUB-FIELD IN
FILE LAB DATA IS NOT VALID.
^XTMP("XDRTESTK",2980302.175623,2,"ZZ","DIERR","E",701,1) =

^XTMP("XDRTESTK",2980303.162959,1,"XX",2.001,"+1,894,",.01) = `345
^XTMP("XDRTESTK",2980303.162959,1,"ZZ","DIERR") = 1^1
^XTMP("XDRTESTK",2980303.162959,1,"ZZ","DIERR",1) = 701
^XTMP("XDRTESTK",2980303.162959,1,"ZZ","DIERR",1,"PARAM",0) = 3
^XTMP("XDRTESTK",2980303.162959,1,"ZZ","DIERR",1,"PARAM",3) = `345
^XTMP("XDRTESTK",2980303.162959,1,"ZZ","DIERR",1,"PARAM","FIELD") = .01
^XTMP("XDRTESTK",2980303.162959,1,"ZZ","DIERR",1,"PARAM","FILE") = 2.001
^XTMP("XDRTESTK",2980303.162959,1,"ZZ","DIERR",1,"TEXT",1) = THE VALUE '`345' FOR
FIELD ENROLLMENT CLINIC IN ENROLLMENT CLINIC SUB-FIELD IN FILE PATIENT IS NOT
VALID.
```

Looking at the data shown in the previous figure, the value of the zero node indicates that the data will be retained in the global for 30 days – beginning with 3/4/98 through to 4/3/98.

7.2.1.1 Data Error Group One

The first data error reported, shown in the previous figure, begins with the following global node as its first line:

```
^XTMP("XDRTESTK",2980302.165841,1,"XX",63.08,"+1,15950,",.01) = OCT 21, 1988
```

Broken down:

I. The value 2980302.165841 indicates that an error was logged on 3/2/98 at 4:58:41 PM.

II. The value 1 is the count number. In this case the count is not significant other than for distinguishing errors recorded at the same time. The count sequence will restart from 1 for both a New merge and a merge that has been restarted.

III. The "XX" subscript indicates that the data, which follow, comes from the FDA array. Thus, if the variable AAA were selected to hold the FDA array, the code would be:

```
S AAA(63.08,"+1,15950,",.01) = "OCT 21, 1988"
```

Broken down:

A. The value 63.08 indicates the subfile that is being edited.

B. The value "+1,15950," is the Internal Entry Number String (IENS) indicating that:

1. the subfile is under internal entry number 15950, and
2. the value +1 indicates that a new entry is being added.

C. The .01 indicates that the .01 field is the one being edited.

D. The value "OCT 21, 1988" is the value to be added.

This would generate an entry similar to that, which was passed to VA FileMan in a call such as:

```
D UPDATE^DIE("E","AAA","BBB","ERROR")
```

The information in the example array, shown previously is that which is recorded in the "ZZ" subscript:

1. AAA is the variable containing the data array,
2. BBB is the variable containing the internal entry number on return, and

3. ERROR is the variable containing the information provided by VA FileMan on errors encountered.

The information in the "ZZ" subscript indicates that the data was rejected since the required identifiers were not included with the data which was passed to VA FileMan.

7.2.1.2 Data Error Group Two

The second data error reported, shown in the previous figure, begins with the following global node as its first line:

```
^XTMP("XDRTESTK",2980302.175623,2,"XX",63.05,"+1,70735,",.01) = AUG 14,
1997@22:28:35
```

This is an example where the date time value included seconds when the input transform would not permit seconds.

7.2.1.3 Data Error Group Three

The third data error reported, shown in the previous figure, begins with the following global node as its first line:

```
^XTMP("XDRTESTK",2980303.162959,1,"XX",2.001,"+1,894,",.01) = `345
```

The following error indicates that the specified clinic is invalid. (Research elucidated that the data at that internal entry number had been deleted.)

```
^XTMP("XDRTESTK",2980303.162959,1,"ZZ","DIERR",1,"TEXT",1) = The value '`345' for
field ENROLLMENT CLINIC in ENROLLMENT CLINIC SUB-FIELD in file PATIENT is not
valid.
```

7.3 Recommendation for Efficient Use of System Resources

The overall merge process is run as a background task. It is initiated through Task Manager using the option Schedule Process to Merge Verified Duplicates located on the Manager Utilities menu. Approving all verified duplicate record pairs as candidates for merging in a single process is the most efficient use of system resources. This is the recommended approach. However, multiple smaller merge processes may also be initiated if the site desires. It is important to point out that including a smaller number of records for merging does not significantly improve the overall time required for the merge process.

7.4 How Are Patient Records Merged?

The Merge processes merges verified duplicate records in the following order:

1) First, records are merged in files that require special handling due to non-standard references pointed to by the PATIENT file (#2).

   NOTE: Exported as part of the initial release are special processing routines to handle the few VistA files that point to other VistA files using unusual methods. These files require special processing to insure that they are converted correctly. Entries for each special processing routine have been made in the PACKAGE file (#9.4) multiple, AFFECTS RECORD MERGE field (#20). Some local files may need a special processing routine. If necessary, it is a site responsibility to accomplish this using the Kernel Toolkit V. 7.3 User Manual as a reference. Entries for any special processing routines must be made in the PACKAGE file (#9.4) multiple, AFFECTS RECORD MERGE field (#20).

2) Second, records are merged in the primary file (i.e., PATIENT or special processing files).

3) Third, files affected are re-pointed to the new merged record in the main file.

In general, the goal of the merge process is to create one resulting record from two within the main, or primary file. In the case of the Patient Merge application, the primary file is the PATIENT file (#2).

The actual merge involves moving patient data contained in the FROM record to the TO record. Existing patient data for a particular field or attribute in the TO record is not replaced unless it was specified for overwriting during the verification process.

NOTE: For more information on selecting patient data for overwriting, see the topic "Designate Primary Fields for Overwriting" located in both the "Primary Review" and "Ancillary Review" sections of this manual.

Data elements containing multiple entries (e.g., Enrollment Clinic, Dispositions, etc.) are moved to the TO record in their entirety. Again, these subfiles are only moved provided that patient data does not already exist in the destination fields, or that it was not specified for overwriting during the verification process. Each subfile field is compared to its corresponding other.

The result of the merge is that the TO record contains data from both entries (i.e., the FROM and the TO record). The record from which data is moved (the FROM record) is then eliminated as an active record. After this is accomplished, only the TO records remain in the primary file.

Usually, other files contain data that is in some way related to the primary file being merged. The majority of VistA files have been set up with standard FileMan pointer references. However, there are a few VistA files that point to other VistA files using unusual methods. These files require special processing to ensure that they are converted correctly. They are merged first by the same step-by-step merge procedure that is performed on the primary file. Afterwards, the file references are re-pointed from the FROM records to the correct TO records.

8 Utilities

The following section describes the utility options available with the Patient Merge application. They are designed to assist both reviewers and IRM personnel with supplementary duplicate record identification, editing the DUPLICATE RECORD file (#15), and a variety of status reports involved with the merge process.

You can find the Utilities menu on the Duplicate Resolution System Menu, shown in the next figure:

Figure 52 -Utilities Menu

```
DUPLICATE RESOLUTION SYSTEM MENU

   XDRO   OPERATIONS
   XDRU   UTILITIES
   XDRM   MANAGER UTILITIES

SELECT DUPLICATE RESOLUTION SYSTEM OPTION: UTILITIES
```

8.1 Add Verified Duplicate Pair

NOTE: As of Kernel Toolkit Patch XT*7.3*113, this option will be changed so that for the PATIENT file (#2) , it no longer performs any checking on the two selected patients, as if you had answered "YES" to bypass the potential duplicate threshold % check. VA facilities will be allowed to add any two PATIENTs to the DUPLICATE RECORD file (#15); however, most duplicate records will be automatically added to File #15 when PSIM determines that a pair of patients are a match or a potential match.

NOTE: As of Kernel Toolkit Patch XT*7.3*125, this option makes a remote procedure call to the MPI to determine whether the selected patients have already been identified as not a duplicate pair. If the pair exists in the MPI DO NOT LINK file (#985.28), the option prohibits you from adding that pair to the DUPLICATE RECORD file (#15).

The option Add Verified Duplicate Pair is located on the Utilities menu. It allows you to add a pair of records to the DUPLICATE RECORD file (#15) that are not already identified as being there. For records other than patients, the designated record pair will be evaluated by the same duplicate tests used to search for duplicate records in the initial

search of the primary file. The duplicate tests result in a computed value based on a comparison of one record to the other. The resulting value, the duplicate match percentile, is measured against the Potential Duplicate Threshold Percentage. The Potential Duplicate Threshold Percentage exported with this application is set to a default value of 60%. It is resident in the DUPLICATE RESOLUTION file (#15.1). When this computed percentage evaluates equal to or above the 60% default, the record pair is considered to be a potential duplicate and is placed in the DUPLICATE RECORD file with a status of Potential Duplicate, Not Verified.

Record pairs evaluated as potential duplicates cause the review process to initiate, beginning with the primary review. At this point, you will review and determine the record status of this potential duplicate record pair as you would any other.

NOTE: Refer to the "Primary Review" and "Ancillary Review" sections of this manual for more information on the primary review process.)

NOTE: Personnel authorized to hold the XDRMGR key will have the choice of bypassing the potential duplicate threshold percentage and adding records directly into the DUPLICATE RECORD file (#15).

```
DUPLICATE RESOLUTION UTILITIES MENU

   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES

SELECT UTILITIES OPTION: ADD  <RET>  ADD VERIFIED DUPLICATE PAIR
```

The following figure illustrates the computer dialogue you will see when a patient pair is added to the DUPLICATE RECORD file (#15).

Figure 53 -Add records to the DUPLICATE RECORD file (#15) that ARE duplicates

```
SELECT UTILITIES OPTION: ADD  <RET>  ADD VERIFIED DUPLICATE PAIR

ADD ENTRIES FROM WHICH FILE: PATIENT


* NO POTENTIAL DUPLICATE THRESHOLD % CHECK WILL BE CALCULATED FOR PATIENTS

SELECT PATIENT: MERGEPATIENT,20  <RET>  12-12-70     000056789     NO     NSC
VETERAN


ANOTHER  PATIENT: MERGEPATIENT,20 B  <RET>  12-12-70     000056798     NO     NSC
VETERAN


YOU WILL BE ADDING THE FOLLOWING PAIR OF RECORDS TO THE DUPLICATE RECORD FILE:


RECORD1:  MERGEPATIENT,20

RECORD2:  MERGEPATIENT,20 B


ENTER RETURN TO CONTINUE OR '^' TO EXIT:  <RET>  OK, CONTINUING, HOLD ON ...
```

When a record pair is added to File #15, it is added as a status of Potential Duplicate, Unverified.

Figure 54 illustrates the computer dialogue you will see when a patient pair is selected that already exists in the MPI DO NOT LINK file (#985.28) on the MPI.

Figure 54 -Attempt to add records to the DUPLICATE RECORD file (#15) that are already identified as not a duplicate pair in the MPI DO NOT LINK file (#985.28)

```
SELECT UTILITIES OPTION: ADD <RET> ADD VERIFIED DUPLICATE PAIR
ADD ENTRIES FROM WHICH FILE: PATIENT


* NO POTENTIAL DUPLICATE THRESHOLD % CHECK WILL BE CALCULATED FOR PATIENTS
SELECT PATIENT: MERGEPATIENT,20  <RET>  12-12-70     000056789     NO     NSC
VETERAN
    ANOTHER  PATIENT: MERGEPATIENT,20 B <RET> 12-12-70      00056798    NO  NSC
VETERAN


YOU WILL BE ADDING THE FOLLOWING PAIR OF RECORDS TO THE DUPLICATE RECORD FILE:


     RECORD1:  MERGEPATIENT,20
     RECORD2:  MERGEPATIENT,20 B


ENTER RETURN TO CONTINUE OR '^' TO EXIT: <RET>  OK, CONTINUING, HOLD ON ...


THE RECORDS WITH DFN #100001610 AND 100001611 HAVE ALREADY BEEN IDENTIFIED AS
NOT DUPLICATES IN THE MPI DO NOT LINK FILE, AND THEREFORE CANNOT BE ADDED AS A
DUPLICATE PAIR


DO YOU WANT TO ADD ANOTHER PAIR (Y/N)?
```

For persons other than patients, the persons will be compared and evaluated. Notice in the following figure that the record pair resulted in having a Potential Duplicate Threshold of 30%. This is less than the 60% default. The score of 30% indicates that this record pair is probably not a duplicate and will not be added to the DUPLICATE RECORD file (#15).

Figure 55 -Records that are NOT duplicates will not be added to the DUPLICATE RECORD file (#15)

```
SELECT UTILITIES OPTION: ADD  <RET>  ADD VERIFIED DUPLICATE PAIR

ADD ENTRIES FROM WHICH FILE:  <RET>  ___
                                     Select some file other than the PATIENT
                                     file.

DO YOU WANT TO BYPASS THE POTENTIAL DUPLICATE THRESHOLD % CHECK (Y/N)? N  <RET>
(NO)

POTENTIAL DUPLICATE THRESHOLD % WILL NOT BE BYPASSED!

SELECT PERSON: MERGE,20  <RET>  12-12-70     000056789     NO     NSC VETERAN

ANOTHER PERSON: MERGE,20 B  <RET>  12-12-70     000056798     NO     NSC VETERAN

YOU WILL BE ADDING THE FOLLOWING PAIR OF RECORDS TO THE DUPLICATE RECORD FILE:

RECORD1:  MERGE,20
RECORD2:  MERGE,20 B

ENTER RETURN TO CONTINUE OR '^' TO EXIT:  <RET>  OK, CONTINUING, HOLD ON ...


THIS PAIR OF PERSONS HAS A DUPLICATE PERCENTAGE OF ONLY 30% WHICH
IS LESS THAN THE MINIMAL PERCENTAGE FOR POTENTIAL DUPLICATES (60%).

              PERSONS NOT ADDED!!!
```

The XDRMGR security key authorizes you to add a pair of records directly to the DUPLICATE RECORD file (#15), bypassing the Potential Duplicate Threshold Percentage.

The next figure illustrates the computer dialogue necessary to add a record pair of non-patients directly into the DUPLICATE RECORD file (#15).

Figure 56 -Authorized personnel holding the XDRMGR security key can add records directly into the DUPLICATE RECORD file (#15), bypassing the duplicate threshold %

```
SELECT UTILITIES OPTION: ADD  <RET>  ADD VERIFIED DUPLICATE PAIR

ADD ENTRIES FROM WHICH FILE: _____________

DO YOU WANT TO BYPASS THE POTENTIAL DUPLICATE THRESHOLD % CHECK (Y/N)? Y  <RET>
(YES)


THIS WILL ADD THE PAIR OF RECORDS DIRECTLY INTO THE DUPLICATE RECORD FILE.
ARE YOU SURE YOU WANT TO CONTINUE? NO// Y  <RET>  (YES)
```

Select some file other than the PATIENT file

NOTE: You cannot select the same patient as a pair to be added to File #15, if that record pair already exists in the file.

8.2 Check Merge Process Status

The option Check Merge Process Status is located on the Utilities menu. It indicates the status of all merge processes, displaying the information provided by the last checkpoint during its operation. This information includes the file that is being processed, which stage it is in, and the last internal entry processed.

This option is explained in greater detail in the Merge Process section of this manual.

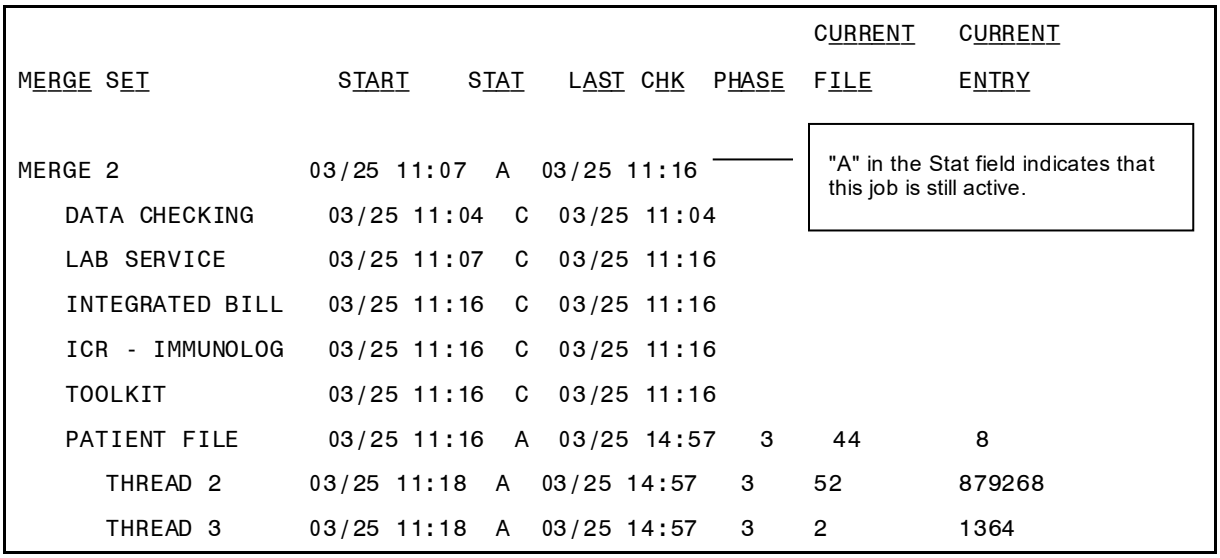
```
DUPLICATE RESOLUTION UTILITIES MENU


