



Blood Bank Pre-Implementation Data
Validation, Mapping, and Conversion
Patch LR*5.2*335
ADPAC Guide

January 2009

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Office of Enterprise Development

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Blood Bank Pre-Implementation
Data Validation, Mapping, and Conversion Patch LR*5.2*335
ADPAC Guide Version 4.0

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Revision History

Date	Revision	Description	Author
1/31/06	1.0	Initial release.	BBM team
2/7/07	2.0	<p>Updated per 025 VistA MR 041906: moved Disable VistA Blood Bank Components [VBEC BB COMPONENTS DISABLE] to Post Conversion Utilities; updated and the checklist to reflect the new organization.</p> <p>Deleted "It is strongly recommended to disable the VistA Blood Bank 5.2 options during the mapping and conversion process" from the Notes section.</p> <p>Updated Figure 12: deleted Anti-A and Anti-B.</p> <p>Updated Figure 17: deleted Anti-A.</p> <p>Updated Appendix B, Table 1: deleted Anti-A, Anti-B; moved Anti-M, other, to its alphabetical location in Appendix B, Table 1.</p> <p>Deleted "Free text data required on new entries" from "Other" in Appendix C.</p> <p>Moved the appendices to after Glossary, per VA document standards, replaced "manually enter" with "enter," replaced callouts in Figure 29 with footnotes. Changed page numbering so that Introduction is on Page 1.</p>	BBM team
3/21/08	3.0	<ul style="list-style-type: none"> • Figure 29: Convert VistA Blood Bank Data to Host Files updated. The following text was added as footnote 1: "Can only be VBECS_V1_TEST or VBECS_V1_PROD. Convert VistA test to VBECS test and VistA production(live) to VBECS PROD" • Added step #13 to Notes that provides a workaround for patient Special Instruction (SI) records that are too long for database conversion. • Updated Figures 12, 13, 14, and 17 to match VistA. • Added an explanation that the LRLIASON key must be assigned to anyone the needs access to the VBEC MAIN MENU. • Added details about the creation of the VBECS DATA CONVERSION mail group during the patch installation process • Corrected inconsistencies in screen captures. • Clarified the instructions for entering the VMS path for the converted data. • Clarified the instructions for dealing with any anomalies discovered during the conversion process. • Added reference that antigens and antibody entry is case sensitive. • Added detailed instructions on entering the VBECS database and server names. • Added details on error handling during the Convert VistA Data to Host files process. • Added Install and Configure Patch steps to the Conversion Checklist section and update to cover the entire process. • Added a list of the data elements that will be converted and reside in the VBECS DATA INTEGRITY/CONVERSION STATISITICS (#6001) file. 	BBM team

Date	Revision	Description	Author
1/26/09	4.0	<p>Updated guide to address comments from Clinical Product Support (CPS) review:</p> <ul style="list-style-type: none"> • Corrected the listing of disabled options under Disable VistA Blood Bank Components. • Added the patch name, date of release, and changed organization to Office of Enterprise Development on the cover page. • Corrected v3.0 revision history from: “Updated Figures 12, 12, 14, and 17 to match VistA” to “Updated Figures 12, 13, 14, and 17 to match VistA” • Updated the Install and Configure Patch section of the Conversion Checklist. • Updated the Conversion Utilities section of the Conversion Checklist. • Updated the Post-Conversion Utilities Maintenance section of the Conversion Checklist. • Reworded step 16 in Notes. • Created new step one and two in Notes. • Revised step 14 of Notes and is now step 16. • Revised step 15 of Notes and is now step 17. • Added notes to explain figure 1. • Reworded intro paragraph to Enter/Edit Site Parameter Data • Changed users to mail group in Run Legacy VistA Blood Bank Data Validation and updated link to appendix A. • Reworded contents of text box after figure 7. • Added statement to file a Remedy ticket to Invalid Blood Bank Report section. • Corrected file references in text box under Match VistA Antibody/Antigen Data. • Clarified information in figures 20 and 29 • Added figure 30 • Reworded first paragraph under Delete All Blood Bank Data in Temporary Globals. • Reworded third paragraph of Delete Blood Bank Data in System Level Files. • Clarified that only BB subscript specific elements are disabled in file #63 in Disable VistA Blood Bank Components section. • Added P1+P+P(k) to table 2 in Appendix B. 	BBM team

