



**DUPLICATE RECORD MERGE:
PATIENT MERGE
USER MANUAL**

PATCH XT*7.3*23

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Department of Veterans Affairs
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Preface

This is the **User Manual** for the Veterans Health Information Systems and Technology Architecture (**VISTA**) Duplicate Record Merge: Patient Merge application. It provides descriptive information about the **VISTA** [formerly the Decentralized Hospital Computer Program (DHCP)] 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 automatically identify patient records that have a high likelihood of being duplicates. Patient Merge is being released as a patch to Kernel Toolkit 7.3.

Revision History

Revision History

Document Revision History

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

Date	Revision	Description	Author
04/1998	1.0	Initial release via PATCH XT*7.3*23	Susan Strack, San Francisco ISC; Joel Ivey, San Francisco ISC; Raul Mendoza, San Francisco ISC
12/06/04	4.0	Implemented new conventions for displaying TEST data. See Orientation section for details.	Susan Strack, Oakland OIFO

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.

Revision History

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Introduction

This software has been developed to assist VAMC facility representatives in identifying and merging duplicate records found in **VISTA** files. Record pairs are identified as potential duplicates through comparisons that are conducted during a search of the database. These potential duplicates are then validated through a review process to verify that they are duplicates, then merged. This software is intended to provide a reliable approach to correctly identify and merge duplicate records.

In order to competently operate the software you must be familiar with the operations of the **VISTA** computer system, in general. If you do not use the system on a regular basis, it is recommended that you review the *User's Guide to Computing*. In addition, "Appendix A" of this manual provides you 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.

Orientation

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 you 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 at a later time.

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:

Select Primary Menu option: ??

How to access online help

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.



The list of Approved Application Abbreviations can be found at the following Web site:

http://vista.med.va.gov/iss/strategic_docs.asp#sop

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.

"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.

"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.

Computer Dialogue (Sample Online Displays)

The following is a sample of computer dialogue:

```
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
```

Sample dialogue for queuing a preliminary scan of PATIENT file to Task Manager

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*.

Orientation

Product Description: Executive Summary

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.

The search and identification of potential duplicate records performs comparisons on key fields in the PATIENT file. By selecting a Basic search option you begin a search on a file for the first time. Routines are activated containing preset specifications for duplicate tests. These tests are identified in the DUPLICATE RESOLUTION file (#15.1). Each test uses its corresponding field and file numbers to assist in identifying potential duplicate records. Those fields 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. A value is ascribed to the field based upon similarity in the data present. Then all field values are tabulated to form a single value, which is compared against the Threshold Percentage (a site parameter). When record pair scores evaluate equal to or above this percentage, they are considered to be potential duplicates, entered into the DUPLICATE RECORD file (#15), and made available for further processing. IRM personnel authorized to possess the XDRMRG security key generally initiate this task.

The search process is a CPU intensive job that has been known to exceed 100 hours depending upon factors such as the number of entries in the PATIENT file and the hardware involved. Utilities are provided to allow for pausing and restarting the job.

Once the search has been initiated and has found a potential duplicate pair, the process of verifying record pairs begins. The review and verification process may begin while the search is running.

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 approving 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 involve three phases. The first two phases permit identification of entries requiring modification based on their IENs (DINUMed) or by cross-references and are fairly 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 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 in order to disallow reuse of PATIENT file 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 Note: 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.

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 process of searching for potential duplicate record pairs, through the review, verification, and approval of those 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.

Quick Start: Patient Merge Checklist

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

Task	Done
<p>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. (For more information see the section "Finding Errors in the Patient File" of this manual.)</p>	
<p>Obtain a pool of potential duplicate record pairs that you want to be merged using one of the following three methods:</p> <ol style="list-style-type: none"> 1. Authorized personnel holding the XDRMGR security key use the option Start/Halt Duplicate Search to run a search of the PATIENT file, from which potential duplicate records are automatically entered into the DUPLICATE RECORD file (#15). (For more information see the section "Searching the Database for Potential Duplicates" of this manual.) 2. Use the option Add Verified Duplicate Pair to enter specific record pairs into the DUPLICATE RECORD file. (For more information see the section "Add Verified Duplicate Pair" of this manual.) 3. 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. (For more information see the section "Find Potential Duplicates for an Entry in a File" of this manual.) 	
<p>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. (For more information see the section "Primary Review" of this manual.)</p>	
<p>Should the primary reviewer choose a record pair as verified duplicates, the next step is to select the correct merge direction. (For more information see the section "Primary Review" of this manual.)</p> <p>Advisory Note: Although a default direction for the merge is provided, it may not always be the best one. You should not assume that the record</p>	

Task	Done
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. (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). (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. (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. (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).	

Figure 1 – Quick Start: Patient Merge checklist

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 whom 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, whomever 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 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.

File Setup and Default Site Parameters

To set up patient identification and merge parameters for the PATIENT file, 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 DUPLICATE RESOLUTION file are made. The DUPLICATE RESOLUTION file contains the parameters by which the DUPLICATE RECORD file (#15) is populated. The DUPLICATE RESOLUTION file 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 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.].

Edit Site Parameters (Duplicate Resolution File)

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 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
PRGE     Purge Duplicate Record File
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:

```

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

```

Figure 2 – Editing site parameters

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. 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—This mail group 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".

(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 and should contain at least one active member. Sites are required to supply their own mail groups.

DUPLICATE MANAGER MAIL GROUP—This mail group 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. 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 considered to be 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%.

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.

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.

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	<i>provided by site</i>
	INDIVIDUAL FOR ALERTS	<i>provided by site</i>
PHARMACY	PRIMARY FILE NUMBER	55
	SUBFILES (FIELD NUMBERS)	N/A
	DISPLAY NAMES FOR SUBFILES	N/A
	MAIL GROUP NAME	<i>provided by site</i>
	INDIVIDUAL FOR ALERTS	<i>provided by site</i>
RADIOLOGY	PRIMARY FILE NUMBER	70
	SUBFILES (FIELD NUMBERS)	2
	DISPLAY NAMES FOR SUBFILES	Radiology
	MAIL GROUP NAME	<i>provided by site</i>
	INDIVIDUAL FOR ALERTS	<i>provided by site</i>

Figure 3 – Ancillary service default site parameters table

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.

```

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:
    
```

Figure 4 – Ancillary service data entry screen

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 reviewer 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 for 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.