   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES


SELECT UTILITIES OPTION: CMP  <RET>  CHECK MERGE PROCESS STATUS
```

The values displayed in the next figure illustrate the chronological order of events that occur during the various phases of the merge process.

The range of information found on this report covers:

- tracking merge progress for data validation, special processing, and primary files by phases,
- indicating the start and completion times,
- showing the current file being processed, and
- showing the entry in the current file that was last processed.

Figure 57 -Display the status of all merge jobs, including the current job



```
                                                          CURRENT    CURRENT
MERGE SET              START     STAT    LAST CHK  PHASE  FILE       ENTRY

MERGE 2              03/25 11:07  A   03/25 11:16
   DATA CHECKING      03/25 11:04  C   03/25 11:04
   LAB SERVICE        03/25 11:07  C   03/25 11:16
   INTEGRATED BILL    03/25 11:16  C   03/25 11:16
   ICR - IMMUNOLOG    03/25 11:16  C   03/25 11:16
   TOOLKIT            03/25 11:16  C   03/25 11:16
   PATIENT FILE       03/25 11:16  A   03/25 14:57   3     44         8
      THREAD 2       03/25 11:18  A   03/25 14:57   3     52         879268
      THREAD 3       03/25 11:18  A   03/25 14:57   3     2          1364
```

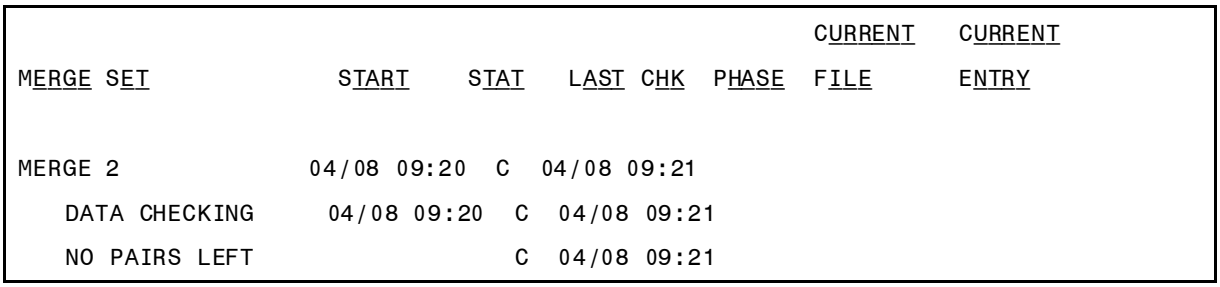
"A" in the Stat field indicates that this job is still active.

8.2.1 Merge Process Status Screen Message: NO PAIRS LEFT

When you see the message **NO PAIRS LEFT** on the merge process status screen, it means that either due to data errors or multiple pair processing that the merge job has completed. There are no pairs left in the merge job to process. Hence, the job has run to completion.

NOTE: See the section "Schedule Process to Merge Verified Duplicates" of this manual for more information on data error and/or multiple pair processing excluding records from being merged.

Figure 58 -Status report of merge processes – NO PAIRS LEFT



```
                                                          CURRENT    CURRENT
MERGE SET              START     STAT    LAST CHK  PHASE  FILE       ENTRY

MERGE 2              04/08 09:20  C   04/08 09:21
   DATA CHECKING      04/08 09:20  C   04/08 09:21
   NO PAIRS LEFT                   C   04/08 09:21
```

8.3 Check Pair of Records to see if Duplicates

NOTE: As of Patch XT*7.3*113, users can no longer select PATIENT records from this option. Checking for potential duplicates will be done by PSIM.

The option Check Pair of Records to see if Duplicates is located on the Utilities menu. It allows you to check two discrete records to see if they are duplicates. Do this by

entering two records when prompted. The records are run through the duplicate test software to determine their duplicate match percentile. This option does not add records to the DUPLICATE RECORD file (#15).

NOTE: This option does not allow you to compare the same record.

```
DUPLICATE RESOLUTION UTILITIES MENU

   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES

SELECT UTILITIES OPTION: CHCK  <RET>  CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
```

Once the user has selected the two records, this option will generate a review screen comparing them both, shown in the next figure. The review screen is similar to the one used in the review process. The duplicate match percentile score is displayed at the end of the screen capture compared against the Potential Duplicate Threshold Percentage.

Figure 59 -Comparing two records to see if they are duplicates

```
COMPARE PATIENT: MERGEPATIENT,21

   1   MERGEPATIENT,21 C.       01-02-28     000025700     NO     NSC VETERAN
   2   MERGEPATIENT,21 J        12-31-42     000041687     YES     SC VETERAN
   3   MERGEPATIENT,21 M.       10-11-24     000063234     YES     SC VETERAN
   4   MERGEPATIENT,21 MILTON    08-02-33      00005817     NO     NSC VETERAN
CHOOSE 1-4: 3  <RET>  MERGEPATIENT,21 M.        10-11-24     000063234     YES
SC VETERAN
    WITH PATIENT: MERGEPATIENT,21 MILTON   <RET>   08-02-33     000005817     NO
NSC VETERAN


DEVICE: HOME//  <RET>  REMOTE LOGIN    RIGHT MARGIN: 80//  <RET>


                           RECORD1 [#989898]          RECORD2 [#878787]
                           MERGEPATIENT,21 M.         MERGEPATIENT,21 MILTON
------------------------------------------------------------------------------


****  NAME                "MERGEPATIENT,21 M."        "MERGEPATIENT,21 MILTON"


      SEX                  MALE                       MALE


****  DATE OF BIRTH        10-11-24                   08-02-33


****  MARITAL STATUS       DIVORCED                   MARRIED


****  OCCUPATION           "N/A"                      "MAINTENANCE"


****  RELIGIOUS PREFERENCE  UNKNOWN/NO PREFERENCE     PROTESTANT, NO
DENOMINATION


ENTER RETURN TO CONTINUE OR '^' TO EXIT: ^



NAME                    VALUE = -60   MAX POSSIBLE = 100
SSN                     VALUE = -60   MAX POSSIBLE = 100

                                      DUPLICATE THRESHOLD % 60
                                      DUPLICATE SCORE % 30
```

From the results of this comparison, the two records in the previous figure appear not to be duplicates. The DUPLICATE SCORE % for them is only 30%, which has not met or exceeded the Potential Duplicate Threshold default of 60%.

Once again, this option does not add records to the DUPLICATE RECORD file (#15), and the records being compared do not have to be in the DUPLICATE RECORD file (#15).

8.3.1 Display Search Status

The option Display Search Status is located on the Utilities menu. You can use this option to display the status of potential duplicates found from searching for the primary file, shown in the next figure. The different types of search categories are:

- Completed,
- Halted,
- Running, and
- Error (Stop).

Also displayed are the start (or last restart) time of the search, the internal entry number of the record last processed, and the number of new potential duplicate records that have been identified.

```
DUPLICATE RESOLUTION UTILITIES MENU



   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES

SELECT UTILITIES OPTION: DSS  <RET>  DISPLAY SEARCH STATUS
```

The Duplicate Patient Search status screen displays:

Figure 60 -Displaying the status of the search of the PATIENT file (#15)

```
                          DUPLICATE PATIENT SEARCH

SEARCH TYPE   DATE STARTED       STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------     ------    --------------     -----------------

BASIC        MAY 02, 1997@18:24 RUNNING            0:02      212/66572   0.3%



1 POTENTIAL DUPLICATE PAIRS FOUND
```

8.3.2 Edit the Status Field of a Duplicate Record

The option Edit the Status Field of a Duplicate Record is located on the Utilities menu. It is used to edit the status field of a duplicate record pair in the DUPLICATE RECORD file (#15). Use it at any time for any record pair prior to merging when you want to change the status back to Potential Duplicate, Unverified. Once the status of the record entry has been changed back to Potential Duplicate, Unverified, the pair is ready to go through the review process again starting with the primary review.

Figure 61 -Edit the Status Field of a Duplicate Record

```
DUPLICATE RESOLUTION UTILITIES MENU



   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES

SELECT UTILITIES OPTION: EDIT  <RET>  EDIT THE STATUS FIELD OF A DUPLICATE RECORD

SELECT AN ENTRY TO RESET TO POTENTIAL DUPLICATES: MERGEPATIENT,10 J.M.
```

```
   SEARCHING FOR A PATIENT  MERGEPATIENT,10 J.M  6/29/45   000060969  YES  SC
VETERAN
         ...OK? YES//  <RET>  (YES)   MERGEPATIENT,10 JOHN MARK   VERIFIED
DUPLICATE

DUPLICATE RECORD FILE ENTRY 948 FOR THE PATIENT FILE
          1212    MERGEPATIENT,10 J.M.
          888     MERGEPATIENT,10 JOHN MARK

          CURRENTLY LISTED AS VERIFIED DUPLICATE

DO YOU REALLY WANT TO RESET TO POTENTIAL DUPLICATE? NO// YES

   STATUS RESET TO POTENTIAL DUPLICATE RECORD.
```

NOTE: Once a record has been merged the status cannot be reset.

8.3.3 Find Potential Duplicates for an Entry in a File

NOTE: As of Patch XT*7.3*113, users can no longer select PATIENT records from this option. Finding potential duplicates will be done by PSIM.

The option Find Potential Duplicates for an Entry in a File is located on the Utilities menu. It is used to search for potential duplicates against a single record from the file being searched. The potential duplicate record pair(s) resulting from this search are automatically added to the DUPLICATE RECORD file (#15).

```
DUPLICATE RESOLUTION UTILITIES MENU



   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES


SELECT UTILITIES OPTION: FIND  <RET>  FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A
FILE
```

Notice in the figure below that the user is prompted to enter the file to be searched, then to select a record from that file.

Figure 62 -Finding duplicates for a single record

```
THIS OPTION WILL COLLECT ALL POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE.
IT WILL THEN ADD ANY PAIRS FOUND TO THE DUPLICATE RECORD FILE.

FIND POTENTIAL DUPLICATES FOR ENTRY IN WHAT FILE: PATIENT
FIND POTENTIAL DUPLICATES FOR PATIENT: MERGEPATIENT,21
   1   MERGEPATIENT,21 C.       01-02-28     000021700     NO     NSC VETERAN
   2   MERGEPATIENT,21 J        12-31-42     000041687     YES     SC VETERAN
   3   MERGEPATIENT,21 M.       10-11-24     000063234     YES     SC VETERAN
   4   MERGEPATIENT,21 MILTON     08-02-33     000006817     NO     NSC VETERAN
         CHOOSE 1-4: 3  <RET>  MERGEPATIENT,21 M.   0-11-24     000063234
YES     SC VETERAN

HOLD ON... THIS MAY TAKE A LITTLE WHILE...



THE FOLLOWING PATIENT ENTRY(IES) ARE NOW IN THE DUPLICATE
RECORD FILE AS POTENTIAL DUPLICATES TO
PATIENT:  MERGEPATIENT,21 M.
          MERGEPATIENT,22 M
```

A match found (of one or more records) from this query indicates that the record pair has met or exceeded the Potential Duplicate Threshold Percentage. For example, notice in the previous figure that MERGEPATIENT,21 M. is matched with MERGEPATIENT,22 M. If other matches were found from the search, they would be added to the DUPLICATE RECORD file (#15) as well and displayed on the screen with the other matches.

8.3.4 Identify Potential Merge Problems

The option Identify Potential Merge Problems, located on the Utilities menu, has been designed to display any data errors that might exist in a patient's record. Although distributed by another package, the DG ELIGIBILITY security key is required to provide valid error checking results with this option. The key may or may not be required to make the necessary edits.

Many of the "broken database/bad data" events that would have upset an actual merge can be detected through this option. The intent is to give the site the opportunity to make any necessary edits prior to merging duplicate record pairs. Errors that are not resolved prior to the merge process will result in a pair not being merged. Data is checked in the various fields of the patient's record as though it were being filed in the

record for the first time. The information is checked against any input transforms or edit routines as controlled by the custodian of the data.

NOTE: if the merge parameters for your site are set up for more than one primary file, this option will prompt you to select the duplicate resolution file you want to check for errors. If your site is only set up for one primary file, this prompt will not be displayed.

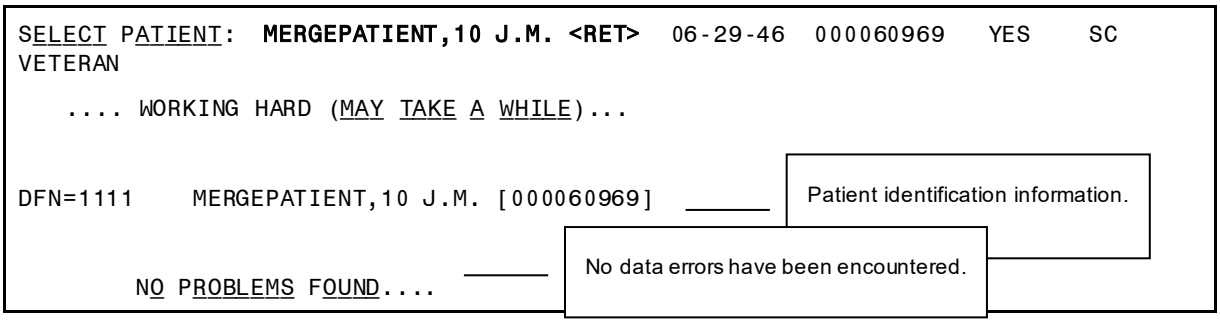
Notice in the next figure that you are prompted for a device to display the findings from your queries:

Figure 63 -Select a device to display findings from the option Identify Potential Merge Problems

```
   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES

SELECT UTILITIES OPTION: IDENTIFY  <RET>  POTENTIAL MERGE PROBLEMS
DEVICE:  <RET>  REMOTE    RIGHT MARGIN: 80//  <RET>
```

You can check a patient's record for errors by entering either the patient's name, or Social Security Number, shown in the next figure.

Figure 64 -Query returned from the option Identify Potential Merge Problems – no data errors found



This option notifies you that your query is being processed when the following message is displayed ".... WORKING HARD (may take a while)...". Checks are made against your entry while you wait. The amount of time that is required to process your entry is dependent upon how much data is in the patient's record and how much other activity is occurring on the system. A wait of less than a minute is to be expected for an average size record.

Notice in the previous figure that the first thing returned from your query is the patient identification information (e.g., " DFN=1111 MERGEPATIENT,10 J.M. [000060969]"). This is respectively the:

- internal entry number of the record in the PATIENT file (#2),
- patient name, and
- social security number

No Errors Found in Your Selected Patient Record

The message "No Problems Found....", indicates that no data errors have been encountered from your selected patient record. Actual data errors returned from a record query are shown in the next figure.

Errors Found in Your Selected Patient Record

If data errors are found in your selected record, they are reported in a detailed list immediately following the patient identification information. These errors are displayed in the following format iterations (references for each are made to the examples shown in the next figure):

1. the file (or subfile) number and file (or subfile) name are displayed (e.g., "File 2 [PATIENT file]"),
2. field number and field name (e.g., "Field .323 [PERIOD OF SERVICE]"),
3. internal entry number string — as used by VA FileMan (e.g., " IENS=1212"),

4. field value (e.g., value: VIETNAM ERA), and
5. a descriptive statement when available (e.g., "Applicant is too young to have...").

The next figure shows you an example of error data displayed to a terminal device.

Figure 65 -Query returned from the option Identify Potential Merge Problems – data errors found

```
SELECT PATIENT: MERGEPATIENT,23
   1  MERGEPATIENT,23 O.            --         000016639     YES     SC VETERAN
   2  MERGEPATIENT,23 A.         10-29-69      000074399     NO      NSC VETERAN
ENTER '^' TO STOP, OR
CHOOSE 1-2: 1    <RET>    MERGEPATIENT,23 O.    09-23-40    000016639    YES    SC
VETERAN


    .... WORKING HARD (MAY TAKE A WHILE)...