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Introduction

The Veterans Health Information Systems and Technology Architecture (VistA) Blood Bank Pre-Implementation, Data Validation, Mapping, and Conversion software package is designed to assist with the functions related to preserving historically relevant unit and patient clinical information. Selected fields from the VistA Blood Bank 5.2 database were identified for inclusion in a database conversion when VistA Blood Establishment Computer Software (VBECS) is implemented. Some of the VistA data will be standardized to nationally recognized blood bank definitions. Logical checks in the software will be added to ensure data integrity. Once the data on the VistA side are evaluated and converted to the new database, specific VistA Blood Bank 5.2 software will be inactivated so that the legacy data cannot be altered.

Using This Guide

- This manual uses external names (the names users see) and internal names (in brackets) of options for example, Enter/Edit Site Parameter Data [VBEC SITE PARAMETER ENTER/EDIT].
- Figures depict email messages and screen captures.
- The term “enter” is used throughout this guide to mean “enter manually.”

Related Manuals and Materials

- *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide*
- *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Technical Manual*
- *VistA Blood Establishment Computer Software (VBECS) Installation Guide*

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Conversion Checklist

Use this checklist to ensure completion of implementation. Run the options in the process steps in the order listed to complete the database conversion. Run the options in the maintenance steps to correct errors during the mapping process or to display unmapped items.

It is highly recommended that the Blood Bank Supervisor or other technical staff member perform the matching of all Blood Bank data. The facility must validate the data transferred to the re-engineered Blood Bank medical device.

Install and Configure Patch

Process

- 1) Load patch LR*5.2*335 in VistA Environment
- 2) Add appropriate lab users to the VBEC DATA CONVERSION Mail Group to receive email alerts.
- 3) Assign the VBEC Data Matching/Conversion Menu [VBEC MAIN MENU] to the appropriate users secondary menu.
- 4) Assign LRLIASON key to appropriate lab users to access the VBEC Data Matching/Conversion Menu.
- 5) Create or designate a VMS folder as the repository for data conversion files. This can be the default directory as defined in the DEFAULT DIRECTORY FOR HFS (#320) field of the KERNEL PARAMETERS (#8989.2) file.

Pre-Conversion Utilities

Process

- 1) Enter/Edit Site Parameter Data [VBEC SITE PARAMETER ENTER/EDIT]
- 2) Run Legacy VistA Blood Bank Data Validation [VBEC DATA VALIDATION]
- 3) Invalid Blood Bank Data Report [VBEC INVALID DATA REPORT]
- 4) If anomalies exist, decide whether to continue the database conversion or to fix the anomalies before continuing.

Antigen and Antibody Utilities

Process

- 1) Update antibody/antigen records in matching file [VBEC UPDATE ANTIBODY/ANTIGEN]
- 2) Standard Antigens and Antibodies Print [VBEC STANDARD ANTIBODIES]
- 3) Unmatched VistA Blood Bank Data Report [VBEC UNMATCHED VISTA DATA RPT]
- 4) Match VistA antibody/antigen data [VBEC MATCH ANTIBODY/ANTIGEN]
- 5) Rerun Unmatched VistA Blood Bank Data Report [VBEC UNMATCHED VISTA DATA RPT]. If data exist in this report, run Match VistA antibody/antigen data [VBEC MATCH ANTIBODY/ANTIGEN] to complete the matches.