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:

```
Duplicate Resolution System Menu

  XDR0  Operations ...
  XDRU  Utilities ...
  XDRM  Manager Utilities ...

Select Duplicate Resolution System Option:
```

Figure 5 – Duplicate Resolution System main menu

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.

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.

```
Duplicate Resolution Operations Menu

  APP   Approve Verified Duplicates for Merging
  VPD   Verify Potential Duplicates
  ADR   Ancillary Data Review

Select Operations Option:
```

Figure 6 – Operations menu

Utilities Menu

This menu is comprised of various utilities, which are essential to the merge process. They are designed to assist both reviewers and IRM personnel with supplementary duplicate record identification and provide a variety of status reports involved with the merge process.

The next figure shows you the available options under this menu. They are described in detail later in 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:

```

Figure 7 – Utilities menu

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.

```
Duplicate Manager Utilities Menu

EDT   Edit Site Parameters
LIST  List File Entries Identified in Preliminary Scan
SCN   Preliminary Scan of File for Errors
PRGE  Purge Duplicate Record File
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:
```

Figure 8 – Manager Utilities menu

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 in order 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 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 actually make the necessary edits.

Identifying Duplicate Records: Searching the Patient File

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 PATIENT file 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.

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.

Identifying Duplicate Records: Searching the Patient File

```
Duplicate Manager Utilities Menu

EDT   Edit Site Parameters
LIST  List File Entries Identified in Preliminary Scan
SCN   Preliminary Scan of File for Errors
PRGE  Purge Duplicate Record File
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
```

Figure 9 – Running a preliminary scan of the patient records

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 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.

```

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
    
```

Figure 10 – Error list generated from the preliminary scan of the PATIENT file

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.

```

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
    
```

Figure 11 – Queue a preliminary scan of the PATIENT file to Task Manager

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.

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. 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 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
  PRGE  Purge Duplicate Record File
  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:

```
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
```

Figure 12 – List patient records with missing fields previously identified in preliminary scan

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:

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 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

Figure 13 – Missing field and identifier numbers with corresponding descriptions

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.)

```

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  XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  X  XXXXXXXXX  XXXXXXXXXXXX  X  XX  X

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

Figure 14 – Patient records with missing SSNs

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.

Searching the Database for Potential Duplicates

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 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 considered to be 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.

Start/Halt Duplicate Search Option

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
PRGE  Purge Duplicate Record File
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: PATIENT

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
```

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

```

                                     Duplicate PATIENT 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)
```

Figure 15 – Start a BASIC search of the PATIENT file for duplicate records

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.

Identifying Duplicate Records: Searching the Patient File

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

Duplicate PATIENT 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				

Figure 16 – Completed BASIC search of the PATIENT file for duplicate records

Notice in the figure above 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 PATIENT file (#2),
- 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.

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.

```
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
```

Figure 17 – Check on the search for duplicate records

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

Identifying Duplicate Records: Searching the Patient File

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					

Figure 18 – Duplicate Patient Search status screen shows the search is still running

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 to 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.

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)					

Figure 19 – Halting the search for duplicate records

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.

```
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
```

Figure 20 – Duplicate Patient Search status screen shows the search for duplicate records has been halted

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)?".

```
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)
```

Figure 21 – Continuing the search for duplicate records

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.

Identifying Duplicate Records: Searching the Patient File

```
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
```

Figure 22 – Duplicate Patient Search status screen shows the search has been continued

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.

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 approving to be merged.

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.

Review Process to Determine Duplicate Record Status

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 [e.g., in the case of this application, the PATIENT file (#2)]. 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.

Begin the Verification Process

Once reviewers have identified potential duplicate record pairs by searching the primary file, 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.

```
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>
```

Figure 23 – Begin the duplicate record verification process

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:

```
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,EIHTH 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
```

Figure 24 – Select a potential duplicate record pair from a list displaying the name and duplicate record status for each patient

- 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:

```

Select a POTENTIAL DUPLICATE ENTRY:  <RET>
Do you want to select from a list of potential duplicates? YES// <RET> ← Press the
                                     Enter key to generate a
                                     list of the zero nodes
                                     for each potential
                                     duplicate record.

1.  MERGEPATIENT,10 J.M^M^2450629^^2^^^000060969^^SAN ANTONIO^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

```

Figure 25 – Select a potential duplicate record pair from a list of top-level patient data

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) 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.

Primary Review

```
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.

NAME                RECORD1 [#1212]          RECORD2 [#888]
                   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"

Enter RETURN to continue or '^' to exit:  ^ ← 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.
```

Figure 26 – Verify duplicate records using the duplicate record compare screen

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

```
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//
```

Figure 27 – Review actions for potential duplicate records

The following is a list of the options displayed in the previous figure, with a brief description. A more lengthy 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.
3. By selecting the option Unable To Determine, the record pair is put back into the DUPLICATE RECORD file and processing ends here. 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. (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 redisplay 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).

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 Health 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.

```

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)           < List of Health Summaries
  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>

...one moment...   Getting first entry

      <Health Summary loads here...>           ← Your selected Health Summary
                                                    for record one is loaded here.
...one moment...   Getting second entry

      <Health Summary loads here...>           ← Your selected Health Summary
                                                    for record two is loaded here.

```

Figure 28 – Verifying duplicate records using selected 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 and 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.

```

Would you like to use the FM Browser to
view the record pair? YES// n <RET> NO

DEVICE FOR FIRST RECORD: HOME// <RET> REMOTE RIGHT MARGIN: 80// <RET>

    <Health Summary loads here...>          ← Your selected Health Summary
                                                for record one is loaded here.

DEVICE FOR SECOND RECORD: HOME// <RET> REMOTE RIGHT MARGIN: 80// <RET>

    <Health Summary loads here...>          ← Your selected Health Summary
                                                for record two is loaded here.

```

Figure 29 – 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.

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.

Primary Review

```

(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

```

Figure 30 – Example of Health Summary merge "FROM" record viewed through VA FileMan Browser

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:

```

(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

```

(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

```

Figure 32 – Example of Health Summary merge "TO" record viewed through VA FileMan Browser (continued...)

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

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 will display 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.

	RECORD1 [#2113] MERGEPATIENT,10 J.M.	RECORD2 [#888] 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"
1 NAME		
2 DATE OF BIRTH		
3 SOCIAL SECURITY NUMBER		
4 ZIP CODE		
OVERWRITE data for selected fields: (1-4):1,3 ← <i>Select these two fields from RECORD1 to overwrite the same fields in RECORD2. At anytime during this process, the primary reviewer has the option to overwrite data, regardless of the default merge direction.</i>		

Figure 33 – 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 redisplay the data for the record pair you've just selected to overwrite.

```
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
```

Figure 34 – Review duplicate records again from the beginning

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.