DFN=9999  MERGEPATIENT,23 O. [000016639]
FILE 2 [PATIENT FILE]
FIELD .323 [PERIOD OF SERVICE]  IENS=1212,
 VALUE: VIETNAM ERA
   APPLICANT IS TOO YOUNG TO HAVE SERVED IN THAT PERIOD OF SERVICE.
    SEE YOUR SUPERVISOR IF YOU REQUIRE ASSISTANCE.
FIELD 505002 [CURRENT ADMISSION DATE]    IENS=1212,
 VALUE: 0
```

Patient identification information.

File number (or subfile) & file name.

Field number, field name, and IENS.

Field value.

Field Description.

The previous figure shows that two errors have been found. The first one indicates that the Veteran is too young to have served in the VIETNAM ERA. In this case, the error is found in "Field .323 [PERIOD OF SERVICE]". However, there was no DATE OF BIRTH entered for this Veteran, and it is the missing birth date that is likely the problem. The second error appears to be that a value of 0 has been found in "Field 505002 [CURRENT ADMISSION DATE]". Note that there is no descriptive statement with this field.

8.3.5 Print List of File Duplicates

The option Print List of File Duplicates is located on the Utilities menu. It prints a selected list of duplicate patient records from the DUPLICATE RECORD file (#15) . You may choose to print:

- Unverified Potential Duplicates
- Not Ready to Merge Verified Duplicates
- Ready To Merge Verified Duplicates
- Merged Verified Duplicates

You can also choose to print a Brief or Captioned listing.

```
DUPLICATE RESOLUTION UTILITIES MENU



   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES

SELECT UTILITIES OPTION: PRINT  <RET>  LIST OF FILE DUPLICATES
```

The following is an example of the computer dialogue necessary to display unverified, potential duplicate patient records from the DUPLICATE RECORD file (#15) in a Brief format.

Figure 66 -Print a list of unverified potential duplicate records in a Brief format

```
SELECT ONE OF THE FOLLOWING:

          1         BRIEF
          2         CAPTIONED

CHOOSE TYPE OF LIST: 1  <RET>  BRIEF
SELECT FILE YOU WISH TO LIST FOR: PATIENT



THIS UTILITY PROVIDES REPORTS ON VERIFIED AND UNVERIFIED POTENTIAL DUPLICATES.

     SELECT ONE OF THE FOLLOWING:

          1         UNVERIFIED POTENTIAL DUPLICATES
          2         NOT READY TO MERGE VERIFIED DUPLICATES
          3         READY TO MERGE VERIFIED DUPLICATES
          4         MERGED VERIFIED DUPLICATES

REPORT: 1  <RET>  UNVERIFIED POTENTIAL DUPLICATES

DEVICE:  <RET>  REMOTE LOGIN    RIGHT MARGIN: 80//  <RET>

...EXCUSE ME, LET ME THINK ABOUT THAT A MOMENT...
```

In the next figure is an example of a Brief report format. The various data listed on the report come from two different files. The following is a breakdown of the file origins for each field listed in the order that they appear on the report:

1. The first IEN number displayed (e.g., IEN: 99) is from the DUPLICATE RECORD file (#15).
2. The patient name, IEN numbers, and Social Security Numbers in Record 1 and in Record 2 are extracts from the PATIENT file (#2).
3. The status (e.g., STATUS:) and the duplicate match percentile (e.g., SCORE %:) values are from the DUPLICATE RECORD file (#15).

Figure 67 -Brief format report of selected duplicate patient records

```
UNVERIFIED POTENTIAL DUPLICATES                NOV 12,1997  16:01    PAGE 1
-------------------------------------------------------------------------------


     IEN: 99
RECORD 1: MERGEPATIENT,24 R. [IEN: 1111]   SSN: 000012111
RECORD 2: MERGEPATIENT,24 Z. [IEN: 555555]   SSN: 000012119
  STATUS: POTENTIAL DUPLICATE, UNVERIFIED
 SCORE %: 100

     IEN: 121
RECORD 1: MERGEPATIENT,25 X. [IEN: 987]   SSN: 000012317
RECORD 2: MERGEPATIENT,25TH X. [IEN: 654321]   SSN: 000012317
  STATUS: POTENTIAL DUPLICATE, UNVERIFIED
 SCORE %: 100

     IEN: 777
RECORD 1: MERGEPATIENT,26 U. [IEN: 666]   SSN: 000012646
RECORD 2: MERGEPATIENT,26TH U. [IEN: 999999]   SSN: 000025771
   STATUS: POTENTIAL DUPLICATE, UNVERIFIED
 SCORE %: 99
```

The following is an example of the computer dialogue necessary to display unverified, potential duplicate patient records from the DUPLICATE RECORD file (#15) in a Captioned format.

Figure 68 -Print a list of unverified potential duplicate patient records in a Captioned format

```
SELECT UTILITIES OPTION: PRINT  <RET>  LIST OF FILE DUPLICATES

SELECT ONE OF THE FOLLOWING:

          1         BRIEF
          2         CAPTIONED

CHOOSE TYPE OF LIST: 2  <RET>  CAPTIONED
SELECT FILE YOU WISH TO LIST FOR: PATIENT

THIS UTILITY PROVIDES REPORTS ON VERIFIED AND UNVERIFIED POTENTIAL DUPLICATES.

   SELECT ONE OF THE FOLLOWING:

          1         UNVERIFIED POTENTIAL DUPLICATES
          2         NOT READY TO MERGE VERIFIED DUPLICATES
          3         READY TO MERGE VERIFIED DUPLICATES
          4         MERGED VERIFIED DUPLICATES

REPORT: 1  <RET>  UNVERIFIED POTENTIAL DUPLICATES

DEVICE:  <RET>  REMOTE LOGIN    RIGHT MARGIN: 80//  <RET>

...EXCUSE ME, LET ME THINK ABOUT THAT A MOMENT...
```

The next figure is an example of unverified potential duplicate patient records displayed in a Captioned format:

Figure 69 -Captioned format report of unverified potential duplicate patient records

```
UNVERIFIED POTENTIAL DUPLICATES                SEP 27,1997  12:45    PAGE 1
-------------------------------------------------------------------------------


RECORD1: MERGEPATIENT,27 M.    RECORD2: MERGEPATIENT,27TH M
   STATUS: POTENTIAL DUPLICATE, UNVERIFIED
   DATE FOUND: SEP 16, 1997              WHO CREATED: MERGECREATOR,ONE
   DC TOTAL POSSIBLE SCORE: 200          DC POTENTIAL DUPE THRESHOLD %: 60
   DC DUPE MATCH SCORE: 137              DC DUPE MATCH PERCENTILE: 69
IDENTIFYING SERVICE: PRIMARY            WHO DETERMINED: MERGEDETERMIN,ONE
   WHEN DETERMINED: SEP 27, 1997@09:29:16
OVERWRITE IN FILE: 2
FIELD TO OVERWRITE: .1112
DUPLICATE TEST: NAME                    DUPLICATE SCORE: 45
DUPLICATE TEST: SSN                     DUPLICATE SCORE: 72
DUPLICATE TEST: SEX                     DUPLICATE SCORE: 20
DUPLICATE TEST: DATE OF DEATH           DUPLICATE SCORE: 0
DUPLICATE TEST: MOTHER'S MAIDEN NAME    DUPLICATE SCORE: 0
DUPLICATE TEST: LAST SEPARATION DATE    DUPLICATE SCORE: 0
```

This report will continue to print your selection of duplicate patient records for the entire DUPLICATE RECORD file (#15). It is sorted in descending order by the duplicate match percentile and the date the record was found from the search of the primary file.

The report formats, Brief and Captioned, for the other three categories of duplicate records looks the same as in the previous figures. It is sorted in descending order by the duplicate match percentile and the date the record was found from the search of the primary file.

8.3.6 Scan Possible Duplicates

The option Scan Possible Duplicates is located on the Utilities menu. It provides a rapid scan of the DUPLICATE PATIENT file (#15) for possible duplicates, records whose status is POTENTIAL DUPLICATE, UNVERIFIED. For each record it lists the zero node from the PATIENT file (#2) for each of the patients in the pair of potential duplicates. Output that is not queued to a printer will be sent to the VA FileMan Browser for on-screen examination.

```
DUPLICATE RESOLUTION UTILITIES MENU



   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES

SELECT UTILITIES OPTION: SCAN  <RET>  SCAN POSSIBLE DUPLICATES
SELECT DUPLICATE RESOLUTION FILE TO BE CHECKED: PATIENT
DEVICE: HOME//  <RET>
```

By pressing the Return key at the "DEVICE: HOME//" prompt, the system lists all the zero nodes from the DUPLICATE RECORD file (#15) into the VA FileMan Browser as shown below.

Figure 70 -Using the option the option Scan Possible Duplicates to list zero nodes from the DUPLICATE RECORD file (#15)

```
MERGEPATIENT,28 T.^M^2220121^^2^3^WAREHOUSEMAN^99^000088784^^EL PASO^48^^
MERGEPATIENT,28H T^M^2220121^^2^3^^^000088784^^^^^^^^


MERGEPATIENT,12^M^2450629^^1^3^LABORER^25^000060969^**PAY FIDUCIARY**OUT OF CATC
ZZ MERGEPATIENT,12^M^2450629^^1^^SURVEYOR^25^000062945P^**PAY FIDUCIARY**^EDMONDS


MERGEPATIENT,29 L^M^2230510^^2^3^^29^000025468^^^^^^^^
MERGEPATIENT,29TH L^M^2230510^^2^3^^29^000025468^^^^^^^^


MERGEPATIENT,30 J^M^2240830^^1^3^CARPENTER^5^000028379^[PATIENT DIED ON
12/01/90]^
MERGEPATIENT,30TH J^M^2240830^^1^3^^29^000028379^^^^^^^^
Col>      1 |<PF1>H=Help  <PF1>E=Exit|  Line>      22 of 3635      Screen>      1 of 166
```

NOTE: Refer to the *VA FileMan User Manual, Version 21.0,* for more information on the VA FileMan Browser.

8.3.7 Tally STATUS and MERGE STATUS Fields

The option Tally STATUS and MERGE STATUS fields is located on the Utilities menu. It produces an up-to-date summary of all records that have been merged and records that are ready to be merged. This report also displays up-to-date totals of verified duplicate records, records verified as not duplicates, and unverified potential duplicate records. Current counts are produced for the STATUS and MERGE STATUS fields of all records in

the DUPLICATE RECORD file (#15) based on the primary file that you've selected [i.e., the PATIENT file (#2)].

```
DUPLICATE RESOLUTION UTILITIES MENU


   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES


SELECT UTILITIES OPTION: TSF   <RET>  TALLY STATUS AND MERGE STATUS FIELDS
```

Duplicate records that are ready to be merged are displayed on the tally report in the figure below. They are defined in the MERGE STATUS field as READY. These records will be merged in the next merge process. When you set up a merge process, the number of patient records that are shown as READY to be merged on this report, is the exact number of records that will be merged.

Figure 71 -Using the tally report to view an up-to-date summary of the current merge process

```
THIS REPORT WILL TALLY THE STATUS AND MERGE STATUS FIELDS FOR ALL
ENTRIES IN THE DUPLICATE RECORD FILE FOR THE FILE THAT YOU SELECT.

TALLY DUPLICATE ENTRIES FOR WHICH FILE?  PATIENT

  SAN FRANCISCO                                NOV 13, 1997        PAGE 1

           TALLY OF DUPLICATE RECORDS' STATUS/MERGE STATUS FIELDS
                              FILE:  PATIENT

--------------------------------------------------------------------------------

TOTAL NUMBER OF DUPLICATE RECORDS FOR FILE PATIENT:                1060

     STATUS FIELD:        VERIFIED, NOT A DUPLICATE                    6
                          POTENTIAL DUPLICATE, UNVERIFIED            920
                          REQUIRES RESOLUTION                          0
                          VERIFIED DUPLICATE                         134
                          VERIFICATION IN PROCESS                      0

     MERGE STATUS FIELD:  NOT READY                                   10
                          READY                                       62
                          MERGED                                      62
                          IN PROGRESS                                  0
```

The sum total of records reported in the STATUS field should equal the total number of duplicate records for the file selected for this report, shown in the previous figure. As of the date that this report was run, the total count of all records listed in the STATUS field is 1060.

The STATUS field indicates that there are 134 records reported as VERIFIED DUPLICATE. The MERGE STATUS field indicates that:

- 62 records were MERGED,
- 62 others are READY to be merged, and
- 10 records populate the NOT READY field.

The value of the NOT READY to merge field is affected by the site parameter DAYS BETWEEN VERIFY AND MERGE. This field represents the site-specified number of days that must pass before verified duplicate record pairs can be merged. In this example, 10 verified duplicate record pairs are waiting out this time period. Once this time has elapsed, these records will be READY to be merged.

8.3.8 View Duplicate Record Entries

The option View Duplicate Record Entries is located on the Utilities menu. It is used to view duplicate records in a captioned format. It allows you to view the individual test scores for each duplicate record pair (e.g., scores for NAME, DOB, SSN, SEX, etc.).

```
DUPLICATE RESOLUTION UTILITIES MENU


   ADD    ADD VERIFIED DUPLICATE PAIR
   CMP    CHECK MERGE PROCESS STATUS
   CHCK   CHECK PAIR OF RECORDS TO SEE IF DUPLICATES
   DSS    DISPLAY SEARCH STATUS
   EDIT   EDIT THE STATUS FIELD OF A DUPLICATE RECORD
   FIND   FIND POTENTIAL DUPLICATES FOR AN ENTRY IN A FILE
   VAL    IDENTIFY POTENTIAL MERGE PROBLEMS
   PRNT   PRINT LIST OF FILE DUPLICATES
   SCAN   SCAN POSSIBLE DUPLICATES
   TSF    TALLY STATUS AND MERGE STATUS FIELDS
   VIEW   VIEW DUPLICATE RECORD ENTRIES


SELECT UTILITIES OPTION: VIEW  <RET>  VIEW DUPLICATE RECORD ENTRIES
```

The next figure shows an example output displaying merge status information, identifying services, and verification details. LOOKUP FIELDS are repeated due to subfiles. There may be several instances of these showing in the report depending on the number of populated subfiles. They are all the same field.

Figure 72 -View individual test scores for each duplicate record pair

```
SELECT A POTENTIAL DUPLICATE
ENTRY:    MACHAIN,MORGAN PALMER     MACHAIN,MORGAN P     VERIFIED DUPLICATE

DEVICE:   HOME  (CRT)    RIGHT MARGIN: 132//
DUPLICATE RECORD
LIST
  MAY 14, 2026@13:44   PAGE 1
--------------------------------------------------------------------------------
------------------------
```

```
RECORD1 (P): MACHAIN,MORGAN PALMER      RECORD2
(P): MACHAIN,MORGAN P           STATUS: VERIFIED DUPLICATE
  MERGE DIRECTION: RECORD2 TO RECORD1   MERGE STATUS: MERGED                    DATE
FOUND: APR 25, 2007
  DATE VERIFIED: APR 25, 2007           DATE RESOLVED: APR 25, 2007             WHO
CREATED: SPAHN,NED L
  VERIF STARTED DATE: APR 25, 2007      WHO
VERIFIED: SPAHN,NED L               APPROVED FOR BACK UP: YES
  BACKUP INDICATED BY: RANDALL L MARTIN (DUZ=452) 4/25/07                       DC
TOTAL POSSIBLE SCORE: 410
  DC POTENTIAL DUPE THRESHOLD %: 0      DC DUPE MATCH SCORE: 180                DC
DUPE MATCH PERCENTILE: 44
  MERGE PROCESS: LOPEZ3593-2
  LOOKUP1 (C): `10083                   LOOKUP2 (C):
`7193322                  LOOKUP3 (C): `130

  LOOKUP1 (C): `10083                   LOOKUP2 (C):
`7193322                  LOOKUP3 (C): `130

IDENTIFYING SERVICE: PRIMARY            SERVICE DETERMINATION: VERIFIED DUPLICATE
  WHO DETERMINED: SPAHN,NED L           WHEN DETERMINED: APR 25,
2007@14:10:42  DIRECTION OF MERGE: RECORD2 INTO RECORD1
IDENTIFYING SERVICE: LABORATORY         SERVICE DETERMINATION: NO DATA IN FILE
IDENTIFYING SERVICE: RADIOLOGY          SERVICE DETERMINATION: NO DATA IN FILE
IDENTIFYING SERVICE: PHARMACY           SERVICE DETERMINATION: NO DATA IN FILE
  LOOKUP1 (C): `10083                   LOOKUP2 (C):
`7193322                  LOOKUP3 (C): `130

  LOOKUP1 (C): `10083                   LOOKUP2 (C):
`7193322                  LOOKUP3 (C): `130


DUPLICATE TEST: NAME                    DUPLICATE SCORE: 80
DUPLICATE TEST: SSN                     DUPLICATE SCORE: 40
DUPLICATE TEST: SEX                     DUPLICATE SCORE: 20
DUPLICATE TEST: DATE OF BIRTH           DUPLICATE SCORE: 60
DUPLICATE TEST: DATE OF DEATH           DUPLICATE SCORE: 0
DUPLICATE TEST: MOTHER'S MAIDEN NAME    DUPLICATE SCORE: 0
DUPLICATE TEST: LAST SEPARATION DATE    DUPLICATE SCORE: 40
DUPLICATE TEST: CLAIM NUMBER            DUPLICATE SCORE: -60
  LOOKUP1 (C): `10083                   LOOKUP2 (C):
`7193322                  LOOKUP3 (C): `130
```

9 Manager Utilities

The following section describes the manager utility options available with the Patient Merge Application. Only authorized IRM personnel holding the XDRMGR security key can use these utilities. They are designed to assist IRM personnel with editing site parameters, identifying duplicate records in the primary file, merging verified duplicate records, and purging files involved with the merge process that are specific to Patient Merge.

You can find the Manager Utilities menu on the Duplicate Resolution System Menu, shown in the next figure:

Figure 73 -Manager Utilities menu

```
DUPLICATE RESOLUTION SYSTEM MENU



   XDRO   OPERATIONS ...
   XDRU   UTILITIES ...
   XDRM   MANAGER UTILITIES ...