Maintenance

- 1) Unmatched VistA Blood Bank Data Report [VBEC UNMATCHED VISTA DATA RPT]
- 2) If items exist on the Unmatched VistA Blood Bank Data Report, rerun Process Steps 4 and 5 until no items are found on the report.
- 3) Matched Blood Bank data report [VBEC PRINT SQL/VISTA MATCHES]
- 4) Unmatch a single matched VistA record [VBEC UNDO SINGLE MATCHING] when a VistA record is incorrectly matched to a standard record.

Transfusion Reaction Utilities

Process

- 1) Update trans. reaction records in matching file [VBEC UPDATE TRANS. REACT. REC]
- 2) Standard Transfusion Reactions Print [VBEC STANDARD TRANS. REACTION]
- 3) Unmatched VistA Blood Bank Data Report [VBEC UNMATCHED VISTA DATA RPT]
- 4) Match VistA transfusion reaction data [VBEC MATCH TRANSFUS REACTION]
- 5) Rerun the Unmatched VistA Blood Bank Data Report [VBEC UNMATCHED VISTA DATA RPT]. If data exist in this report, run Match VistA transfusion reaction data [VBEC MATCH TRANSFUS REACTION].

Maintenance

- 1) Unmatched VistA Blood Bank Data Report [VBEC UNMATCHED VISTA DATA RPT]
- 2) If items exist on the Unmatched VistA Blood Bank Data Report, rerun Process Steps 3 and 4 until no items are found on the report.
- 3) Matched Blood Bank data report [VBEC PRINT SQL/VISTA MATCHES]
- 4) Unmatch a single matched VistA record [VBEC UNDO SINGLE MATCHING] when a VistA record is incorrectly matched to a standard record

Conversion Utilities

Process

- 1) Convert VistA Blood Bank data to host files [VBEC DATA CONV TO HOST FILES]
- 2) Copy the VBECSBATCH.COM file from the Anonymous Software folder, as specified in the LR*5.2*335 installation instructions to the VMS-level directory specified in the DEFAULT DIRECTORY field (#.06) of the VBEC Site Parameters file (#6000) (refer to the Install the DCL Command Procedure section of the Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide). You may use an existing VMS directory, or create a new one. Contact your System Manager or IRM personnel to determine the proper VMS directory name.
- 3) Re-enable the FTP service on the VBEC server (refer to the Post-Installation Procedure section of the Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide. Follow the instructions under Enable FTP Service for Production Account Conversion.)
- 4) Transfer converted files to VBEC server (refer to the Execute the DCL Command Procedure section of the Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide).
- 5) Execute DTS commands on the VBEC server to import VistA records to the VBEC database (refer to the Execute the DTS Package section of the Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide).

Verify Converted Records

Process

- 1) Download the spreadsheets from the VBEC server that contain records converted (refer to Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide).
- 2) Verify the converted data matches the records in VistA (refer to Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide).

Post-Conversion Utilities

Process

- 1) STAT Display data conversion statistics [VBEC DATA CONVERSION STATS]
- 2) Disable VistA Blood Bank Components [VBEC BB COMPONENTS DISABLE]

Maintenance

- 1) Delete data conversion and anomaly check histories [VBEC DELETE CONV. STATS]
- 2) Delete all Blood Bank Data in Temporary Globals [VBEC DELETE EXTRACTED DATA]
- 3) Delete Blood Bank Data in System Level Files [VBEC DELETE SYSTEM LEVEL FILES]
- 4) Remove FTP service from VBECS server (refer to Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide).

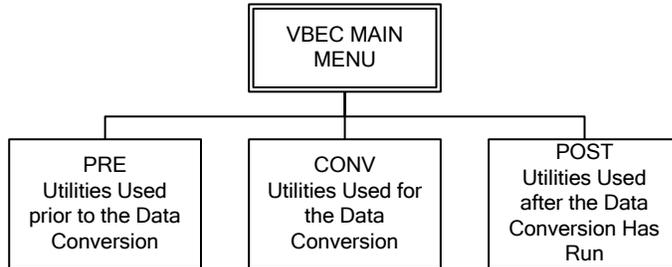
Repeat this checklist when going to production