Primary Review

	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"

Figure 35 – Bars on left indicate that the fields in record 1 will overwrite the fields in record 2

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.

```
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
```

Figure 36 – Select a record pair as a Verified Duplicate

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.

```

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

```

Figure 37 – Select a record pair as 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.

```

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

```

Figure 38 – Select a record pair as Unable To Determine

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.

Primary Review

In this next example we will verify that the record pair for the fictitious patient John Doe is 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 // V <RET> VERIFIED DUPLICATE

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

Select one of the following:          ← You can select the direction to
                                        merge the duplicate record pair.

      1      RECORD1 INTO RECORD2
      2      RECORD2 INTO RECORD1

Which record (1 or 2) should be MERGED INTO the other record: RECORD1 INTO RECORD2//
```

Figure 39 – Primary reviewer chooses the merge direction for duplicate records

Notice, above, 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.

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. 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 see 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.

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.

```
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
```

Figure 40 – Example of an alert

If any one 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.

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.

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:

```
*=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: MERGSENDER,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)//
```

Figure 41 – Example of a MailMan message sent to ancillary reviewers

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.

```

ADR      Ancillary Data Review

Select Operations Option: ADR <RET>  Ancillary Data Review
Select ANCILLARY SERVICE: ?
  Answer with ANCILLARY SERVICE
Choose from:
  LABORATORY           ← Designated ancillary reviewers will only see the
  PHARMACY              ancillary services listed for which they are members
  RADIOLOGY            of the associated mail groups.

Select ANCILLARY SERVICE: PHARMACY
Select a POTENTIAL DUPLICATE ENTRY:

```

Figure 42 – Using the option Ancillary Data Review to review ancillary data

Notice in the figure above 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. (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.

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.

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.

	RECORD 1 [#1212] MERGEPATIENT,10 J.M.	RECORD 2 [#888] MERGEPATIENT,10 JOHN MARK

****	PATIENT STATUS	EMPLOYEE
	UD LAST ADMISSION DATE	INPATIENT
	UD LAST TRANSFER DATE	2860717.1538
	UD DISCHARGE FLAG	2880420.1447
	LAST UD ORDER CONVER	1
	TED TO V4	-1
1	PATIENT STATUS	
OVERWRITE data for selected fields: (1-1): 1 ← <i>Select the PATIENT STATUS field from RECORD1 to overwrite the PATIENT STATUS field in RECORD2. At anytime during this process, the ancillary reviewer has the option to overwrite data, regardless of the default merge direction.</i>		

Figure 43 – 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.

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.

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.

(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.

"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(. (See the *Patient Merge Technical Manual* for more information on the structure of this global.)

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:

```
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
```

Figure 44 – Verified duplicate records awaiting approval for merging

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.

Approve Verified Duplicates for Merging

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.

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: Be advised that the merge process can take a long time to run to completion. Actual time for merging duplicate record pairs has been known to exceed 15 hours.

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

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.

```

Duplicate Manager Utilities Menu

    EDT   Edit Site Parameters
    LIST  List File Entries Identified in Preliminary Scan
    SCN   Preliminary Scan of File for Errors
    PRGE  Purge Duplicate Record File
    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: SCH <RET> Schedule Process to Merge Verified
Duplicatess

4 Entries Ready to be included in merge
This process will take a **LONG** time (usually over 15 hours, and sometimes
considerably longer), but you CAN stop and restart the process when you
want using the options. OK? YES

Name for Merge Process: TEST3
START DATE/TIME: NOW <RET> (OCT 07, 1997@10:30:00) ← Entering the VA FileMan
command NOW begins the
merge process immediately

Merge process 'TEST3' for Verified Duplicates in File 2 scheduled.
    
```

Figure 45 – Scheduling the 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 Note: 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.

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

```
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)//
```

Figure 46 – MailMan message containing records with data errors excluded from the merge process

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 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.)

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).

Related Multiple Pairs Excluded from Current Merge

Given any one record pair in the DUPLICATE RECORD file, 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 a given 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 example above, 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.

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

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.

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:

```

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)//

```

Figure 47 – MailMan message containing multiple record pair(s) excluded from the merge process

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)].

The Merge Process

```
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.

```
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
```

Figure 48 – Using the tally report to view an up-to-date summary of the current merge process

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.

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.

Merge Set	Start	Stat	Last Chk	Phase	Current File	Current Entry
MERGE 1	09/30 17:21	C	09/30 22:14			
DATA CHECKING	09/30 17:21	C	09/30 17:21			
LAB SERVICE	09/30 17:21	C	09/30 17:21			
INTEGRATED BILL	09/30 17:21	C	09/30 17:21			
ICR - IMMUNOLOG	09/30 17:21	C	09/30 17:21			
TOOLKIT	09/19 17:21	C	09/30 17:21			
PATIENT FILE	09/30 17:21	C	09/30 21:50			
THREAD 2		C	09/30 22:14			
THREAD 3		C	09/30 21:12			
THREAD 4		C	09/30 20:19			
THREAD 5		C	09/30 19:07			
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

Figure 49 – Status report of merge processes

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 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.

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.

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). These files contain records having fields that are affected by record entries in the PATIENT file. In some cases, related data in still other files reference them. These files must be merged first, before the record entries in the PATIENT file are merged because, they reference the PATIENT file.

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.

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, or any one of the special processing files). In the case of Patient Merge the primary file is the PATIENT file. 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 completes 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.

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.

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. (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.)

Merge Set	Start	Stat	Last Chk	Phase	Current File	Current 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			

Figure 50 – Status report of merge processes – NO PAIRS LEFT

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.

Duplicate Manager Utilities Menu	
EDT	Edit Site Parameters
LIST	List File Entries Identified in Preliminary Scan
SCN	Preliminary Scan of File for Errors
PRGE	Purge Duplicate Record File
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	

Figure 51 – Stopping an active merge process

Restart Merge from Any Point in Processing

The 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 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.

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 may be considered errors 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.

```

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.

```

Figure 52 – ^XTMP("XDRTESTK", global provides a "snapshot" of unforeseen data errors

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.

Data Error Group One

The first data error reported, shown in the previous figure, begins with the following global node as it's 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 above, 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.