SELECT DUPLICATE RESOLUTION SYSTEM OPTION: XDRM  <RET>  MANAGER UTILITIES
```

9.1 Edit Site Parameters

To set up patient identification and merge parameters for the PATIENT file (#2), it is necessary to enter the desired data into the DUPLICATE RESOLUTION file (#15.1). This can be accomplished by using the option Edit Site Parameters located on the Manager Utilities menu. It is through this option that the necessary entries to File #15.1 are made. The DUPLICATE RESOLUTION file (#15.1) contains the parameters by which the DUPLICATE RECORD file (#15) is populated. File #15 also contains parameters that are specific to the merge process.

You must possess the XDRMGR security key to access this option. By entering PATIENT at the prompt "Select DUPLICATE RESOLUTION FILE TO BE CHECKED:" you are designating that file as your primary file for patient identification and merge processing.

The default parameters exported with this application are related to:

- how potential duplicates are identified,
- designating ancillary reviewers, and

- defining the length of waiting periods applied in the process of identifying and merging duplicate records.

Your site may edit any one of these parameters in the DUPLICATE RESOLUTION file #15.1 by selecting the option Edit Site Parameters located on the Manager Utilities menu. The list of the default parameters released with this application is documented in the Configuration section of this manual.

```
DUPLICATE MANAGER UTILITIES MENU



   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT MANAGER UTILITIES OPTION: EDIT  <RET>  EDIT SITE PARAMETERS
```

The next figure shows the resulting Duplicate Resolution File data entry screen:

Figure 74 -Editing site parameters

```
                          DUPLICATE RESOLUTION FILE
FILE TO BE CHECKED: PATIENT

_____________________________________________________________________________

                  MERGE MAIL GROUP:
      DUPLICATE MANAGER MAIL GROUP:
    POTENTIAL DUPLICATE THRESHOLD%: 60
          DAYS BEFORE FINAL VERIFY: 5
     DAYS BETWEEN VERIFY AND MERGE: 5
                NUMBER OF THREADS: 3

                         ANCILLARY SERVICE
                         -----------------
                         LABORATORY
                         PHARMACY
                         RADIOLOGY


_____________________________________________________________________________



COMMAND:                                        PRESS <PF1>H FOR HELP    INSERT
```

Notice in this first data entry screen, shown in the previous figure, that the file currently being checked is displayed in the top left corner. In the case of the Patient Merge application, this is the PATIENT file (#2). Further down the screen the underlined data entry fields represent the VA FileMan required fields. Notice that several fields have data in them. These are the default parameters exported with this application. As was mentioned previously, the list of default parameters exported with this application is documented in the Configuration section of this manual.

9.1.1 List File Entries Identified in Preliminary Scan

The option Preliminary Scan of File for Errors creates a summary of the errors found in the PATIENT file (#2). These errors are missing identifiers and invalid fields. Use this option, List File Entries Identified in Preliminary Scan, to view the detailed lists of errors in File #2 generated from the SCN option. It is located on the Manager Utilities menu.

Only authorized persons holding the XDRMGR security key should use this option.

```
DUPLICATE MANAGER UTILITIES MENU



   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS


SELECT MANAGER UTILITIES OPTION: LIST  <RET>  LIST FILE ENTRIES IDENTIFIED IN
PRELIMINARY SCAN
```

The following figure illustrates how to generate error lists of patients that are missing, for example, Social Security Numbers:

Figure 75 -List patient records with missing fields previously identified in preliminary scan

```
SELECT MANAGER UTILITIES OPTION: LIST  <RET>  LIST FILE ENTRIES IDENTIFIED IN
PRELIMINARY SCAN


ENTER THE NUMBER OF THE DESIRED LIST TO OUTPUT:


 1  BAD SSN
 2  MISSING #.02
 3  MISSING #.03
 4  MISSING #.09
 5  MISSING #.301
 6  MISSING #1901
 7  MISSING #391
 8  MISSING 1 VAL
 9  MISSING 2 VALS
10  MISSING 3 VALS
11  MISSING 4 VALS
12  MISSING 5 VALS
13  MISSING 6 VALS
14  NO ZERO NODE


LIST NUMBER:  (1-14): 1
```

The system displays the error list by missing fields and identifiers. Choose the number corresponding to the list you want to view. The list displayed next identifies the missing value #s:

Table 4 -Missing field and identifier numbers with corresponding descriptions

Missing Fields and Identifiers	Descriptions of fields and identifiers missing from patient records
BAD SSN	Bad Social Security Number
MISSING #.02	Missing Sex identification
MISSING #.03	Missing Date of Birth
MISSING #.09	Missing Social Security number
MISSING #.301	Missing Service Connected
MISSING #1901	Missing Veteran (Y/N)?
MISSING #391	Missing Type of Patient

Missing Fields and Identifiers	Descriptions of fields and identifiers missing from patient records
MISSING 1 VAL	Patient records missing 1 value
MISSING 2 VALS	Patient records missing 2 values
MISSING 3 VALS	Patient records missing 3 values

The default display is to your terminal, but you can also print the list if you need to.

NOTE: See "Appendix A" on How to Print.

Figure 76 -Patient records with missing SSNs

```
DEVICE: HOME//  <RET>  REMOTE LOGIN  <RET>


LISTING OF ENTRIES IN FILE 2 WITH IDENTIFIER OR OTHER PROBLEMS SELECTED LISTING:
BAD SSN

DATA LISTED ACROSS THE PAGE IN THE FOLLOWING ORDER:

INTERNAL ENTRY NUMBER
NAME
SEX
DATE OF BIRTH
SOCIAL SECURITY NUMBER
SERVICE CONNECTED?
TYPE
VETERAN (Y/N)?

XXXXXXXXXX  XXXXXXXXXXXXXXXXXXXXXXXXXX   X  XXXXXXXX  XXXXXXXXX  X  XX  X

    100004  MERGEPATIENT,32                                        13
    100007  MERGEPATIENT,33                                 9249   13
    100009  MERGEPATIENT,THREE                                     13
    100010  MERGEPATIENT,34                                        13
```

Each of the patients' lists that you generate can be used to identify specific patient records with errors. You can then access these records to update them by correcting incorrect entries or adding entries that don't already exist.

9.1.2 Preliminary Scan of File for Errors

Before you begin the process of searching the PATIENT file (#2), you might consider running the option Preliminary Scan of File for Errors to identify errors in patient records. This option is located on the Manager Utilities menu. It scans through the file checking for records that have missing identifiers (which are presumed to be significant data elements) or checking for records that have other anomalies. Although it is not mandatory to the process of merging records, the results from this preliminary scan of File #2 might indicate that some maintenance work needs to be conducted on your files before you begin the search for potential duplicate records. Based on this computer-generated list, you can have IRM remove several erroneous records. This reduces the number of errors in the patient identification and merge process, allowing the system to run much faster.

Only authorized persons holding the XDRMGR security key should be responsible for using this option. To run the scan, select the option Preliminary Scan of File for Errors, shown in the next figure:

Figure 77 -Running a preliminary scan of the patient records

```
DUPLICATE MANAGER UTILITIES MENU



   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT MANAGER UTILITIES OPTION: SCN  <RET>  PRELIMINARY SCAN OF FILE FOR ERRORS
SELECT DUPLICATE RESOLUTION FILE TO BE CHECKED: PATIENT

A RUN WAS COMPLETED ON JAN 25, 1997@13:50:19

DO YOU WANT TO VIEW THOSE RESULTS? YES// <RET>
```

Answering Yes to the prompt "Do you want to view those results?", shown in the previous figure, will generate the output from the scan of the PATIENT file (#2) shown in

the next figure. You can step out of this option and go back into it at any time. It will update itself each time you look at it. This option can be running in the background during a patient identification search and subsequent merge process.

The following figure illustrates the output from running a preliminary scan of patient records in File #2.

Figure 78 -Preliminary scan of PATIENT file (#2) for list of errors

```
RUN TIME: 0:13:28     CURR IEN: 151052     FILE ENTRIES: 66720


      2159 PATIENT ENTRIES ARE MISSING FIELD # .02  SEX
      1376 PATIENT ENTRIES ARE MISSING FIELD # .03  DATE OF BIRTH
         3 PATIENT ENTRIES ARE MISSING FIELD # .09  SOCIAL SECURITY NUMBER
      4572 PATIENT ENTRIES ARE MISSING FIELD # .301  REVIEWER CONNECTED?
      3295 PATIENT ENTRIES ARE MISSING FIELD # 1901  VETERAN (Y/N)?
         4 PATIENT ENTRIES ARE MISSING FIELD # 391  TYPE
       128 PATIENT ENTRIES HAVE NO ZERO NODE!
      1332 PATIENT ENTRIES HAVE BAD SSN VALUES (NON-NUMERIC, ETC.)

      1403 PATIENT ENTRIES ARE MISSING 1 OF THESE VALUES
      1868 PATIENT ENTRIES ARE MISSING 2 OF THESE VALUES
       261 PATIENT ENTRIES ARE MISSING 3 OF THESE VALUES
        78 PATIENT ENTRIES ARE MISSING 4 OF THESE VALUES
      1299 PATIENT ENTRIES ARE MISSING 5 OF THESE VALUES
         2 PATIENT ENTRIES ARE MISSING 6 OF THESE VALUES
```

The results of this scan are carefully scrutinized in the section titled "Searching the Patient File" in this manual.

Answering No to the prompt "Do you want to view those results?", shown in the next figure, will generate a new scan. This job is queued off to Task Manager.

Figure 79 -Queue a preliminary scan of PATIENT file (#2) to Task Manager

```
SELECT OPERATIONS OPTION: SCN  <RET>  PRELIMINARY SCAN OF FILE FOR ERRORS
SELECT DUPLICATE RESOLUTION FILE TO BE CHECKED: PATIENT

A RUN WAS COMPLETED ON FEB 13, 1997@16:16:51

DO YOU WANT TO VIEW THOSE RESULTS? YES// NO
REQUESTED START TIME: NOW//  <RET>  (NOV 22, 1997@11:11:55)

QUEUED AS TASK 2680
```

Once you have run this preliminary scan, you can use the option List File Entries Identified in Preliminary Scan, described in this section, to identify specific patient names/records where errors are found.

9.1.3 Purge Duplicate Record File (OUT OF ORDER: Removed From XDR MANAGER UTILITIES Menu)

NOTE: As of Patch XT*7.3*113, the Purge Duplicate Record File option, which purged entries from the DUPLICATE RECORD file (#15), was placed OUT OF ORDER and removed from the XDR MANAGER UTILITIES menu option.

9.1.4 Purge Merge Process File

Use the option Purge Merge Process File located on the Manager Utilities menu to remove selected records from the XDR MERGE PROCESS file (#15.2). All the information about each merge process is stored in this file. Each merge process (or job) is one record entry. Information is stored pertaining to the:

- name of the merge job,
- name of the primary file for which this merge process is being run,
- date and time the process began or was scheduled to start,
- date and time the merge job was halted and restarted,
- date and time of successful completion,
- task number associated with the merge process,
- IENs of the TO and FROM record.

We have only documented some of the data stored in this file for each merge process. If you require more information, it can be found in the Data Dictionary for File #15.2.

Once the merge process has completed, that entry can be purged from the XDR MERGE PROCESS file (#15.2).

Only the Site Manager, holding the XDRMGR key, should be responsible for using this option.

Figure 80 -Deleting entrie(s) in the XDR MERGE PROCESS file (15.2) that have completed the merge process

```
DUPLICATE MANAGER UTILITIES MENU

   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT MANAGER UTILITIES OPTION: PRGM  <RET>  PURGE MERGE PROCESS FILE
SELECT MERGE PROCESS TO PURGE: ?

CHOOSE FROM:

   MERGE 9/17
   MERGE 9/18

SELECT MERGE PROCESS TO PURGE: MERGE 9/17
         ...OK? YES//  <RET>  (YES)
ARE YOU SURE YOU WANT TO DELETE "MERGE 9/17"?  NO// YES

   MERGE 9/17    DELETED!
```

To delete a record from File 15.2, choose from the list of completed merge processes, displayed in the previous figure. As a caution you are prompted a second time asking if you want to delete that particular merge process. Once you delete the record, it cannot be recovered.

This utility helps clean up the XDR MERGE PROCESS file (15.2).

9.1.5 Restart a Merge Process

If the merge process has been stopped, either manually or as a result of the system being stopped, etc., it may be restarted again using the option Restart a Merge Process on the Manager Utilities menu. This will begin the merge process again at the phase and location, file and IEN, where processing had stopped.

You can use the option Check Merge Process Status to ensure that processing has been completed.

Only authorized persons holding the XDRMGR security key should be responsible for using this option.

9.1.6 Schedule Process to Merge Verified Duplicates

After you've approved verified duplicates for merging, the next step is for you to schedule the date and time for the merge process to run, shown in the next figure. To do this, select the option Schedule Process to Merge Verified Duplicates from the Manager Utilities menu.

Only authorized persons holding the XDRMGR security key should be responsible for using this option.

NOTE: Duplicate records that are ready to be merged are displayed on a tally report accessed through the option Tally STATUS and MERGE STATUS fields on the Utilities menu. This is documented elsewhere in this chapter and in the chapter titled "The Merge Process".

Figure 81 -Scheduling a merge process

```
DUPLICATE MANAGER UTILITIES MENU




   EDT     EDIT SITE PARAMETERS
   LIST    LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN     PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM    PURGE MERGE PROCESS FILE
   RES     RESTART A MERGE PROCESS
   SCH     SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH    START/HALT DUPLICATE SEARCH
```

```
   STOP    STOP AN ACTIVE MERGE PROCESS



YOU HAVE PENDING ALERTS
          ENTER  "VA TO JUMP TO VIEW ALERTS OPTION

SELECT MANAGER UTILITIES <TEST ACCOUNT> OPTION: SCH  SCHEDULE PROCESS TO
MERGE VERIFIED DUPLICATES
WHICH FILE ARE THE POTENTIAL DUPLICATES IN (E.G., PATIENT)? PATIENT//

2  ENTRIES READY TO BE INCLUDED IN MERGE
THIS PROCESS WILL TAKE SOME TIME TO COMPLETE,
BUT YOU CAN STOP AND RESTART THE PROCESS WHEN YOU
WANT USING THE OPTIONS.  OK? YES



NAME FOR MERGE PROCESS:
```

You are prompted to give the merge process a name. Each merge process must have a unique name. You can setup and run several merge processes with scheduled date/time, providing each process has a unique name that cannot be duplicated. However, the most practical and efficient approach is to run fewer merge processes containing multiple pairs.

The prompt START DATE/TIME is a Task Manager field. You can either queue this job to run at a later date and time, or by entering the VA FileMan command NOW, you can begin the merge process immediately. Your input to this prompt is based on the VA FileMan conventions for date and time. For more information, enter a question mark (?) at this prompt.

Notice that after you've set up and scheduled the merge process to run, a notification message is displayed indicating that verified duplicates are being merged in the primary file.

9.1.7 Start/Halt Duplicate Search

NOTE: As of Patch XT*7.3*113, the PATIENT file (#2) will no longer be selectable from the Search option described below. Although users with access to the Duplicate Record Merge menus will still be allowed to add records to the DUPLICATE RECORD file (#15), this file will mainly be populated

automatically when Person Service Identity Management (PSIM) identifies patient pairs as matches or potential matches.

The Start/Halt Duplicate Search option on the Manager Utilities menu is used to initiate a search of the database. Only authorized persons holding the XDRMGR security key should be responsible for using this option.

Once you've accessed this option, you have a choice of two methods for searching the primary file:

1) A Basic search checks all records in a file from beginning to end. This search can be halted and restarted, beginning with the next available record after the last record that was processed. If you are running a search for potential duplicate records on a file for the first time, you will probably want to run a Basic search.
2) A New search checks only those records that have been added or edited since the last search was run based on a user-specified cross-reference. It will begin with the next record number after the last one that was processed. The New search, like the Basic, can also be halted and restarted beginning with the next available record after the last record that was processed

NOTE: If you use this option to Halt a search, then exit and immediately go back into it to verify that the search has been halted, you may experience a lag time indicating that the search has been halted. It's going to take a moment for Task Manager to respond.

This is a tasked job that can be started and halted until the entire file has been checked. You will initially want to perform the Basic search of the database. Once this search is started, its progress can be monitored with the Display Search Status on the Utilities menu.

We are going to start a Basic search in this example. To begin the search select the option Start/Halt Duplicate Search located on the Manager Utilities menu, shown below.

NOTE: If the merge parameters for your site are set up for more than one primary file, this option will prompt you to select a file to be searched for duplicates (i.e., "Select file to be checked for duplicates:"), as shown in the next example. If your site is only set up for one primary file, this prompt will not be displayed.