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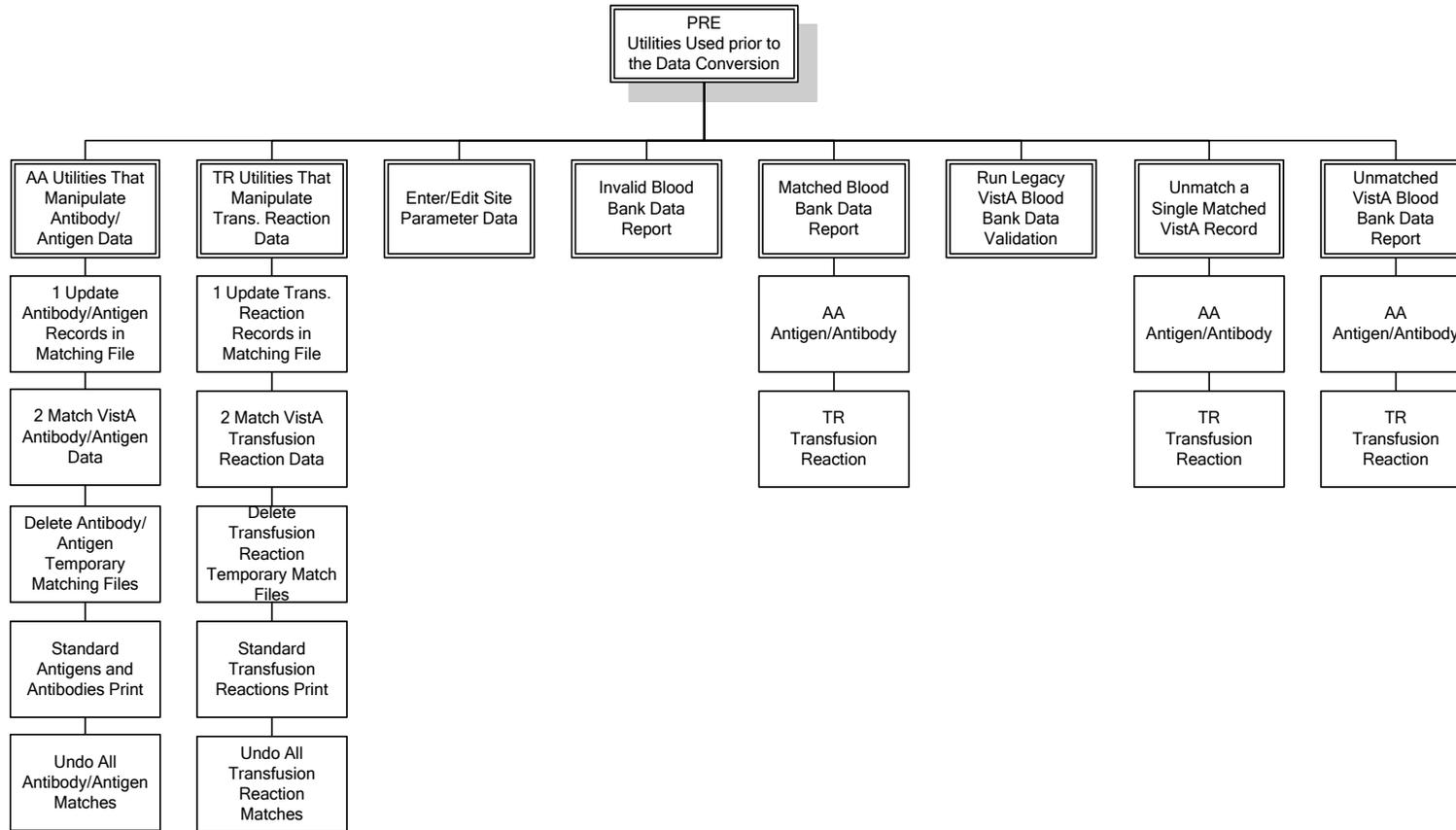
Menu Navigation

These charts depict the menu hierarchy of the database conversion utilities.