Data Error Group Two

The second data error reported, shown in the previous figure, begins with the following global node as it's 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.

Data Error Group Three

The third data error reported, shown in the previous figure, begins with the following global node as it's 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.
```

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.

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.

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.

(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 insure 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.

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:

```
Duplicate Resolution System Menu
  XDR0  Operations ...
  XDRU  Utilities ...
  XDRM  Manager Utilities ...

Select Duplicate Resolution System Option: utilities
```

Figure 53 – Utilities menu

Add Verified Duplicate Pair

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. 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 [i.e., PATIENT file (#2)]. 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. (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.

```

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 record pair meets the Potential Duplicate Threshold Percentage:

```

Select Utilities Option: ADD <RET> Add Verified Duplicate Pair
Add entries from which File: PATIENT

Do you want to bypass the potential duplicate threshold % check (Y/N)? n <RET> (No)
Potential duplicate threshold % will NOT be bypassed!

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 ...
    
```

Figure 54 – Add records to the DUPLICATE RECORD file that ARE duplicates

Notice in the figure above that the message "You will be adding the following pair of records to the duplicate record file:" indicates that the record pair has met the 60% default threshold and has been added to the DUPLICATE RECORD file. When a record pair is added to the DUPLICATE RECORD file, it is added as a status of Potential Duplicate, Unverified.

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.

```

Select Utilities Option: ADD <RET> Add Verified Duplicate Pair
Add entries from which File: 2 <RET> PATIENT

Do you want to bypass the potential duplicate threshold % check (Y/N)? n <RET> (No)
Potential duplicate threshold % will NOT be bypassed!

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 ...

This pair of patients has a duplicate percentage of only 30% which
is less than the minimal percentage for potential duplicates (60%).

Patients not added!!!

```

Figure 55 – Records that are NOT duplicates will not be added to the DUPLICATE RECORD file

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

The next figure illustrates the computer dialogue necessary to add a record pair directly into the DUPLICATE RECORD file.

```

Select Utilities Option: ADD <RET> Add Verified Duplicate Pair
Add entries from which File: PATIENT

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)

```

Figure 56 – Authorized personnel holding the XDRMGR security key can add records directly into the DUPLICATE RECORD file, bypassing the duplicate threshold %

Note: You cannot select the same patient as a pair to be added to the DUPLICATE RECORD file, if that record pair already exists in the file.

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
CHK      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.

Merge Set	Start	Stat	Last Chk	Phase	Current File	Current 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.

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

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. (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.)

Merge Set	Start	Stat	Last Chk	Phase	Current File	Current 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			

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

Check Pair of Records to see if Duplicates

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.

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

Utilities

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.

```

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

```

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

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, and the records being compared do not have to be in the DUPLICATE RECORD file.

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, shown in the next figure. The different types of search categories are:

Utilities

- 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:

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				

Figure 60 – Displaying the status of the search of the PATIENT file

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. 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.

```
Duplicate Resolution Utilities Menu

ADD      Add Verified Duplicate Pair
CMP      Check Merge Process Status
CHK      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.
```

Figure 61 – Edit the Status Field of a Duplicate Record

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

Find Potential Duplicates for an Entry in a File

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

Utilities

from the file being searched [e.g., the PATIENT file (#2)]. 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
CHK      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.

```
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
```

Figure 62 – Finding duplicates for a single record

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 as well and displayed on the screen with the other matches.

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 actually 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:

```

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>

```

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

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.

```
Select Patient:  MERGEPATIENT,10 J.M. <RET> 06-29-46 000060969  YES  SC VETERAN
.... WORKING HARD (may take a while)...

DFN=1111  MERGEPATIENT,10 J.M. [000060969]  ← Patient identification information
No Problems Found....  ← no data errors have been encountered
```

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.

```

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] ← patient identification information

File 2 [PATIENT file]                               ← file number (or subfile) & file name
Field .323 [PERIOD OF SERVICE]  IENS=1212,          ← field number, field name, and IENS
value: VIETNAM ERA                                  ← field value
      Applicant is too young to have served in that period of service. ← field Desc.
      See your supervisor if you require assistance.
Field 505002 [CURRENT ADMISSION DATE]  IENS=1212,
value: 0

```

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

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.

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 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...
```

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

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.

```

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

```

Figure 67 – Brief format report of selected duplicate patient records

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

Utilities

```
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...
```

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

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

```
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
```

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

This report will continue to print your selection of duplicate patient records for the entire DUPLICATE RECORD file. 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.

Scan Possible Duplicates

The option Scan Possible Duplicates is located on the Utilities menu. It provides a rapid scan of the PATIENT file (#2) for possible duplicates by listing the zero node of each record. 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.

```

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
    
```

Figure 70 – Using the option the option Scan Possible Duplicates to list zero nodes from the DUPLICATE RECORD file

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

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.

```

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

```

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

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.

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 a list of individual test scores for each duplicate record pair:

```

Select a POTENTIAL DUPLICATE ENTRY: MERGEPATIENT, 31
  1  MERGEPATIENT,31 E      11-08-25      000089558      NO      NSC VETERAN
  2  MERGEPATIENT,31 EVERETT      01-09-20      000060592      YES     SC VETERAN
  3  MERGEPATIENT,31 M      01-21-40      000043969      YES     SC VETERAN
  4  MERGEPATIENT,31 RAYMOND      12-01-32      000046757      NO     NSC VETERAN
  5  MERGEPATIENT,31NY L      04-22-66      000087578      NO     NSC VETERAN
ENTER '^' TO STOP, OR
CHOOSE 1-5: 1 <RET> MERGEPATIENT,31 E      11-08-25      000089558      NO      NSC
VETERAN
...OK? Yes// <RET> (Yes) MERGEPATIENT,31 E      POTENTIAL DUPLICATE,
UNVERIFIED

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

DUPLICATE RECORD LIST                      SEP 27,1997  12:55      PAGE 1
-----

RECORD1: MERGEPATIENT,31      RECORD2: MERGEPATIENT,31 E
STATUS: POTENTIAL DUPLICATE, UNVERIFIED
  DATE FOUND: AUG 11, 1997      WHO CREATED: MERGECREATOR,TWO
  DC TOTAL POSSIBLE SCORE: 260      DC POTENTIAL DUPE THRESHOLD %: 60
  DC DUPE MATCH SCORE: 180      DC DUPE MATCH PERCENTILE: 69

DUPLICATE TEST: NAME      DUPLICATE SCORE: 80
DUPLICATE TEST: SSN      DUPLICATE SCORE: 40
DUPLICATE TEST: SEX      DUPLICATE SCORE: 0
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: 0
DUPLICATE TEST: CLAIM NUMBER      DUPLICATE SCORE: 0

```

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

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:

```
Duplicate Resolution System Menu

      XDRO  Operations ...
      XDRU  Utilities ...
      XDRM  Manager Utilities ...