```
DUPLICATE MANAGER UTILITIES MENU

   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT MANAGER UTILITIES OPTION: SRCH  <RET>  START/HALT DUPLICATE SEARCH
SELECT FILE TO BE CHECKED FOR DUPLICATES: [FILENAME]

THIS PROCESS WILL TAKE A **LONG** TIME (KNOWN TO EXCEED 100  HOURS),
BUT YOU CAN STOP AND RESTART THE PROCESS WHEN YOU WANT USING
THE OPTIONS.  OK? YES
```

Enter primary filename.

The next figure shows the resulting screen display from accessing the option Start/Halt Duplicate Search:

Figure 82 - Start a BASIC search of the primary file for duplicate records

```
                          DUPLICATE [FILENAME] SEARCH

SEARCH TYPE   DATE STARTED      STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------     ------    --------------     -----------------

BASIC                                          0:00

0 POTENTIAL DUPLICATE PAIRS FOUND

DO YOU WISH TO RUN A SEARCH (Y/N)? Y   <RET>   YES
WHICH TYPE OF SEARCH DO YOU WISH TO RUN ? (BASIC/NEW) BASIC// BASIC
REQUESTED START TIME: NOW//   <RET>  (MAY 01, 1997@18:24:30)
```

You can start the search NOW, or queue it for a different date and time. This is a tasked job that can be started and halted until the entire file has been checked for potential duplicates.

The next figure shows the resulting screen display from a completed search of the primary file.

Figure 83 -Completed BASIC search of the primary file for duplicate records

```
                          DUPLICATE [FILENAME] SEARCH

SEARCH TYPE   DATE STARTED      STATUS       HOURS:MIN       # RECORDS CHECKED
-----------  --------------     ------     -------------     -----------------

BASIC        MAY 01, 1997@18:24 COMPLETED    27.23           66527/66527 100.0%


337 POTENTIAL DUPLICATE PAIRS FOUND
```

Notice in the previous figure that:

- a search was started on May 01, 1997 at 18:24
- it was completed,
- it took 27 hours and 23 minutes,
- it searched through 66,527 records in the primary file,
- it searched through 100% of the file, and
- the search found 337 potential duplicate pairs.

When a search is started, it may be monitored by the option Display Search Status from the Utilities menu.

NOTE: The previous figure shows that the search took 27 hours and 23 minutes to run to completion. However, actual time for a search has been known to exceed 100 hours. Be advised that searching the database for duplicate record pairs can take a long time to run to completion.

9.1.8 STOP an Active Merge Process

Once a merge has been started you can stop it by using the option STOP an Active Merge Process located on the Manager's Utilities menu. The merge process can also be stopped using the Task Manager option under the TBOX common menu option.

Only authorized persons holding the XDRMGR security key should be responsible for using this option.

Figure 84 -Stopping the merge process

```
DUPLICATE MANAGER UTILITIES MENU


   EDT    EDIT SITE PARAMETERS
   LIST   LIST FILE ENTRIES IDENTIFIED IN PRELIMINARY SCAN
   SCN    PRELIMINARY SCAN OF FILE FOR ERRORS
   PRGM   PURGE MERGE PROCESS FILE
   RES    RESTART A MERGE PROCESS
   SCH    SCHEDULE PROCESS TO MERGE VERIFIED DUPLICATES
   SRCH   START/HALT DUPLICATE SEARCH
   STOP   STOP AN ACTIVE MERGE PROCESS