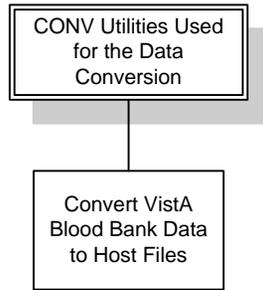
Layer 1: VBEC MAIN MENU



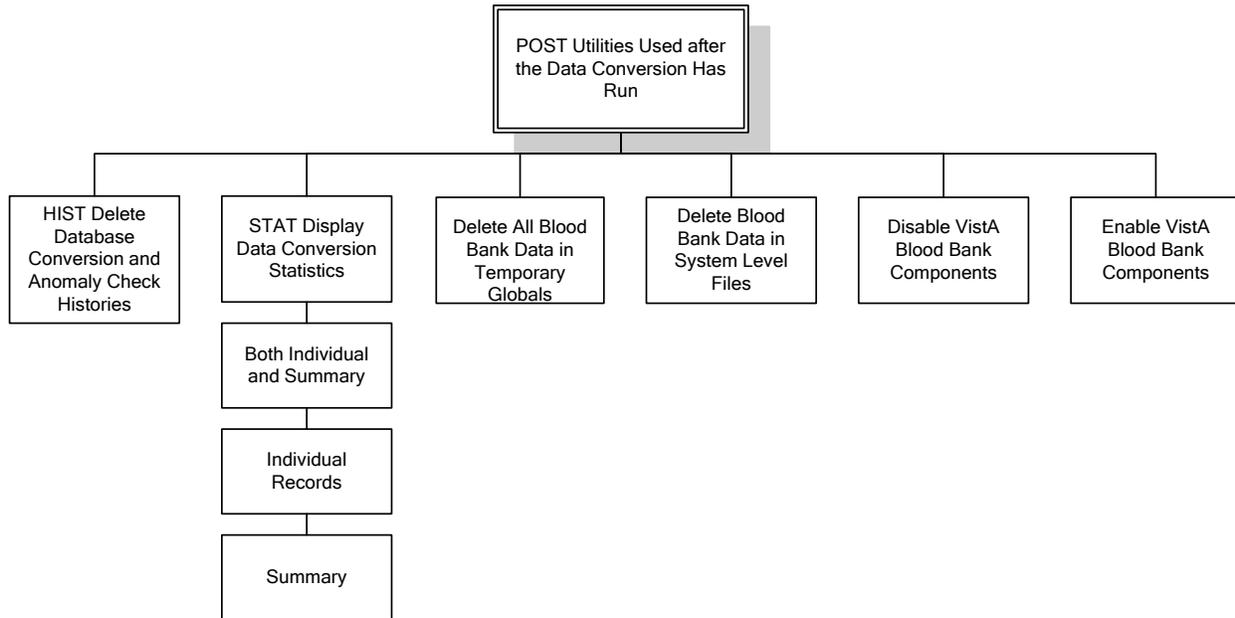
Layer 2: PRE Utilities Used prior to the Data Conversion



Layer 3: CONV Utilities Used for the Data Conversion



Layer 4: POST Utilities Used after the Data Conversion Has Run



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Conversion Strategy

The VistA Blood Bank 5.2 application must be fully patched before installing patch LR*5.2*335 for database conversion. The required patches will be detailed in the LR*5.2*335 patch message. The site may begin the process of database conversion after VBECS is successfully installed.

Sites must develop a changeover policy to handle residual VistA data and work such as the entry of post-transfusion information. The database conversion does not transfer testing performed in VistA; therefore, VBECS will have no record of pending work or units on crossmatch. To ease the transition to VBECS:

- Have a conversion plan.
- Conduct the changeover to VBECS during the slowest period the site experiences.
- Notify the services and providers that the Blood Bank is switching to new software and that this switch will make various changes such as the way blood is ordered in CPRS.
- Designate a cut-off time for the use of VistA Blood Bank samples to coincide with the database conversion execution and changeover to VBECS.
- Plan down time during the conversion.