Select Duplicate Resolution System Option: XDRM <RET> Manager Utilities
```

Figure 73 – Manager Utilities menu

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 the DUPLICATE RESOLUTION file are made. The DUPLICATE RESOLUTION file contains the parameters by which the DUPLICATE RECORD file (#15) is populated. The DUPLICATE RESOLUTION file 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

Manager Utilities

- 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 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
PRGE     Purge Duplicate Record File
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 resulting Duplicate Resolution File data entry screen:

```
                                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
```

Figure 74 – Editing site parameters

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. 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.

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 the PATIENT file 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
  PRGE  Purge Duplicate Record File
  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:

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```
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
```

Figure 75 – List patient records with missing fields previously identified in preliminary scan

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:

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 1 VAL	Patient records missing 1 value
MISSING 2 VALS	Patient records missing 2 values
MISSING 3 VALS	Patient records missing 3 values

Figure 76 – Missing field and identifier numbers with corresponding descriptions

The default display is to your terminal, but you can also print the list if you need to. (See "Appendix A" on How to Print.)

```

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  XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX  X  XXXXXXXX  XXXXXXXXX  X  XX  X

      100004  MERGEPATIENT,32                                13
      100007  MERGEPATIENT,33                                9249  13
      100009  MERGEPATIENT,THREE                                13
      100010  MERGEPATIENT,34                                13
    
```

Figure 77 – Patient records with missing SSNs

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.

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 the PATIENT file 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:

```

Duplicate Manager Utilities Menu

    EDT    Edit Site Parameters
    LIST   List File Entries Identified in Preliminary Scan
    SCN    Preliminary Scan of File for Errors
    PRGE   Purge Duplicate Record File
    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>

```

Figure 78 – Running a preliminary scan of the patient records

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 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 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

```

Figure 79 – Preliminary scan of PATIENT file for list of errors

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.

```
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
```

Figure 80 – Queue a preliminary scan of PATIENT file to Task Manager

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.

Purge Duplicate Record File

The option Purge Duplicate Record File is located on the Manager Utilities menu. It is used to purge entries in the DUPLICATE RECORD file (#15). You can only purge the Potential Duplicates, the Verified Non-Duplicates, or both. Entries that have been merged (with a status of MERGED) can not be deleted. This utility helps clean up the DUPLICATE RECORD file.

Only the Site Manager, holding the XDRMGR key, should be responsible for using 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
PRGE  Purge Duplicate Record File
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: PRGE <RET> Purge Duplicate Record File
Select File to Be Checked to purge: PATIENT

      Select one of the following:

          1      POTENTIAL DUPLICATES PURGE
          2      VERIFIED NOT DUPLICATES PURGE
          3      ALL RECORDS EXCEPT VERIFIED DUPLICATES PURGE

Choice : 1 <RET> POTENTIAL DUPLICATES PURGE
Do you wish to Queue this purging (Y/N)? N

```

Figure 81 – Deleting entrie(s) in the DUPLICATE RECORD file

The Site Manager has the option to queue the job to Task Manager.

Cautionary Note: Be advised that the DUPLICATE RECORD file can be used as a perpetual list of which records have been merged and when. This information could prove useful for other systems (e.g., national databases). It is recommended that this file NOT be deleted using any means other than the option provided with this package (i.e., Purge Duplicate Record File) so that data can be kept for future use. The option Purge Duplicate Record File has a safety feature in it such that it does not allow you to purge merged duplicate records.

Purge Merge Process File

Use the option Purge Merge Process File located on the Manager Utilities menu to remove selected records from the 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,

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- 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 MERGE PROCESS file.

Only the Site Manager, holding the XDRMGR key, should be responsible for using 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
  PRGE  Purge Duplicate Record File
  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!
```

Figure 82 – Deleting entrie(s) in the MERGE PROCESS file that have completed the merge process

To delete a record from the MERGE PROCESS file, 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 MERGE PROCESS file.

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.

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.

IRM 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 elsewhere in this chapter and in the chapter titled "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
  PRGE  Purge Duplicate Record File
  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: SCH <RET> Schedule Process to Merge Verified
Duplicates

2 Entries Ready to be included in merge
This process will take a **LONG** time (usually over 15 hours, and sometimes
considerably longer), but you CAN stop and restart the process when you
want using the options. OK? YES

Name for Merge Process: TEST3
START DATE/TIME: 10:30 <RET> (OCT 07, 1997@10:30:00) ← Entering the VA FileMan
command NOW begins the
merge process immediately
Merge process 'TEST3' for Verified Duplicates in File 2 scheduled.
    
```

Figure 83 – Scheduling a merge process

You are prompted to give the merge process a name. Each merge process must have a unique name. You can set up and run several merge processes at the same time, providing each process has a unique name. 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.

Note: Be advised that the merge process can take a long time to run to completion. Actual time for merging duplicate record pairs has been known to exceed 15 hours.

Start/Halt Duplicate Search

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.

Manager Utilities

```
Duplicate Manager Utilities Menu

EDT   Edit Site Parameters
LIST  List File Entries Identified in Preliminary Scan
SCN   Preliminary Scan of File for Errors
PRGE  Purge Duplicate Record File
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: PATIENT

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
```

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

```
                                Duplicate PATIENT 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)
```

Figure 84 – Start a BASIC search of the PATIENT file for duplicate records

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.

Duplicate PATIENT 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				

Figure 85 – Completed BASIC search of the PATIENT file for duplicate records

Notice in the figure above 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 PATIENT 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.

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.