SELECT MANAGER UTILITIES OPTION: STOP  <RET>  STOP AN ACTIVE MERGE PROCESS
DO YOU WANT TO STOP TEST3? YES  <RET>  YES
```

10 Glossary

Term	Definition
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	A code that, along with the Verify code, allows the computer to identify you as a user authorized to gain access to the computer. Your code is greater than 6 and less than 20 characters long; can be numeric, alphabetic, or a combination of both; and is usually assigned by a site manager or application coordinator. It is used by the Kernel's Sign-on/Security system to identify the user (see Verify Code).
Active Patients	Patients who have been seen at a site within the past three years.
ADPAC	Automated Data Processing Application Coordinator.
ADR	The Administrative Data Repository is a centralized database repository for person (PATIENT [#2] and NEW PERSON [#200] files). It is the authoritative data store within VHA for cross-cutting person administrative information. The Administrative Data Repository contains identification and cross-cutting demographics data as well as other administrative information.
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 or 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	American National Standards Institute.
ANSI M	The M (formerly known as MUMPS) programming language is a standard recognized by the American National Standard Institute (ANSI). M stands for Massachusetts Utility Multi-programming System.
API	Program 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. VistA APIs fall into the following three categories:

Term	Definition
	The first category is "Supported API" These are callable routines, which are supported for general use by all VistA applications. The second category is "Controlled Subscription API." These are callable routines for which you must obtain an Integration Agreement (IA - formerly referred to as a DBIA) to use. The third category is "Private API," where only a single application is granted permission to use an attribute/function of another VistA package. These IAs are granted for special cases, transitional problems between versions, and release coordination.
Application Coordinator	Designated individuals responsible for user-level management and maintenance of an application package such as IFCAP, Lab, Pharmacy, Mental Health, etc.
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.
AT-SIGN ("@")	A VA FileMan security Access code that gives the user programmer-level access to files and to VA FileMan's developer features. See Programmer Access. Also, the character "@" (i.e., at-sign, Shift-2 key on most keyboards) is used at VA FileMan field prompts to delete data.
Auto-Menu	An indication to Menu Manager that the current user's menu items should be displayed automatically. When auto-menu is not in effect, the user must enter a question mark at the menu's select prompt to see the list of menu items.
Callable Entry Point	An authorized programmer call that may be used in any VistA application package. The DBA maintains the list of DBIC-approved entry points.
Caret	A symbol expressed as up caret ("^"), left caret ("<"), or right caret (">"). In many M systems, a right caret is used as a system prompt and an up caret to exit an option. Also known as the up-arrow symbol or shift–6 key.
Checksum	The result of a mathematical computation involving the individual characters of a routine or file.
Command	A combination of characters that instruct the computer to perform a specific operation.
Common Menu	The Common menu consists of 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.

Term	Definition
Compiled Menu System (^XUTL Global)	Job-specific information that is kept on each CPU so that it is readily available during the user's session. It is stored in the ^XUTL global, which is maintained by the menu system to hold commonly referenced information. The user's place within the menu trees is stored, for example, to enable navigation via menu jumping.
Control Key	The Control Key (Ctrl on the keyboard) performs a specific function in conjunction with another key. In word-processing, for example, holding down the Ctrl key and typing an A causes a new set of margins and tab settings to occur; Ctrl-S causes printing on the terminal screen to stop; Ctrl-Q restarts printing on the terminal screen; Ctrl-U deletes an entire line of data entry before the Return key is pressed.
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.
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 Attribute	A characteristic unit of data such as length, value, or method of representation. VA FileMan field definitions specify data attributes.
Data Dictionary (DD)	The Data Dictionary is a global containing a description of the kind of data that is stored in the global corresponding to a particular file. VA FileMan uses the data internally for interpreting and processing files.

Term	Definition
	It contains the definitions of a file's elements (fields or data attributes), relationships 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.
Data Integrity	This term refers to the condition of patient records in terms of completeness and correctness. It also refers to the process in which a particular patient's data is synchronized at all the sites in which that patient receives care.
Data Type	A specific field or type of information, such as Name, Social Security Number, etc.
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 (DBMS)	A collection of software that handles the storage, retrieval, and updating of records in a database. A Database Management System (DBMS) controls redundancy of records and provides the security, integrity, and data independence of a database.
Database, National	A database that contains data collected or entered for all VHA sites.
DBA	Database Administrator, oversees software development with respect to VistA Standards and Conventions (SAC) such as namespacing. In addition, this term refers to the Database Administration function and staff.
DBIA	Database Integration Agreement, see Integration Agreements.
Debug	To correct logic errors or syntax errors or both types in a computer program. To remove errors from a program.
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.

Term	Definition
Department of Veterans Affairs	The Department of Veterans Affairs (formerly known as the Veterans Administration.)
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	Decentralized Hospital Computer Program (now known as Veterans Health Information Systems and Technology Architecture [VistA]). VistA software, developed by VA, is used to support clinical and administrative functions at VA Medical Centers nationwide. It is written in M and, via the Kernel, runs on all major M implementations regardless of vendor. VistA is composed of packages that undergo a verification process to ensure conformity with namespacing and other VistA standards and conventions.
Dictionary	Database of specifications of data and information processing resources. VA FileMan's database of data dictionaries is stored in the FILE of files (#1).
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.
Domain	A site for sending and receiving mail.
Double Quotes ("")	Symbol used in front of a Common option's menu text or synonym to select it from the Common menu. For example, the five-character string "TBOX" selects the User's Toolbox Common option.
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]).
DUZ	Local variable holding the user number that identifies the signed-on user.
DUZ(0)	A local variable that holds the File Manager Access Code of the signed-on user.
EIE	Enterprise Infrastructure Engineering
Electronic Signature Code	Secret password that some users may need to establish in order to sign documents via the computer.
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.

Term	Definition
Entry	VA FileMan record. An internal entry number (IEN, the .001 field) uniquely identifies an entry in a file.
EPG	Engineering Process Group (EPG) (formerly known as Software Engineering Process Group [SEPG]).
Error Trap	A mechanism to capture system errors and record facts about the computing context such as the local symbol table, last global reference, and routine in use. Operating systems provide tools such as the %ER utility. The Kernel provides a generic error trapping mechanism with use of the ^%ZTER global and ^XTER* routines. Errors can be trapped and, when possible, the user is returned to the menu system.
EVS	Enterprise VistA Support (renamed to Product Support)
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 prompts 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	Global Address List.
Global Variable	Variable that is stored on disk (M usage).
Go-Home Jump	A menu jump that returns the user to the Primary menu presented at sign-on. It is specified by entering two up-arrows (^^) at the menu's

Term	Definition
	select prompt. It resembles the rubber band jump but without an option specification after the up-arrows.
Healthe<u>e</u>Vet-VistA	The next generation of VistA, HealtheVet-VistA, will retain all of the capabilities of legacy VistA but will provide enhanced flexibility for future health care and compliance with the One VA Enterprise Architecture. It will allow seamless data sharing between all parts of VA to benefit Veterans and their families.
Help Frames	Entries in the HELP FRAME file that may be distributed with application packages to provide online documentation. Frames may be linked with other related frames to form a nested structure.
Help Processor	A Kernel module that provides a system for creating and displaying online documentation. It is integrated within the menu system so that help frames associated with options can be displayed with a standard query at the menu's select prompt.
Help Prompt	The brief help that is available at the field level when entering one or more question marks.
HL7	National standard for electronic data exchange/messaging protocol.
Host File Server (HFS)	A procedure available on layered systems whereby a file on the host system can be identified to receive output. It is implemented by the Device Handler's HFS device type.
ICN	Patients are assigned a unique identifier, known as an Integration Control Number (ICN), within the process of being added to the MPI database. This number links patients to their records across VHA systems. The Integration Control Number 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.
ICN/VPID	A combination of Integration Control Number and Veterans Administration Personal Identifier used to uniquely identify a person or record.
Identity Hub	Initiate's Probabilistic Algorithm implementation.
IMDQ New name: "Healthcare Identity Management (HC IdM)"	The Identity Management Data Quality Team (renamed the Healthcare Identity Management Team) is a group of Data Management Analysts committed to improving and safeguarding the quality and accessibility of patient data throughout the VA enterprise. They are involved in many data quality initiatives, but their primary role is to assist VHA facilities in all matters related to the MPI.
IMDQ Toolkit	Identity Management Data Quality ToolKit. The IMDQ Toolkit will provide functionality to allow HC IdM staff to search and view identity and exception information in ADR. This includes the ability to view the

Term	Definition
	Primary View record and any associated correlations, correlation data, history, audit trails, and IMDQ Business Rule Events captured by PSIM and MPI. In addition, functionality is provided to support the re-hosting transition for a side-by-side comparison of ADR and MPI information.
Initiate	Identity Management software vendor that was selected by the VHA to provide an Identity Management Probabilistic Algorithm.
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)	Integration Agreements define agreements between two or more VistA software applications to allow access to one development domain by another. VistA software developers are allowed to use internal entry points (APIs) or other software-specific features that are not available to the general programming public. 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. The DBA maintains and records all IAs in the Integration Agreement database on FORUM. Content can be viewed using the DBA menu or the Health Systems Design & Development's Web page.
Integration Control Number (ICN)	Patients are assigned a unique identifier, known as an Integration Control Number (ICN), within the process of being added to the MPI database. This number links patients to their records across VHA systems. The Integration Control Number 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.
Internal Entry Number (IEN)	The number used to identify an entry within a file. Every record has a unique internal entry number.
IRM	Information Resource Management. A service at VA medical centers responsible for computer management and system security.
ISO	Information Security Officer.
ISS	Infrastructure and Security Services (now known as Common Services Security Program).
IV&V	IV&V is the principal activity that oversees the successful implementation and execution of all internal control processes for financial and interfacing systems.

Term	Definition
	In order to ensure overall systems integrity, IV&V is accomplished organizationally independent from the elements that acquire, design, develop or maintain the system.
KERNEL	VistA software that functions as an intermediary between the host operating system and other VistA software applications so that VistA software can coexist in a standard operating-system-independent computing environment. Kernel provides a standard and consistent user and programmer interface between software applications and the underlying M implementation.
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.
Keyword	A word or phrase used to call up several codes from the reference files in the LOCAL LOOK-UP file. One specific code may be called up by several different keywords.
LAN	Local Area Network.
LAYGO Access	A user's authorization to create a new entry when editing a computer file. (Learn As You GO allows you the ability to create new file entries.)
Lookup	To find an entry in a file using a value for one of its fields.
M (ANSI Standard)	Massachusetts General Hospital Utility Multi-Programming System (M, formerly named MUMPS) is a software package, which consists of a high level programming language and a built-in database.
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 MPI is a separate computer system located at the Austin Information Technology Center. It maintains a record for VA patients and stores data such as a unique patient identifier and Treating Facility lists (which tracks the sites where that ICN is known).
Master Patient Index/Patient	The Master Patient Index/Patient Demographics (MPI/PD) software resides in VistA enabling sites to:

Term	Definition
Demographics (MPI/PD) VistA	Request an ICN assignment. Resolve a potential duplicate on the MPI. Review and process exceptions received from MPI including Primary View Reject exceptions. Query the MPI (Austin) for known data. Update the MPI when changes occur to demographic fields stored on the MPI or of interest to other facilities/systems of interest.
Menu System	The overall Menu Manager logic as it functions within the Kernel framework.
Menu Template	An association of options as pathway specifications to reach one or more final destination options. The final options must be executable activities and not merely menus for the template to function. Any user may define user-specific menu templates via the corresponding Common option.
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.
Menu Trees	The menu system's hierarchical tree-like structures that can be traversed or navigated, like pathways, to give users easy access to various options.
MPI Austin	The MPI is a separate computer system located at the Austin Information Technology Center. It maintains a record for VA patients and stores data such as a unique patient identifier and Treating Facility lists (which tracks the sites where that ICN is known).
MPI/PD	The Master Patient Index/Patient Demographics (MPI/PD) software resides in VistA enabling sites to: Request an ICN assignment. Resolve a potential duplicate on the MPI. Review and process exceptions received from MPI including Primary View Reject exceptions. Query the MPI (Austin) for known data. Update the MPI when changes occur to demographic fields stored on the MPI or of interest to other facilities/systems of interest.
Namespace	A convention for naming VistA package elements. The Database Administrator (DBA) assigns unique character strings for package developers to use in naming routines, options, and other package elements so that packages may coexist. The DBA also assigns a separate range of file numbers to each package.

Term	Definition
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.
NDBI	National Database Integration
Node	In a tree structure, a point at which subordinate items of data originate. An M array element is characterized by a name and a unique subscript. Thus the terms: node, array element, and subscripted variable are synonymous. In a global array, each node might have specific fields or "pieces" reserved for data attributes such as name.
Null	Empty—A field or variable that has no value associated with it is null.
Numeric Field	Response that is limited to a restricted number of digits. It can be dollar valued or a decimal figure of specified precision.
OIT	Office of Information Technology
OIFO	Office of Information Field Office
Package (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).
PIMS	Patient Information Management System- 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.
Primary Menu	The list of options presented at sign-on. Each user must have a primary menu in order to sign-on and reach Menu Manager. Users are given primary menus by Information Resource Management (IRM). This menu should include most of the computing activities the user needs.

Term	Definition
Primary Reviewer	This can be a single person or group of people given the overall responsibility to initiate reviews of potential duplicate record pairs. For example, selected personnel in Patient Administration or a task force or group formed to oversee and conduct the effort of reducing or eliminating the occurrence of duplicate records in the site's database.
Primary View	Primary View of the MPI is a business process that updates the patient identity fields across VA facilities, overview as follows: Primary View is an update to the patient identity fields across VA facilities. Primary View creates a centralized view of the patient data aka a Primary View Primary View has the best data from any combination of sites for the patient Synchronizing the patient identity fields becomes centralized under a new set of business rules on the MPI. Primary View is a transition from and *disassociated* with the Coordinating Master of Record (CMOR) view of the MPI. Primary View removes the burden placed on sites to process the Patient Data Review (PDR) entries. Primary View allows for: VistA sites to continue to edit their own patient data. Patient data is sent to a central system (i.e., the Master Patient Index) to determine validity and quality This is an enterprise view of the most current data for a patient based on authority scoring and the latest data rules. Edits to patient identity traits are evaluated based on the same. The highest score achieves the best quality of data updates to the Primary View.
Private Integration Agreement	Where only a single application is granted permission to use an attribute/function of another VistA package. These IAs are granted for special cases, transitional problems between versions, and release coordination. A Private IA is also created by the requesting package based on their examination of the custodian package's features. Example: one package distributes a patch from another package to ensure smooth installation.
Production Account	The UCI where users log on and carry out their work, as opposed to the manager, or library, account.
Programmer Access	The ability to use VistA features reserved for programmers. Having the programmer's at-sign, when DUZ(0)=@, enables programmer access.
Protocol	Entry in the PROTOCOL file (#101).

Term	Definition
PS	Product Support, formerly named Enterprise Product Support (EPS).
PSIM	Person Service Identity Management
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). Kernel's TaskMan module 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 the specified times.
Read Access	A user's authorization to read information stored in a computer file.
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.
Remote Procedure Call (RPC)	Remote Procedure Call is a protocol that one program can use to request a service from a program located on another computer network. Essentially M code may take optional parameters to do some work and then return either a single value or an array back to the client application.
Resource	Sequential processing of tasks can be controlled through the use of resources. Resources are entries in the DEVICE file, which must be allocated to a process(es) before that process can continue.
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.

Term	Definition
Rubber Band Jump	A menu jump used to go out to an option and then return, in a bouncing motion. The syntax of the jump is two up-arrows followed by an option's menu text or synonym (e.g., ^^PRINT OPTION file). If the two up-arrows are not followed by an option specification, the user is returned to the primary menu (see Go-home Jump).
SAC	Standards and Conventions. 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 Standards and Conventions Committee. 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.
Scrolling Mode	The presentation of the interactive dialog one line at a time. Compare to Screen-oriented.
SE&I	Software Engineering and Integration
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.
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 (Package)	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).

Term	Definition
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.
Subscriber	A subscriber is an entity, which receives updates to a patient's descriptive data from other sites. All treating facilities are also made subscribers as part of the MPI/PD processes.
Subscript	A symbol that is associated with the name of a set to identify a particular subset or element. In M, a numeric or string value that: is enclosed in parentheses, is appended to the name of a local or global variable, and identifies a specific node within an array.
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 package 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 packages to request an IA to use these references; they are open to all by default.
Synonym	A field in the OPTION file. Options may be selected by their menu text or synonym (see Menu Text).
Task Manager	Kernel module that schedules and processes background tasks (also called TaskMan)
TCP/IP	Transaction Control Protocol/Internet Protocol. A set of protocols for Layers 3 (Network) and 4 (Transfer) of the OSI network model. TCP/IP has been developed over a period of 15 years under the auspices of the Department of Defense. It is a de facto standard, particularly as higher-level layers over Ethernet. Although it builds upon the OSI model, TCP/IP is not OSI-compliant.
Threshold, Auto-Link	The Auto-Link Threshold is the level at which an Identity Profile must score against a set of identity traits in order to be considered a match. For most enterprise applications the Auto-Link Threshold would be set at or near the Initiate-suggested Auto Link Threshold. Internal Identity Management Systems (MPI/PSIM) may use a lower score, perhaps the Task Threshold, as an Auto-Link Threshold for identity management decision processes.
Toolkit (KERNEL Toolkit)	The Toolkit is a robust set of tools developed to aid the Veterans Health Information Systems and Technology Architecture (VistA) development community, and Information Resources Management (IRM), in writing,

Term	Definition
	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. The Toolkit provides utilities for the management and definition of development projects. Many of these utilities have been used by the CIO Field Office - San Francisco for internal management and have proven valuable. Toolkit also includes tools provided by other CIO Field Offices based on their proven utility.
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 Event	The event that initiates an exchange of messages is called a trigger event. The HL7 Standard is written from the assumption that an event in the real world of health care creates the need for data to flow among systems. The real-world event is called the trigger event. For example, the trigger event "a patient is admitted" may cause the need for data about that patient to be sent to a number of other systems. There is a one-to-many relationship between message types and trigger event codes. The same trigger event code may not be associated with more than one message type.
UCI	User Class Identification, a computing area. The MGR UCI is typically the Manager's account, while VAH or ROU may be Production accounts.
Up-Arrow Jump	In the menu system, entering an up-arrow (^) followed by an option name accomplishes a jump to the target option without needing to take the usual steps through the menu pathway.
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	Department of Veterans Affairs
VA FileMan	VistA's Database Management System (DBMS). The central component that defines the way standard VistA files are structured and manipulated.

Term	Definition
VAMC	Veterans Affairs Medical Center.
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., $TEST).
Verify Code	The Kernel's Sign-on/Security system uses the Verify code to validate the user's identity. This is an additional security precaution used in conjunction with the Access code. Verify codes shall be at least eight characters in length and contain three of the following four kinds of characters: letters (lower- and uppercase), numbers, and characters that are neither letters nor numbers (e.g., "#", "@" or "$"). If entered incorrectly, the system does not allow the user to access the computer. To protect the user, both codes are invisible on the terminal screen.
VHA	Veterans' Health Administration.
VISN	Veterans Integrated Service Network