The mapping of VistA Blood Bank 5.2 database identifiers to the standard VBECS system identifiers is a critical step in the installation of VBECS. The Laboratory ADPAC and/or IRM personnel must work in conjunction with the Blood Bank Supervisor to execute the database conversion.

The database conversion must be run in the test account before attempting to convert the live (production) account to detect and repair anomalies in the database. A site is ready to convert its production account when the test account is successfully converted and:

- Validation of all VBECS software applications is complete and documented.
- Training of all VBECS users is complete and documented.
- Training clinicians to order blood products using CPRS is complete.
- Standard operating procedures governing the changeover process and the use of VBECS are in place.

The Blood Bank Supervisor is responsible for capturing and reviewing pertinent information before, during, and after the database conversion for validation purposes. Retain these reports:

- Transfusion Reaction Count Report [LRBLIPTR]: print for life of the VistA system as a comparison record to VBECS following database conversion.
- Patient Antibody Report [LRBLPRA]: print for life of the VistA system as a comparison record to VBECS following database conversion.
- Units on Xmatch by Date/Time Xmatched [LRBLIX]: print a week's worth of data to follow up on outstanding transfusions.
- Patient Accession List [LRBLPAL]: print a day's worth of samples for reference during changeover to VBECS.
- Invalid Blood Bank Data Report [VBECS INVALID DATA REPORT]: print report of data anomalies existing in your site's database. If corrections are made, reprint the report as evidence of correction. If no action is taken, document that on this report.
- Unmatched VistA Blood Bank Data Report (Antibody/Antigen) [VBEC UNMATCHED VISTA DATA RPT]: print for use in mapping to VBECS standard antibody/antigens.

- Standard Antigens and Antibodies Print [VBEC STANDARD ANTIBODIES]: print for use in mapping to VistA antibody/antigens.
- Matched Blood Bank Data Report (Antibody/Antigen) [VBEC PRINT SQL/VISTA MATCHES]: print matched data for review before initiating database conversion.
- Unmatched VistA Blood Bank Data Report (Transfusion Reaction) [VBEC UNMATCHED VISTA DATA RPT]: print for use in mapping to VBECS standard transfusion reactions.
- Standard Transfusion Reactions Print [VBECS STANDARD TRANS. REACTIONS]: print for use in mapping to VistA transfusion reactions.
- Matched Blood Bank data report (Transfusion Reaction) [VBEC PRINT SQL/VISTA MATCHES]: print matched data for review before initiating database conversion.
- STAT Display Data Conversion Statistics [VBEC DATA CONVERSION STATS]: print summary for comparison of LRDFN to total number of records transferred to VBECS.

Validation of data transferred to VBECS is covered in the Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide.