Manager Utilities

```
Duplicate Manager Utilities Menu

  EDT   Edit Site Parameters
  LIST  List File Entries Identified in Preliminary Scan
  SCN   Preliminary Scan of File for Errors
  PRGE  Purge Duplicate Record File
  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
```

Figure 86 – Stopping the merge process

Glossary

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 allows the computer to identify you as a user authorized to gain access to the computer. Your code is greater than six and less than twenty characters long; can be numeric, alphabetic, or a combination of both; and is usually assigned by a site manager or application coordinator. (See the term verify code in the Glossary.)
ADPAC	Automated D ata P rocessing A pplication C oordinator
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 . For example, selected personnel in Laboratory, Radiology, and Pharmacy.
APPLICATION COORDINATOR	Designated individuals responsible for user-level management and maintenance of an application package such as IFCAP, Lab, Pharmacy, Mental Health, etc.
APPLICATION PACKAGE	In VISTA , software and documentation that support the automation of a service, such as Laboratory or Pharmacy, within VA medical centers (see the term Package in the Glossary). The Kernel is like an operating system relative to other VISTA applications.

ARG	Applications R equirements G roup. Representative users from the field and Program Office who make recommendations for software development. Three ARGs exist: Clinical, Management, and Integration & Technology. The ARGs report to the Information Resources Advisory Council (IRAC).
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.
BULLETINS	Electronic mail messages that are automatically delivered by MailMan under certain conditions. For example, a bulletin can be set up to fire when database changes occur, such as adding a record to the file of users. Bulletins are fired by bulletin-type cross-references.
CALLABLE ENTRY POINT	An authorized programmer call that may be used in any <i>VISTA</i> 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 as an exiting tool from an option. Also known as the up-arrow symbol or shift – 6 key.
COMMAND	A combination of characters that instruct the computer to perform a specific operation.
COMMON MENU	Options that are available to all users. Entering two question marks at the menu's select prompt displays any secondary menu options available to the signed-on user, along with the common options available to all users.
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.
- CROSS REFERENCE** Cross-reference—There are several types of cross-references available. Most generally, a VA FileMan cross-reference specifies that some action is 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.
- CURSOR** A flashing image on your screen (generally a horizontal line or rectangle) that alerts you that the computer is waiting for you to make a response to an instruction (prompt).
- 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 of a unit of data such as length, value, or method of representation. VA FileMan field definitions specify data attributes.

DATA DICTIONARY The Data Dictionary is a global containing a description of what kind of data is stored in the global corresponding to a particular file. The data is used internally by FileMan for interpreting and processing files.

A Data Dictionary (DD) 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 DICTIONARY LISTING This is the printable report that shows the data dictionary. Users and programmers use DDs.

DATA PROCESSING Logical and arithmetic operations performed on data. These operations may be performed manually, mechanically, or electronically. Sorting through a card file by hand would be an example of the first method. Using a machine to obtain cards from a file would be an example of the second method. Using a computer to access a record in a file would be an example of the third method.

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; a data collection has different data fields (e.g., patient name, SSN, Date of Birth, and so on). An organized collection of data about a particular topic.

DATABASE MANAGEMENT SYSTEM A collection of software that handles the storage, retrieval, and updating of records in a database. A **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	D atabase A dministrator, oversees package development with respect to VISTA Standards and Conventions (SAC) such as namespacing. Also, this term refers to the D atabase A dministration function and staff.
DBIA	D atabase I ntegration A greement, a formal understanding between two or more VISTA packages which describes how data is shared or how packages interact. The DBA maintains a list of DBIAs.
DBIC	D atabase I ntegration C ommittee. Within the purview of the DBA, the committee maintains a list of DBIC approved callable entry points and publishes the list on FORUM for reference by application programmers and verifiers.
DEBUG	To correct logic errors or syntax errors or both types in a computer program. To remove errors from a program.
DEFAULT	A 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.
DELETE	The key on your keyboard (may also be called rubout or backspace on some terminals) which allows you to delete individual characters working backwards by placing the cursor immediately after the last character of the string of characters you wish to delete. The @ sign (uppercase of the 2 key) may also be used to delete a file entry or data attribute value. The computer asks "Are you sure you want to delete this entry?" to insure you do not delete an entry by mistake.
DELIMITER	A special character used to separate a field, record or string. VA FileMan uses the ^ character as the delimiter within strings.

DEVICE	A peripheral connected to the host computer, such as a printer, terminal, disk drive, modem, and other types of hardware and equipment associated with a computer. The host files of underlying operating systems may be treated like devices in that they may be written to (e.g., for spooling).
DHCP	D ecentralized H ospital C omputer P rogram of the Veterans Health Administration (VHA), Department of Veterans Affairs (VA) is the former name for 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	A database of specifications of data and information processing resources. VA FileMan's database of data dictionaries is stored in the FILE of files (#1).
DINUM	An input variable that identifies the subscript at which the data is to be stored; that is, the internal entry number (IEN) of the record.
DISK	The media used in a disk drive for storing data.
DISK DRIVE	A peripheral device that can be used to "read" and "write" on a hard or floppy disk.
DOUBLE QUOTE (")	A 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 RESOLUTION UTILITIES	The Merge Shell was developed by the IHS to support their Multi-Facility Integration project. Duplicate Resolution Utilities provide the functionality of combining duplicate records based on conditions established in customized applications.

DUZ	A 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.
ELECTRONIC SIGNATURE CODE	A secret password that some users may need to establish in order to sign documents via the computer.
ENCRYPTION	Scrambling data or messages with a cipher or code so that they are unreadable without a secret key. In some cases encryption algorithms are one directional, that is, they only encode and the resulting data cannot be unscrambled (e.g., access/verify codes).
ENTER (<RET>)	Pressing the return or enter key tells the computer to execute your instruction or command or to store the information you just entered.
ENTRY	A VA FileMan record. It is uniquely identified by an internal entry number (the .001 field) in a file.
EXPERT PANEL	Representative users from the field and Program Office who make recommendations for software development. The Expert Panels (EPs) report to and are formed by the ARGs.
EXTRACTOR	A specialized routine designed to scan data files and copy or summarize data for use by another process.
EXTRINSIC FUNCTION	An extrinsic function is an expression that accepts parameters as input and returns a value as output that can be directly assigned.
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	A 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)	The VISTA's Database Management System (DBMS). The central component of the Kernel that defines the way standard VISTA files are structured and manipulated.
FORCED QUEUING	A 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	A screen-oriented display (see ScreenMan).
FORUM	The central E-mail system within VISTA . It is used by developers to communicate at a national level about programming and other issues. FORUM is located at the CIO Field Office - Washington, DC (162-2).
FREE TEXT	The use of any combination of numbers, letters, and symbols when entering data.
GLOBAL VARIABLE	A 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 select prompt. It resembles the rubber band jump but without an option specification after the up-arrows.
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 question mark.
HOOK OR LINK	Non-specific terms referring to ways in which files may be related (via pointer links) or can be accessed (via hooks).