VistA	Veterans' Health Information Systems and Technology Architecture (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. It is both roll-and-scroll- and GUI-based software that undergoes a quality assurance process to ensure conformity with namespacing and other VistA standards and conventions (see SAC). Server-side code is written in M, and, via Kernel, runs on all major M implementations regardless of vendor. Client-side code is written in Java or Borland Delphi and runs on the Microsoft operating system.
VPID	Veterans Administration Personal Identifier.
WAN	Wide Area Network.
Z st	All message type and trigger event codes beginning with Z are reserved for locally defined messages. No such codes will be defined within the HL7 Standard.

NOTES:

- For a comprehensive list of commonly used infrastructure- and security-related terms and definitions, visit the Glossary Web site:

  http://vaww.vista.med.va.gov/iss/glossary.asp
- For a comprehensive list of acronyms, visit the Acronyms Web site :

  http://vaww.vista.med.va.gov/iss/acronyms/index.asp

11 Appendix A

11.1 "Are You New to VistA?"

If you are just learning to use Veterans Health Information Systems and Technology Architecture (VistA) software, this chapter introduces you to a small but important part of VistA—signing on, entering data, and getting out. You do not have to be a computer expert or know many technical terms to use VistA software. This chapter helps you get started. If you are an experienced VistA user, this chapter can serve as a reminder.

11.2 How Does VistA Work?

VistA software packages use the computer in an interactive fashion. An interactive system involves a conversation with the computer. The computer asks you to supply information and immediately processes it. You will be interacting with the software by responding to prompts (the questions) in the program. The computer recognizes your responses when you complete the interaction by pressing the Return or Enter key.

VistA software is "menu driven." A menu is a screen display which lists all of the choices (options) available. You will see only the menus, options, and functions which you have security clearance to use. Once you have made a selection, the software can branch to another menu (submenu) or you might be asked to answer questions, which allow the computer to perform tasks.

11.3 How to Sign-on

The procedure for establishing a link to the terminal involves access and verify codes. IRM staff assigns these codes. Contact your supervisor if you need these codes. For security reasons, your access and verify codes are not displayed on the terminal screen when you type them in. Please do not write your code down or reveal it to others. The sign-on banner shows the date and time you last signed on. The banner also shows if the account had any unsuccessful attempts at logon. Periodically, you are required to change your verify code.

Press the Return key on the keyboard. A blinking cursor appears on the terminal. You will then see:

`ACCESS CODE:`	Enter your assigned access code
`VERIFY CODE:`	Enter your self-assigned verify code

11.4 How to Exit a VistA Process

In most cases, when you begin an option you will continue stepping through it to its completion. At times, you might want to exit the option to do something else. To stop and exit out of what you are doing, enter an up-arrow (^). You can use the up-arrow at almost any prompt to terminate the line of questioning and return to the previous level in the routine. Continue entering the up-arrow to completely exit the system.

11.5 How to Enter Data

Each time you enter data, that action must be followed by pressing the Return key (or Enter key on some keyboards) to indicate you have completed that entry. In many cases, you need only enter the first few letters (called shortcut synonyms) of an option or field, and the computer fills in the rest. Shortcut synonyms help increase speed and accuracy. The Return key is illustrated by the symbol **<RET>** when displayed in interactive computer dialogue.

If you want to bypass a prompt, press the Return or Enter key and the computer goes on to the next question. You are allowed to bypass a question only if the information is not required to continue with the option.

11.6 How to Generate Online Documentation

Online documentation about this package may be obtained in a number of ways as described below.

11.7 Retrieving Online Help Using Question Marks

If you need assistance while interacting with the software, you can enter question marks to receive online help, shown below:

- Entering a single question mark at a prompt provides a brief help message. From any top-level menu prompt , one question mark will display the items available on the menu.
- Two question marks entered at a prompt, provides a more extensive description and/or a list of choices appropriate to the prompt. At the top-level menu prompt, two question marks will show the Common Menu available to all users as well as any Secondary Menu options for the current user.

Locked options are displayed if the user holds the key. Three question marks displays descriptions of the options from the OPTION file (#19). Four question marks displays a help frame if one has been associated with this option in the OPTION file (#19). A question mark followed by the name of an option on the current menu will display a help frame if one has been named for that option in the OPTION file (#19).

11.8 List File Attributes

This 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 an output which lists all cross-references for the file selected, global location of each field in the file, input templates, print templates, and sort templates.

11.9 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.

11.10 Responding to Prompts

When the computer prompts you with a question, typically a colon (:) follows the menu text. Several types of prompts may be used including yes/no, select, and default. Prompts can be a field in a file, like the basic prompt shown below:

`DATE OF BIRTH:` *This type of prompt is waiting for you to enter a value, like March 3, 1960. Don't forget to complete your interaction by pressing the Return or Enter key.*

11.10.1 Select Prompt

If the answer to the prompt is a choice of several alternatives, the question can appear prefixed with the word "Select," as below:

`Select PATIENT NAME:` *This is referred to in the manual as the Select Prompt.*

11.10.2 Yes/No Prompt

If the question requires either a Yes or No response (in which case you can enter a Y or N; upper or lower case is acceptable), the question can be followed by a question mark rather than a colon, shown below:

ARE YOU SURE?

Sometimes the question text includes, within parentheses, the different allowable responses that you can make to that question as shown below:

ARE YOU SURE (Y/N)?

11.10.3 Default Prompt

Sometimes the question the computer is asking you has a standard expected answer. This is known as the default response. In order to save you the trouble of typing the most probable answer, the computer provides the answer followed with a double slash (//). You either enter nothing (also known as a null response) by pressing the Return key to accept the default response as your answer, or you can type a different response:

IS IT OKAY TO DELETE? NO//

11.10.4 Invalid Response

VistA software checks each answer immediately after it is entered. Whenever the computer determines that an answer is invalid for any reason, it beeps, displays two spaces and two questions marks, and repeats the question on a new line.

11.10.5 LAYGO

LAYGO access is not allowed in the Package. However, it is explained here to further promote your understanding of VistA.

VistA software checks your answers against an internally stored table of valid answers. If your answer is not stored in this table, but the Learn-As-You-GO (LAYGO) mode is allowed, the computer adds your response to this internal table. If LAYGO mode is allowed, an example dialogue displays something like this:

ARE YOU ADDING A NEW CLINIC? If you respond with a Y (or YES, or yes), the software adds the new clinic in its validation table and accepts the answer. If anything other than Yes is entered, the original answer is invalidated and the question is repeated.

11.11 How to Enter Dates and Times

When the acceptable answer to a question is a date, use the following answer formats. Note that the response is not case sensitive, upper or lower case input is acceptable as follows:

JULY 20, 1969

7/20/69

20 JUL 69

10jul69

10 Jul 69

072069

TODAY or Today or T or t *(today)*

TODAY+1 or T+1 or t+1 *(tomorrow)*

TODAY-7 or T-7 or t-7 *(one week ago)*

TODAY+3W or T+3W or t+3w *(3 weeks hence)*

NOW+1H *(present time plus one hour)*

NOW+4M *(present time plus four months)*

NOON *(12:00 p.m.)*

MID *(12:00 a.m.)*

The year portion of the date can be left off; normally the system assumes the current year. Occasionally, the software allows you to enter a time-of-day in connection with a date, for example, 4:00 p.m. on July 20, 1994. To do this, type the date in one of the above forms followed by an at sign (@), followed by the time. For example, you might enter:

20 JUL 94@4PM

In this mode, you can enter time either as military (four digit) time, hour AM/PM, or hour:minute:second AM/PM, or simply NOW (or Now, or now) for the current date/time.

The colon (:) can be omitted and AM/PM can also be omitted if the time being entered is between 6 a.m. and 6 p.m. Thus, today at 3:30 p.m. can be entered as:

T@330

Use MID as a response to mean 12:00 a.m. (midnight) and NOON as a response to mean 12:00 p.m. for time associated with dates:

T+3W@MID

11.12 Making Corrections

When you want to delete an answer previously entered, without substituting any other answer, enter an at sign (@) as a response to that prompt. This leaves the answer blank as shown below:

DATE OF BIRTH: May 21, 1946//@ In this example, the date on file has been erased and now there is no answer to the "DATE OF BIRTH" prompt; it is null.

The system asks you to confirm that you really intend to delete the information. You may not be able to delete a response if the information is required:

ARE YOU SURE? This question is a safety feature, giving you a chance to change your mind now, without re-editing later.

11.13 Spacebar Return Feature

When using this software, you might want to answer a prompt with a code meaning *the same as before*. The computer is capable of remembering what your last response(s) were the last time you signed on. This feature is called spacebar return and employs the spacebar and Return keys.

You generally can repeat information you've entered the first time by entering a space and pressing the Return or Enter key. For example, you might do a series of procedures for one patient. Each time (after the first) you are asked for the patient name, you can enter a space and press the Return key; the computer enters the same patient.

11.14 Printing Reports

Frequently, when you've finished some data entry you are asked if you wish to print the record, file, or report. You can display the report on your terminal screen or produce a paper copy. You are prompted to enter a device number of the printer you want to use. If you do not know the printer's device number, you can enter a question mark for a list of printers. In some cases the device you will use has already been decided for you and you are not asked where you want to print. If you need assistance in determining the device number, ask your application coordinator or site manager.

11.15 Right Margin

Sometimes you are asked to specify the right margin of the report. You are not asked this in all cases as the information might be preset for the device you specify and a default answer provided. Nevertheless, your choices are simple. Generally, "80" is used

for standard size paper or for displaying on the terminal screen; "132" is used for wider paper as shown below:

DEVICE: Right Margin: 80//

11.16 Display the Report on the Terminal Screen

Display is the word used to indicate data printed to a terminal screen rather than on paper. At the DEVICE prompt, if you want to view a report on your screen, press the Return key. Normally, if you do not specify a device number, the information prints on your screen. After the screen fills with the first page of the report, you are prompted to press the Return key to continue with the next screen of data. The process is repeated at the bottom of every screen. You can exit the option at any time by entering an up-arrow (^) as shown below:

Press <RET> to continue, or '^' to quit

11.17 Spool (Print) a Report to the Printer

To spool your report to a designated printer, enter the name of the printer at the device prompt show below:

DEVICE: HOME// Enter the printer name

NOTE: You can display a list of your available printers by entering two questions marks (??) at the device prompt.

11.17.1 Queue Report to a Printer

If you want to queue your output to run in the background, type the letter Q at the DEVICE prompt. Next, you are prompted to enter a device number of the printer you want to use. Finally, enter the date and time you would like the report to print as shown below:

DEVICE: HOME// *Enter the letter Q to queue the print job.*

DEVICE: HOME// *Enter the device name or number.*

Requested Start Time: NOW// *Press the Return key or enter a time here using the date and time formats discussed previous (e.g., NOW+1 for one hour from now).*

12 Appendix B

12.1 "Where Do I Find How To ...?"

12.1.1 Patient Merge FAQ: Reviewers and IRM Personnel

The following table presents the menu structure in a question and answer format (i.e., "Where Do I Find How To ...?"). The left-hand column is sorted alphabetically by the question being asked. The related menu options (or answers) are provided in the right-hand column. Both reviewers and IRM personnel can use these options.

Table 5 -Duplicate Record Merge: Patient Merge FAQ—Reviewers and IRM personnel

How Do I?	Use The Menu Option
Add a specific pair of records to the DUPLICATE RECORD file (#15) that are not already identified as potential or verified duplicates?	Add Verified Duplicate Pair **NOTE:** As of Patch XT*7.3*113, this option no longer performs the fuzzy logic check on the two selected patients for the PATIENT file (#2). The site will be allowed to add any two PATIENTs to File #15 (DUPLICATE RECORD FILE). Most duplicate records will be automatically added to the file when the PSIM Identify search engine determines that a pair of patients are a match or a potential match.
Approve verified duplicate record pairs for merging?	Approve Verified Duplicates for Merging
Check the status of a merge process?	Check Merge Process Status
Check the status of the search for duplicate record pairs?	Display Search Status
Check two discrete records for their duplicate status?	Check Pair of Records to see if Duplicates **NOTE:** As of Patch XT*7.3*113, users can no longer select PATIENT records from this option. Checking for potential duplicates will be done by PSIM.
Compare record pairs found from the search of the primary file to see if they are duplicates?	Verify Potential Duplicates
Edit the assigned status of a duplicate record pair?	Edit the Status Field of a Duplicate Record

How Do I?	Use The Menu Option
Find potential data errors in a patient's record before it's merged?	Identify Potential Merge Problems
Find duplicate entries for a single patient record?	Find Potential Duplicates for an Entry in a File **NOTE**: As of Patch XT*7.3*113, users can no longer select PATIENT records from this option. Finding potential duplicates will be done by PSIM.
Get a quick count, or tally, of the records in the DUPLICATE RECORD file grouped by status?	Tally STATUS and MERGE STATUS fields
Print reports?	• Print List of File Duplicates • Tally STATUS and MERGE STATUS fields • Scan Possible Duplicates (Output can be queued to the VA FileMan Browser or to a printer.)
Print selected categories of duplicate record pairs found?	Print List of File Duplicates
Review duplicate record pairs after receiving a MailMan message notification?	Ancillary Data Review (You have to manually access this option after receiving the MailMan message notification.)
Review duplicate record pairs after receiving an alert notification?	No menu option associated. You are automatically taken into the review process. It is similar to the Ancillary Data Review option.
Review record pairs found from the search of the primary file to see if they are duplicates?	Verify Potential Duplicates
Verify duplicate record pairs after receiving a MailMan message notification?	Ancillary Data Review (You have to manually access this option after receiving the MailMan message notification.)
Verify duplicate record pairs after receiving an alert notification?	No menu option associated. You are automatically taken into the review process. It is similar to the Ancillary Data Review option.

How Do I?	Use The Menu Option
Verify record pairs as duplicates found by PSIM?	Verify Potential Duplicates
View data for a duplicate record pair in a captioned format?	View Duplicate Record Entries
View zero nodes of potential duplicate record pairs using the VA FileMan Browser?	Scan Possible Duplicates (Output can be queued to the VA FileMan Browser or to a printer.)

12.1.2 Patient Merge FAQ: Staff Authorized to Hold the XDRMGR Security Key

The following table presents the menu structure in a question and answer format (i.e., "Where Do I Find How To ...?"). The left-hand column is sorted alphabetically by the question being asked. The related menu options (or answers) are provided in the right-hand column. Only those persons authorized to hold the XDRMGR security key should be responsible for using these options.

Table 6 -Duplicate Record Merge: Patient Merge FAQ—Staff Authorized to Hold the XDRMGR Security Key

How Do I?	Use The Menu Option
Assign reviewers to mail groups?	Edit Site Parameters, Ancillary Service Information
Assign reviewers to receive alerts?	Edit Site Parameters, Ancillary Service Information
Check for errors in the selected file being searched?	Preliminary Scan of File for Errors
Check for errors in the selected file being searched?	Preliminary Scan of File for Errors
Generate a list of patient records with missing zero nodes, missing identifiers, with bad SSN values, or with invalid fields?	List File Entries Identified in Preliminary Scan
Merge verified duplicate record pairs?	Schedule Process to Merge Verified Duplicates
Print reports?	List File Entries Identified in Preliminary Scan
Purge all duplicate entries in the XDR MERGE PROCESS file (#15.2)?	Purge Merge Process File

How Do I?	Use The Menu Option
Restart a Merge Process?	Restart a Merge Process
Search a primary file for potential duplicate pairs?	Start/Halt Duplicate Search **NOTE**: As of Patch XT*7.3*113, this option can no longer be used on the PATIENT file (#2).
Set up ancillary services?	Edit Site Parameters, Ancillary Service Information
Set up the Patient Merge site parameters?	Edit Site Parameters
Stop a merge process?	STOP an Active Merge Process

13 Appendix C

13.1 Health Summary Component Descriptions

A Health Summary component is a brief patient data extract from various VistA software packages. This appendix contains descriptions for all components available in the Health Summary package. These descriptions have been made available to aid you in producing a comprehensive backup of all patient data available for multiple patients.

NOTE: These descriptions are provided for your convenience from the HEALTH SUMMARY COMPONENT file (#142.1) .

The following is a list of component descriptions by package, component name, and component abbreviation. Notice that some packages have multiple components.

Package: Allergy Tracking System

Component Name: Adv React/Allerg

Abbreviation: ADR

This component provides patient allergy/adverse reaction information from the Allergy Tracking System. It provides a list of all known food, drug and environmental allergies or adverse reactions (e.g., hay fever). Data element included are type of reaction, mechanism of reaction, causative agent, verification status, signs/symptoms for the reaction, the originator, and comments.

Component Name: Brief Adv React/All

Abbreviation: BADR

This component provides patient allergy/adverse reaction information from the Allergy Tracking System. It provides a brief patient list of all known food, drug and environmental allergies or adverse reactions (e.g., hay fever).

Package: Automated Medical Information Exchange (AMIE)

Component Name: Comp. & Pen.Exams

Abbreviation: CP

This component prints all compensation and pension exams for a given patient by user-specified time and occurrence limits.

Package: Dietetics

Component Name: Dietetics

Abbreviation: DI

This component contains information from the Dietetics package. Time and occurrence limits apply to this component. Data presented include: diet orders, start/stop dates, type of service (tray, e.g.); nutritional status, date assessed; supplemental feedings, start/stop dates; tube feedings, start/stop dates, strength of product, quantity ordered, and daily dosages.

NOTE: When a time limit is selected, the data presented reflects orders initiated within the time period.

Package: Discharge Summary

Component Name: Discharge Summary

Abbreviation: DCS

This component prints all discharge summaries (including report text) for user-specified time and occurrence limits.

Component Name: Brief Disch Summary

Abbreviation: BDS

This component prints the admission, discharge and co-signature dates, as the dictating and approving provider names, and signature status of all discharge summaries for user-specified time and occurrence limits.

Package: Laboratory

Component Name: Blood Availability

Abbreviation: BA.

This component contains information from the Blood Bank module of the Lab Package. Time and occurrence limits apply to this component. Data presented include: patient blood type (whether or not units have been assigned), unit expiration date, unit ID#, blood product(s), cross-match results, last known location, and a flag for autologous units.

NOTE: An asterisked date (e.g., * 10/10/90) indicates that the unit is due to expire within the next 48 hours.

Component Name: Blood Transfusions

Abbreviation: BT

This component contains information from the Blood Bank module of the Lab Package. Time and occurrence limits apply to this component. Data presented include: transfusion date and abbreviated blood products (with total number of units transfused for each, e.g., RBC (2)). A key of the abbreviations is presented at the bottom of the display to help identify any unfamiliar blood products.

Component Name: Chem & Hematology

Abbreviation: CH

This component contains information extracted from the Lab package. Time and maximum occurrence limits apply to this component. Data presented include: collection date/time, specimen, test name, results (w/ref flag: High/Low/Critical), units, and Reference range. Comments will also be conditionally displayed, depending on the value of the DISPLAY COMMENTS ON LABS Health Summary Site Parameter. Results which include comments will be indicated with the symbol !!, in the event that the parameter is set to 0 or NO.

Component Name: Lab Cum Selected

Abbreviation: SCLU

This component contains information extracted from the Lab package. Not only do time and maximum occurrence limits apply to this component, but also the user is allowed to select any number of atomic Lab tests. Data presented include: collection date/time, specimen, test names with results and reference flags in columnar (horizontal) format. Comments will also be conditionally displayed, depending on the value of the DISPLAY COMMENTS ON LABS Health Summary Site Parameter. When comments are displayed, a lower case letter will be displayed to the left of the date for entries with comments. Comments will be displayed after all the results are displayed with comments being linked by the lower case letter. p to 26 comments can be included.

Component Name: Lab Cum Selected 1

Abbreviation: SCL1

This component contains information extracted from the Lab package. Not only do time and maximum occurrence limits apply to this component, but also the user is allowed to select as many as seven atomic Lab tests. Data presented include: collection date/time, specimen, test names with results and reference flags in columnar (horizontal) format. Comments will also be conditionally displayed,

depending on the value of the DISPLAY COMMENTS ON LABS Health Summary Site Parameter. When comments are displayed, a lower case letter will be displayed to the left of the date for entries with comments. Comments will be displayed after all the results are displayed with comments being linked by the lower case letter. Up to 26 comments can be included.

Component Name: Lab Cum Selected 2

Abbreviation: SCL2

This component contains information extracted from the Lab package. Not only do time and maximum occurrence limits apply to this component, but also the user is allowed to select as many as seven atomic Lab tests. Data presented include: collection date/time, specimen, test names with results and reference flags in columnar (horizontal) format. Comments will also be conditionally displayed, depending on the value of the DISPLAY COMMENTS ON LABS Health Summary Site Parameter. When comments are displayed, a lower case letter will be displayed to the left of the date for entries with comments. Comments will be displayed after all the results are displayed with comments being linked by the lower case letter. Up to 26 comments can be included.

Component Name: Lab Cum Selected 3

Abbreviation: SCL3

This component contains information extracted from the Lab package. Not only do time and maximum occurrence limits apply to this component, but also the user is allowed to select as many as seven atomic Lab tests. Data presented include: collection date/time, specimen, test names with results and reference flags in columnar (horizontal) format. Comments will also be conditionally displayed, depending on the value of the DISPLAY COMMENTS ON LABS Health Summary Site Parameter. When comments are displayed, a lower case letter will be displayed to the left of the date for entries with comments. Comments will be displayed after all the results are displayed with comments being linked by the lower case letter. Up to 26 comments can be included.

Component Name: Lab Cum Selected 4

Abbreviation: SCL4