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.
IDCU	The I ntegrated D ata C ommunications U tility, which is a wide area network, used by VA for transmitting data between VA sites.
HIS	I ndian H ealth S ervice
HIS	I ntegrated H ospital S ystem
INIT	Initialization of an application package. INIT* routines are built by VA FileMan's DIFROM and, when run, recreate a set of files and other package components.
INPATIENT	A patient who has been admitted to a hospital in order to be treated for a particular condition.
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.
KERNEL	A set of VISTA software routines that function as an intermediary between the host operating system and the VISTA application packages such as Laboratory, Pharmacy, IFCAP, etc. The Kernel provides a standard and consistent user and programmer interface between application packages 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.

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.)
LINK	Non-specific term referring to ways in which files may be related (via pointer links). Files have links into other files.
LOG IN/ON	The process of gaining access to a computer system.
LOG OUT/OFF	The process of exiting from a computer system.
MAIL MESSAGE	An entry in the MESSAGE file. The VISTA electronic mail system (MailMan) supports local and remote networking of messages.
MAILMAN	An electronic mail system that allows you to send and receive messages from other users via the computer.
MANAGER ACCOUNT	A 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	This is a field that requires a value. A null response is not valid.
MENU	A list of choices for computing activity. A menu is a type of option designed to identify a series of items (other options) for presentation to the user for selection. When displayed, menu-type options are preceded by the word "Select" and followed by the word "option" as in Select Menu Management option: (the menu's select prompt).
MENU SYSTEM	The overall Menu Manager logic as it functions within the Kernel framework.
MENU 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. 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.
NAMESPACING	A convention for naming VISTA package elements. The 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.
NODE	In a tree structure, a point at which subordinate items of data originate. A name and a unique subscript characterize a MUMPS array element. 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.
NUMERIC FIELD	A response that is limited to a restricted number of digits. It can be dollar valued or a decimal figure of specified precision.
OPERATING SYSTEM	A basic program that runs on the computer, controls the peripherals, allocates computing time to each user, and communicates with terminals.
OPTION	An entry in the OPTION file. As an item on a menu, an option provides an opportunity for users to select it, thereby invoking the associated computing activity. Options may also be scheduled to run in the background, non-interactively, by Task Manager.
OPTION NAME	The Name field in the OPTION file (e.g., XUMAINT for the option that has the menu text "Menu Management"). Options are namespaced according to VISTA conventions monitored by the DBA.

PAC	Programmer Access Code. An optional user attribute that may function as a second level password into programmer mode.
PACKAGE	The set of programs, files, documentation, help prompts, and installation procedures required for a given software application. For example, Laboratory, Pharmacy, and MAS are packages. A VISTA software environment composed of elements specified via the Kernel's Package file (#9.4). Elements include files and associated templates, namespaced routines, and namespaced file entries from the Option, Key, Help Frame, Bulletin, and Function files. Packages are transported using VA FileMan's DIFROM routine that creates initialization routines to bundle the files and records for export. Installing a package involves the execution of initialization routines that create the required software environment. Verified packages include documentation. As public domain software, verified packages may be requested through the Freedom of Information Act (FOIA).
PASSWORD	A user's secret sequence of keyboard characters, which must be entered at the beginning of each computer session to provide the user's identity.
PERIPHERAL DEVICE	Any hardware device other than the computer itself (central processing unit plus internal memory). Typical examples include card readers, printers, CRT units, and disk drives.
PHANTOM JUMP	Menu jumping in the background. Used by the menu system to check menu pathway restrictions.
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 MENUS	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 IRM. This menu should include most of the computing activities the user needs.
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 Medical Administration Service (MAS) 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.
PRINTER	A printing or hard copy terminal.
PRODUCTION ACCOUNT	The UCI where users log on and carry out their work, as opposed to the manager, or library, account.
PROGRAM	A list of instructions written in a programming language and used for computer operations.
PROGRAMMER ACCESS	The ability to use VISTA features reserved for programmers. Having the programmer's at-sign, when DUZ(0)=@, enables programmer access.
PROMPT	The computer interacts with the user by issuing questions called prompts , to which the user issues a response.
PROTOCOL	An entry in the PROTOCOL file. Used by the Order Entry/Results Reporting (OE/RR) package to support the ordering of medical tests and other activities. The Kernel includes several protocol-type options for enhanced menu displays within the OE/RR package.
QUEUING	Requesting that a job be processed in the background rather than in the foreground within the current session. Jobs are processed sequentially (first-in, first-out). The Kernel's Task Manager handles the queuing of tasks.

QUEUING REQUIRED	An 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 time periods.
READ ACCESS	A user's authorization to read information stored in a computer file.
RECORD	A 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).
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.
RETURN	On the computer keyboard, the key located where the carriage return is on an electric typewriter. It is used in <i>VISTA</i> to terminate "reads." Symbolized by <RET>.
ROUTINE	A program or a sequence of instructions called by a program that may have some general or frequent use. MUMPS routines are groups of program lines, which are saved, loaded, and called as a single unit via a specific name.
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 verification, <i>VISTA</i> packages are reviewed with respect to SAC guidelines as set forth by the Standards and Conventions Committee (SACC). Package documentation is similarly reviewed in terms of standards set by the Documentation Standards and Conventions Committee (DSCC).

SACC	VISTA's Standards and Conventions Committee. This Committee is responsible for maintaining the SAC.
SCHEDULING OPTIONS	This is a technique of requesting that Task Manager run an option at a given time, perhaps with a given rescheduling frequency.
SCREEN	A CRT, monitor or video display terminal
SCREENMAN FORMS	A 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 and exported with a package. Forms are composed of blocks (stored in the BLOCK file) and can be regular, full screen pages or smaller, pop-up pages for multiples.
SECONDARY MENUS	Options assigned to individual users to tailor their menu choices. If a user needs a few options in addition to those available on the Primary menu, the options can be assigned as secondary options. To facilitate menu jumping, secondary menus should be specific activities, not elaborate and deep menu trees.
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.
SERVER	An entry in the OPTION file. An automated mail protocol that is activated by sending a message to a server at another location with the "S.server" syntax. This activity is specified in the OPTION file.
SET OF CODES	Usually a preset code with one or two characters. The computer may require capital letters as a response (e.g., M for male and F for female). If anything other than the acceptable code is entered, the computer rejects the response.
SITE MANAGER/ IRM CHIEF	At each site, the individual who is responsible for managing computer systems, installing and maintaining new modules, and serving as liaison to the CIO Field Offices.

- 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** An option attribute indicating that Task Manager should automatically run the option whenever the system reboots.
- SPOOLER** Spooling (under any system) provides an intermediate storage location for files (or program output) for printing at a later time.
- In the case of *VISTA*, the Kernel manages spooling so that the underlying OS mechanism is transparent. The Kernel subsequently transfers the text to the ^XMBS global for despooling (printing).
- STOP CODE** A number (i.e., a subject area indicator) assigned to the various clinical, diagnostic, and therapeutic sections of a facility for reporting purposes. For example, all outpatient services within a given area (e.g., Infectious Disease, Neurology, and Mental Hygiene—Group) would be reported to the same clinic stop code.
- SUBSCRIPT** A symbol that is associated with the name of a set to identify a particular subset or element. In MUMPS, a numeric or string value that: is enclosed in parentheses; is appended to the name of a local or global variable; identifies a specific node within an array.
- SYNONYM** A field in the OPTION file. Options may be selected by their menu text or synonym (see Menu Text).
- TASK MANAGER** The Kernel module that schedules and processes background tasks (also called Task Manager).
- TEMPLATE** A means of storing report formats, data entry formats, and sorted entry sequences. A template is a permanent place to store selected fields for use at a later time. Edit sequences are stored in the INPUT TEMPLATE file, print specifications are stored in the PRINT TEMPLATE file, and search or sort specifications are stored in the SORT TEMPLATE file.

TERMINAL	May be either a printer or CRT/monitor/video display terminal.
TIMED-READ	The amount of time a READ command waits for a user response before it times out.
TOOLKIT	<p>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, 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.</p> <p>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.</p>
TREE STRUCTURE	A term sometimes used to describe the structure of an M array. This has the same structure as a family tree, with the root at the top and ancestor nodes arranged below according to their depth of subscripting. All nodes with one subscript are at the first level, all nodes with two subscripts at the second level, and so on.
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.
TYPE-AHEAD	A buffer used to store characters that are entered before the corresponding prompt appears. Type-ahead is a shortcut for experienced users who can anticipate an expected sequence of prompts.
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	<p>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.</p> <p>The user's access level determines the degree of computer use and the types of computer programs available. The Systems Manager assigns the user an access level.</p>
USER INTERFACE	The way the package is presented to the user—issuing of prompts, help messages, menu choices, etc. A standard user interface can be achieved by using VA FileMan for data manipulation, the menu system to provide option choices, and VA FileMan's Reader, the ^DIR utility, to present interactive dialogue.
VA	The Department of Veterans Affairs , formerly called the Veterans Administration .
VARIABLE	A character, or group of characters, that refer to a value. 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).
VENDOR INDEPENDENCE	A goal of VISTA : to develop a system that does not assume the existence of a particular hardware/software platform supplied by a particular vendor. (See Operating System Independence.)

VA FILEMAN	A set of programs used to enter, maintain, access, and manipulate a database management system consisting of files. A package of online computer routines written in the M language which can be used as a stand-alone database system or as a set of application utilities. In either form, such routines can be used to define, enter, edit, and retrieve information from a set of computer stored files.
VERIFY CODE (SEE PASSWORD)	An additional security precaution used in conjunction with the Access Code. Like the Access Code, it is also 6 to 20 characters in length and, if entered incorrectly, will not allow the user to access the computer. To protect the user, both codes are invisible on the terminal screen.
VISTA	Veterans Health Information Systems and Technology Architecture (VISTA) [formerly the Decentralized Hospital Computer Program (DHCP)] of the Veterans Health Administration (VHA), Department of Veterans Affairs (VA). 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, which undergo a verification process to ensure conformity with namespacing and other VISTA standards and conventions.

Appendix A

"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.

Other Resources (DHCP Users Guide to Computing)

If you are not familiar with **VISTA** software applications, we recommend that you study the **DHCP Users Guide to Computing**. This orientation guide is a comprehensive handbook benefiting first time users of any **VISTA** application. The purpose of the introductory material is to help you become familiar with basic computer terms and the components of a computer. This guide is available in your facility's Library, or from your IRM Service or Site Management office.

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.

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 when 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
```

How to Exit a VISTA Process

In most cases, when you begin an option you will continue stepping through it to its normal end. At times however, 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.

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.

How to Generate Online Documentation

Online documentation about this package may be obtained in a number of ways as described below.

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. Four question marks displays a help frame if one has been associated with this option in the OPTION file. 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.

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.

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.

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.*

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.*

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)?

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//

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 question marks, and repeats the question on a new line.

LAYGO

LAYGO access is not allowed in the this 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?	<i>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.</i>
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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	<i>(today)</i>
TODAY+1 or T+1 or t+1	<i>(tomorrow)</i>
TODAY-7 or T-7 or t-7	<i>(one week ago)</i>
TODAY+3W or T+3W or t+3w	<i>(3 weeks hence)</i>
NOW+1H	<i>(present time plus one hour)</i>
NOW+4M	<i>(present time plus four months)</i>
NOON	<i>(12:00 p.m.)</i>

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

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.*

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.

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.

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//
```

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

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.

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 above (e.g., NOW+1 for one hour from now).*

Appendix B

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

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.

How Do I?	Use The Menu Option
Add a specific pair of records to the DUPLICATE RECORD file (#15) that is not already identified as potential or verified duplicates?	Add Verified Duplicate Pair
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
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
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
Get a quick count, or tally, of the records in the DUPLICATE RECORD file grouped by status?	Tally STATUS and MERGE STATUS fields

How Do I?	Use The Menu Option
Print reports?	<ul style="list-style-type: none"> • 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.
Verify record pairs as duplicates found from the search of the primary file?	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.)

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.

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
Purge duplicate entries in the DUPLICATE RECORD file (#15) (e.g., potential duplicate record pairs, verified non-duplicate record pairs, or both)?	Purge Duplicate Record File
Restart a Merge Process?	Restart a Merge Process
Search a primary file for potential duplicate pairs?	Start/Halt Duplicate Search

How Do I?	Use The Menu Option
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

Appendix C

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 cosignature 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 Measurement
Abbreviation: NTM

This component lists measurements (e.g., blood pressure, height, weight, respiration's, 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 include 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 cosignature 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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