This component contains information extracted from the Lab package. Not only do time and maximum occurrence limits apply to this component, but also the user is allowed to select as many as seven atomic Lab tests. Data presented include: collection date/time, specimen, test names with results and reference flags in columnar (horizontal) format. Comments will also be conditionally displayed,

depending on the value of the DISPLAY COMMENTS ON LABS Health Summary Site Parameter. When comments are displayed, a lower case letter will be displayed to the left of the date for entries with comments. Comments will be displayed after all the results are displayed with comments being linked by the lower case letter. Up to 26 comments can be included.

Component Name: Cytopathology

Abbreviation: CY

This component contains information extracted from the Cytopathology module of the Lab package. Time and maximum occurrence limits apply. Data presented include: collection date/time, accession number, specimen, gross description, microscopic exam, brief clinical history, and Cytopathology Diagnosis.

Component Name: Electron Microscopy

Abbreviation: EM

This component contains information extracted from the Electron Microscopy module of the Lab package. Time and maximum occurrence limits apply. Data presented include: collection date/time, accession number, specimen, gross description, microscopic exam, supplementary report description, brief clinical history, and EM Diagnosis.

Component Name: Microbiology

Abbreviation: MIC

This component contains information extracted from the Microbiology module of the Lab Package. Time and maximum occurrence limits apply. Data include: collection date/time, collection sample, site/specimen, specimen comment, tests, urine screen, sputum screen, sterility control, sterility results, comments for reports, smear/prep, acid fast stain Parasite Report, organism(s), Mycology Report, Bacteriology Report, Mycobacteriology Report, Gram Stain Result, Culture and Susceptibility, Antibiotic Serum Level, and remarks.

Component Name: Brief Microbiology

Abbreviation: BMIC

This component contains information extracted from the Lab package. Time and maximum occurrence limits apply to this component in addition to collection date/time, test names, specimen, report status, Culture and Susceptibility, Smear/Prep, Acid Fast Stain, Antibiotic Serum Level, and test results.

Component Name: Lab Orders

Abbreviation: LO

This component contains information extracted from the Lab package. Time and maximum occurrence limits apply. Data presented include: collection date (either actual or expected), lab test, provider, accession, date/time ordered, specimen, and date/time results available.

Component Name: Brief Lab Orders

Abbreviation: BLO

This component contains information extracted from the Lab package. Time and maximum occurrence limits apply. Data presented include: collection date/time, lab test name, specimen, urgency, and order status (e.g., ORDERED, COLLECTED, PROCESSING, COMPLETE).

Component Name: Surgical Pathology

Abbreviation: SP

This component contains information extracted from the Surgical Pathology module of the Lab package. Time and maximum occurrence limits apply. Data presented include: collection date/time, accession number, specimen, gross description, microscopic description, brief clinical history, supplementary report description, frozen section and surgical path diagnosis.

Component Name: Lab Tests Selected

Abbreviation: SLT

This component contains information extracted from the Lab package. Not only do time and maximum occurrence limits apply to this component, but also the user is allowed to select any number of atomic Lab tests. Data includes: collection date/time, specimen, test name, result, units and reference range. Comments will also be conditionally displayed, depending on the value of the DISPLAY COMMENTS ON LABS Health Summary Site Parameter. Results which include comments will be indicated with the symbol !!, in the event that the parameter is set to 0 or NO.

NOTE: This component corresponds to the vertical format for the Lab package's cumulative reports.

Package: Medicine

Component Name: Med Abnormal

Abbreviation: MEDA

This component contains information extracted from the Medicine package. Data presented include: procedure date/time, medical procedure name, and result (e.g., normal, abnormal, borderline). Time and maximum occurrence limits apply.

Component Name: Med Brief Report

Abbreviation: MEDB

This is the brief procedure view defined by the Medicine View file. This output can be managed by the local IRM staff. Time and maximum occurrence limits apply.

Component Name: Med Full Captioned

Abbreviation: MEDC

This prints the full set of results which are present in each procedure. No labels will be included which have no values associated with them. Time and maximum occurrence limits apply.

Component Name: Med Full Report

Abbreviation: MEDF

This component provides a full report of procedures as defined by the Medicine View file. This report includes labels which have no value associated with them. Time and maximum occurrence limits apply.

Component Name: Med (1 line) Summary

Abbreviation: MEDS

This component provides a one line summary view of Medicine procedures, which is extracted from the Medicine package. Time and maximum occurrence limits apply. Data presented include: procedure date/time, medical procedure name, and result (e.g., normal, abnormal, borderline).

NOTE: This component is a summary of procedure statuses.

Package: Mental Health

Component Name: MH Physical Exam

Abbreviation: MHPE

The Mental Health Physical Exam component contains the results of the physical examination concerning patient's overall condition associated with the systems identified. This data is being extracted from the Medical Record (# 90) file.

Package: Nursing

Component Name: Vital Signs

Abbreviation: VS

This component contains vital measurements extracted from the Vital Signs module of the Nursing package. Time and maximum occurrence limits apply. Data presented include: measurement date/time, blood pressure (as SBP/DBP), pulse, temperature, height, weight, and respiratory rate.

Component Name: Vital Signs Selected

Abbreviation: SVS

This component contains selected vital measurements extracted from the Vital Signs module of the Nursing package. Time and maximum occurrence limits apply, and the user is allowed to select any of the vital measurement types defined in the Vital Type file (e.g., pulse, blood pressure, temperature, height, weight, and respiration rate). Data presented include: measurement date/time, measurement type and measurement value.

NOTE: Formatted display is horizontal.

Package: Order Entry/Results Reporting (OE/RR)

Component Name: Current Orders

Abbreviation: ORC

This component contains current orders from the OE/RR package. Since the OE/RR package integrates all orders for the ancillary services, the orders will be reported in most recent orders first sequence without concern for the ancillary package the order originated from/for. Current orders are defined as those orders with an OE/RR order status other than discontinued or expired. The component information includes item ordered, OE/RR order status, start date, and stop date. OE/RR order status abbreviations include "blank"=Active, "c"=Complete, "dc"=Discontinued, "e"=expired, "?"=Flagged, "h"=Hold, "i"=incomplete, "p"=pending, "s"=scheduled.

Package: Patient Care Encounter (PCE)

Component Name: Clinical Reminders

Abbreviation: CR

This component lists the clinical reminders and their due dates. If an item is currently due, "DUE NOW" is listed instead of a date. Clinical Reminders may include Measurements (BP, HT, WT), Exams (Breast, Pelvic, Etc.), Laboratory Tests (Cholesterol, PAP Test, etc.), Skin Tests (PPD), Immunizations (Influenza, Tetanus Toxoid, etc.), Patient Education topics (Breast, Diet, etc.), and in certain cases diagnosis (status post lung CA) and procedures (hysterectomy, flexisigomoidoscopy, etc.).

Component Name: Clinical Maintenance

Abbreviation: CM

This component shows what the outcome was of information on file that is related to the Clinical Reminders. The PCE REMINDER/MAINTENANCE ITEM FILE is used to determine which reminders should be printed in this component with the results of the search of information in PCE, Problem List or other DHCP files.

Component Name: Education

Abbreviation: ED

This component lists the patient education topics and a brief assessment of the patient's understanding of the topic for a particular patient for user-specified time and occurrence limits. Some examples of topics are complications, diet, disease process, exercise, follow-up care, general information, lifestyle adaptations, medications, nutrition, smoking, etc.

Component Name: Education Latest

Abbreviation: EDL

This component lists the latest patient education for each topic and a brief assessment of the patient's understanding of the topic for a particular patient for a user-specified time limit. Some examples of topics are complications, diet, disease process, exercise, follow-up care, general information, lifestyle adaptations, medications, nutrition, smoking, etc.

Component Name: Exams Latest

Abbreviation: EXAM

This component lists the latest examination information and results for a particular patient for a user-specified time limit. Some examples of exam types are eye exams, ear exams, neurological exams, pelvis exams, etc.

Component Name: Health Factors

Abbreviation: HF

This component lists all the health factors associated with a particular patient for user-specified time and occurrence limits. The list will display health factors by category and include a level of severity for each health factor including Minimal(M), Moderate(MO), and Heavy/Severe(H). Set the occurrence limit to 1 to list the latest unique health factors within each category. (E.g., If there were 12 "Non-Smoker" health factor entries, only the latest "Non-Smoker" entry would display.)

Component Name: Health Factors Selected

Abbreviation: SHF

This component allows a user to select specific health factors by category and then lists the health factors which apply to a particular patient for user-specified time and occurrence limits. Set the occurrence limit to 1 to list the latest unique health factors for each selected category. (E.g., If there were 12 "Non-Smoker" health factor entries, only the latest "Non-Smoker" entry would display.

Component Name: Immunizations

Abbreviation: IM

This component lists the immunizations (e.g., Rubella, Smallpox, etc.) and information about each immunization administered to a particular patient.

Component Name: Location of Home

Abbreviation: LH

This component lists directions to a particular patient's home.

Component Name: Non-Tabular Measurem

Abbreviation: NTM

This component lists measurements (e.g., blood pressure, height, weight, respiration, etc.) in a non-tabular format for a particular patient for a user-specified time and occurrence limits.

Component Name: Measurement Selected

Abbreviation: MEAS

This component lists selected measurements segments in a tabular format for a particular patient for user-specified time and occurrence limits. Specialized measurement segments can be set up in the Patient Care Encounter package at each site by the IRM staff to allow different measurement views.

Component Name: Outpatient Diagnosis

Abbreviation: OD

This component lists outpatient diagnosis (ICD-9) for a particular patient. The user can specify time and occurrence limits, whether hospital location should be displayed or not, the format of ICD-9 data (e.g., code only, long text, short text or no ICD-9 data), and whether the provider narrative should be displayed or not.

Component Name: Outpatient Encounter

Abbreviation: OE

This component lists outpatient diagnosis (ICD-9) and procedure (CPT) for a particular patient. The user can specify item and occurrence limits, whether hospital location should be displayed or not, the format of ICD-9 data (e.g., code only, long text, short text or no ICD-9 data), and whether the provider narrative should be displayed or not.

Component Name: Skin Tests

Abbreviation: ST

This component lists the skin tests and the results (e.g., positive, negative, doubtful, or no take) for a particular patient. Some examples of skin tests are cocci, mon-vac, PPD, schick, tine, etc.

Component Name: Treatments Provided

Abbreviation: TP

This component lists treatments provided that are not covered in the IDC-9-CM procedures for a particular patient for user specified time and occurrence limits. Some example of treatment types include nursing activities such as ear irrigation, dental care instructions, or preventive health care counseling.

Package: Patient Information Management System (PIMS)

Component Name: Admission/Discharge

Abbreviation: ADC

This component contains information from the MAS package. Time and occurrence limits apply to this component. Data presented include: date range of admission, ward, length of stay (LOS), last treating specialty, last provider, admitting diagnosis text, bedsection, principal diagnosis, diagnosis for longest length of stay (DXLS), and secondary ICD diagnoses.

Component Name: ADT History

Abbreviation: ADT

This component contains information extracted from the MAS package. It can only be used with MAS Version 5 and up. Time and maximum occurrence limits apply.

Data presented include: movement date, movement type (ADM=Admission, TR=Transfer, TS= Treating Specialty, DC=Discharge), movement description, specialty, and provider.

Component Name: ADT History Expanded

Abbreviation: EADT

This component contains information extracted from the MAS package. It is a consolidated view of all the MAS components. It can only be used with MAS Version 5 and up. Time and maximum occurrence limits apply. Data presented include patient eligibility and rated disabilities. Movement data then follows with movement date, movement type (ADM=Admission, TR=Transfer, TS= Treating Specialty, DC=Discharge), movement description, specialty, and provider. Admissions include the admission diagnosis if the patient hasn't been discharged. Transfers included ward location and transfer facility. Treating specialties includes Specialty Transfers Diagnosis. Discharges include the data in the Discharge Diagnosis and Discharges components. Following the data for each admission ICD Procedures and ICD Surgeries will be included if present.

Component Name: Fut Clinic Visits

Abbreviation: CVF

This component provides a listing from the MAS scheduling module that contains future clinic visit dates, the clinic visited, and the appointment type.

Component Name: Past Clinic Visits

Abbreviation: CVP

This component contains information from the MAS scheduling module. Time and occurrence limits apply to this component. Data presented include: past clinic visits, dates, and a visit status (e.g., NO SHOW, INPATIENT VISIT).

NOTE: Cancellations and Unscheduled Visits are shown.

Component Name: Demographics

Abbreviation: DEM

This component contains the following patient demographic data (if available) from the MAS package: address, phone, county, marital status, religion, age, sex, occupation, period of service, POW status (e.g., Y or N), branch of service, combat status (e.g., Y or N), eligibility code, current (verified) eligibility status, service connected %, mean test, next of kin (NOK), NOK phone number and address.

Component Name: Brief Demographics

Abbreviation: BDEM

This component contains information from the MAS package. It provides brief patient demographic information including: address, phone number, age, sex, mean test, and eligibility code (e.g., service connected 50-100%).

Component Name: Disabilities

Abbreviation: DS

This component provides information from the MAS package about a patient's eligibility code and eligibility status (Verified), and rated disabilities, including the disability percentage and whether the disability is service connected or non-service connected.

Component Name: Discharge Diagnosis

Abbreviation: DD

This component contains information extracted from the MAS package. Time and occurrence limits apply to this component. Data presented include: Date range of admission through discharge, length of stay (LOS), Principal diagnosis, diagnosis for longest length of stay (DXLS), and secondary ICD discharge diagnoses.

NOTE: This component provides discharge diagnoses coded in the MAS PTF file. The occurrence limits are determined by the occurrence of admissions.

Component Name: Discharges

Abbreviation: DC

This component contains information extracted from the MAS package. Time and occurrence limits apply to this component. Data presented include: date of discharge, DXLS, bedsection, disposition type, disposition place, and outpatient treatment flag.

NOTE: The occurrence limits are determined by the occurrence of admissions.

Component Name: ICD Procedures

Abbreviation: PRC

This component contains MAS coded procedures, by admission, extracted from the MAS package. Time and occurrence limits apply to this component. Data presented include: procedure date, procedure name, and ICD-9CM procedure codes.

NOTE: The occurrence limits are determined by the occurrence of admissions.

Component Name: ICD Surgeries

Abbreviation: OPC

This component contains MAS coded surgeries, by admission, extracted from the MAS package. Time and occurrence limits apply to this component. Data presented include: surgery date, procedure name, and ICD-9CM procedure codes.

NOTE: The occurrence limits are determined by the occurrence of admissions.

Component Name: Transfers

Abbreviation: TR

This component contains information extracted from the MAS package. Time and occurrence limits apply to this component. Data presented include: transfer date, type, destination, and provider (when available).

NOTE: The occurrence limits are determined by the occurrence of admissions.

Component Name: Treating Specialty

Abbreviation: TS

This component contains information extracted from the MAS package. Time and occurrence limits apply to this component. Data presented include: treating specialty change date/time, new treating specialty, (admission date), and provider.

NOTE: The occurrence limits are determined by the occurrence of admissions.

Package: Pharmacy

Component Name: IV Pharmacy

Abbreviation: RXIV

This component contains IV orders extracted from the Pharmacy package. Only time limits apply. Data presented include: start date, stop date, drug (additives), dose, status, solutions and infusion rates.

NOTE: If no time limit is defined, only active IV orders are reported. If a time limit is defined, all IV orders which have an expiration or cancel date within the time limit range are reported.

Component Name: Outpatient Pharmacy

Abbreviation: RXOP

This component contains information from the Outpatient Pharmacy package. Only time limits apply. Data presented include: drug, prescription number, status expiration/cancellation date (when appropriate), quantity, issue date, last fill date, refills remaining, provider, and cost/fill (when available).

NOTE: If no time limit is defined, only active outpatient orders are reported. If a time limit is defined, all outpatient pharmacy orders which have an expiration or cancel date within the time limit range are reported.

Component Name: Unit Dose Pharmacy

Abbreviation: RXUD

This component contains Unit Dose information extracted from the Pharmacy package. Only time limits apply. Data presented include: Drug, dose, pharmacy status, start date, stop date, and sig (which includes schedule instructions and route).

NOTE: If no time limit is defined, all active orders are reported. If a time limit is defined, all unit dose orders, which have an expiration or cancel date within the time limit range are reported.

Package: Problem List

Component Name: Active Problems

Abbreviation: PLA

This component lists all known active problems for a patient. Information displayed: ICD data (based on ICD Text Display parameter), provider narrative (unless Provider Narrative Display parameter is set to NO), date of onset, date last modified, the responsible provider, and all active comments.

Component Name: All Problems

Abbreviation: PLL

This component lists all known problems, both active and inactive, for a patient. Information displayed: ICD data (based on ICD Text Display parameter), provider narrative (unless Provider Narrative Display parameter is set to NO), date of onset (if

problem is active), date problem resolved (if inactive), date last modified, the responsible provider, and all active comments for the problems.

Component Name: Inactive Problems

Abbreviation: PLI

This component lists all known inactive problems for a patient. Information displayed: ICD data (based on ICD Text Display parameter), provider narrative (unless Provider Narrative Display parameter is set to NO), date problem resolved, date last modified, the responsible provider, and all active comments for the problem.

Package: Generic Progress Notes

Component Name: Advance Directive

Abbreviation: CD

This component contains advance directive notes entered using the Generic Progress Note package. Time and maximum occurrence limits apply to this component.

Advance Directives are a type a progress note, which includes clinical information that clinicians need to be alerted to.

If this component is printed to either a CRT or another device type, information will include title, text of note, electronic signature block, and date/time posted.

Component Name: Crisis Notes

Abbreviation: CN

This component contains crisis notes entered using the Generic Progress Note package. No time or maximum occurrence limits apply to this component. Crisis Notes are a type of progress note, which contains important information for anyone who deals with a patient.

If this component is printed out on a CRT, information will include title, text of note, electronic signature block, and date posted. If the printout is to another device type, information will include electronic signature block and date posted to insure security of information.

Component Name: Consult Result

Abbreviation: CON

This is the result of a Consult.

Component Name: Clinical Warnings

Abbreviation: CW

This component contains clinical warning notes entered using the Generic Progress Note package. No time or maximum occurrence limits apply to this component. Clinical Warnings are a type of progress note, which includes clinical information which clinicians need to be alerted to. If this component is printed out on a CRT, information will include title, text of note, electronic signature block, and date posted. If the printout is to another device type, information will include electronic signature block and date posted to ensure security of information.

Package: Generic Progress Notes

Component Name: Progress Notes

Abbreviation: PN

This component contains progress notes from the Generic Progress Notes Package AND progress notes from the Mental Health Package. Time and maximum occurrence limits apply to this component. Data presented include: Progress note date/time written, title, text of note, electronic signature block (including possible co-signature and cosigner comments), and the note's correction text and correction date/time. Only those notes which have been signed with an electronic signature or (for generic progress notes) electronically marked signed on chart will be reported.

Component Name: Brief Progress Notes

Abbreviation: BPN

This component contains information from the Mental Health and Generic Progress Notes packages. Time and maximum occurrence limits apply. Data presented include: Progress note date/time, title, author and last correction date/time. Only those notes which have been signed with an electronic signature or (for generic progress notes) electronically marked signed on chart will be listed.

Package: Radiology

Component Name: Radiology Impression

Abbreviation: RI

This component contains impressions from the Radiology/Nuclear Medicine package. Time and maximum occurrence limits apply. Data presented include: study date, procedure(s), status, diagnostic text and radiologist's or nuclear med physician's impression (narrative). Only imaging impressions that have been verified are reported.

Component Name: Sel Rad Impression

Abbreviation: SRI

This component contains impressions from the Radiology/Nuclear Medicine package. Time and occurrence limits apply. Data presented include: study date, procedure(s), status, diagnostic text, and radiologist's or nuclear med physician's impression (narrative) for the procedures selected by the user (e.g., CHEST 2 VIEWS - PA & LAT). Only imaging impressions that have been verified are reported.

Component Name: Radiology Profile

Abbreviation: RP

This component contains information from the Radiology/Nuclear Medicine package. Time and maximum occurrence limits apply. Data presented include: study date, procedure(s) with status(es), report status, staff and resident interpreting physicians, and the narrative fields modifier, history, report, diagnostic text and impression. Only imaging profiles that have been verified are reported.

Component Name: Radiology Status

Abbreviation: RS

This component contains procedure statuses from the Radiology/Nuclear Medicine package. Time and maximum occurrence limits apply. Data presented include: request date/time, status, procedure, scheduled date/time, and provider name.

Package: Social Work

Component Name: Social Work

Abbreviation: SW

This component provides information from the Social Work package about a patient's Social/Family Relationship, Current Substance Abuse Problems, and Psycho-Social Assessment.

Package: Surgery

Component Name: Surgery Reports

Abbreviation: SR

This component contains information from the Surgery package. Time and maximum occurrence limits apply. Data presented include: surgery date, surgeon, surgery report status, pre-operative diagnosis, post-operative diagnosis, surgeon's dictation, current procedural terminology operation code and text. Only surgery reports that have been verified are reported.

Component Name: Brief Surgery Rpts

Abbreviation: BSR

This component contains surgery report statuses extracted from the Surgery package. Time and maximum occurrence limits apply. Data presented include: surgery date, surgical procedure, and report status (e.g., COMPLETE).

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