Notes

- 1) Have a conversion plan.
- 2) Notify the services and providers that the Blood Bank is switching to new software and that this switch will make various changes such as the way blood is ordered in CPRS.
- 3) It is strongly recommended that the sites map and convert data in their test account including:
 - Manual validation
 - Comparing VistA data displays to VBECS data displays
 - Using mapping tables
 - Validation of at least one instance of each mapped data entry (antigen, antibody, transfusion reaction)
- 4) Match Antibodies/Antigen and Transfusion Reactions on paper and then through the application to eliminate matching errors.
- 5) Matches made incorrectly during this process will be stored in VBECS with the incorrect information.
- 6) Identifiers from VistA not mapped to the standard VBECS identifier tables will not be converted. Sites must enter data they require that do not convert.
- 7) To correct errors detected, run the VistA Blood Bank Data Validation prior to conversion or the affected data will not be converted and must be entered in VBECS.
- 8) It is strongly recommended that the Blood Bank Supervisor or other technical staff member perform the matching of all Blood Bank data.
- 9) Run the options in the order listed in the conversion checklist.
- 10) It is recommended that the facility validate the data transferred to VBECS. (See the *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide*.)
- 11) The VistA Blood Bank 5.2 software will continue to function as a read-only database for historic unit information after conversion is complete. Remaining VistA data will be archived in the future. (Refer to the Disable VistA Blood Bank Components [VBEC BB COMPONENTS DISABLE] section of this guide for a list of options affected by the database conversion.)
- 12) After database conversion, review VBECS Special Instructions (SIs) that may be enforced as Transfusion Requirements (TRs). Extract such text from the SIs and enter as TRs. Each site must develop a policy to detect and manage these converted SIs.
- 13) Antibodies setting antigen negative requirements in VistA will set antigen negative requirements in VBECS.
- 14) If a site did not set the antigen negative requirement in VistA by entering the patient's antibody in the ANTIBODIES IDENTIFIED field, an antigen negative requirement will not be set in VBECS.
- 15) Some sites have tried to enter the full text from their lab reports which has resulted in a number of patients having text too long to fit within the database conversion. No change is being made to the VistA code to correct this situation; the workaround is to shorten the SI comments to allow conversion and re-enter them in VBECS after conversion completes.
- 16) If the software encounters problems during the Pre-Conversion, Conversion, or Post-Conversion options, the members of the VBECS DATA CONVERSION mailgroup will receive an email message.
- 17) The VBECS DATA CONVERSION mail group will be automatically added when the conversion is installed. The mail group coordinator must be entered when the mail group is created during patch installation. It is recommended that the ADPAC responsible for the VistA Blood Bank system and VBECS be listed as a member and as the coordinator for this group. The sites must

assign relevant Blood Bank personnel at the facility to this mail group through one of these methods or by other methods in use at the site:

- Assign the Mail Group Coordinator's "Edit" option (XMMGR-MAIL-GRP-COORDINATOR) or the Mail Group Coordinator's "Edit W/Remotes" (XMMGR-MAIL-GRP-COORD-W/REMOTES) option to the mail group coordinator to allow him to add members to the group.
- The "Enter or Edit File Entries" (DIEDIT) option can be used to add members to the MEMBER (#2) field of the MAIL GROUP (#3.8) file.
- Other, site-developed method for maintaining mail group membership.

Figure 1: Error Message

1. I Option (option name here) has encountered an Error.
Note: The option where the error occurred will be listed in place of "(option name here)". The "I" at the beginning of the display means that this is an informational message.

Main Menu

The first screen displayed of the VBEC menu lists three menus that provide access to the utilities used prior to, during, and after database conversion. This menu is locked with the LRLIASON key and only the holders of that key will be able to access it. Assign the LRLIASON key to all users that will need access to the VBEC MAIN MENU option.

Figure 2: VBEC Main Menu

```
Select OPTION NAME: VBEC MAIN MENU          VBEC Data Matching/Conversion Menu

PRE      Utilities used prior to the data conversion ...
CONV     Utilities used for the data conversion ...
POST     Utilities used after the data conversion has run ...
```

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PRE Utilities Used Prior to the Database Conversion

Use this menu's options prior to database conversion. They include entering site parameters, checking VistA data for anomalies, matching VistA Blood Bank 5.2 data, and validating data matches. Data to be matched include antibodies/antigens and transfusion reaction types. The options in this menu automatically set up temporary files containing VistA Blood Bank 5.2 data that must be matched and facilitate manual matching.

Figure 3: Utilities Used Prior to Data Conversion

Select VBECS Data Matching/Conversion Menu Option: PRE Utilities used prior to the data conversion

```
AA      Utilities that manipulate Antibody/Antigen data ...
TR      Utilities that manipulate Trans. Reaction data ...
Enter/Edit Site Parameter Data
Invalid Blood Bank Data Report
Matched Blood Bank data report
Run Legacy VistA Blood Bank Data Validation
Unmatch a single matched VistA record
Unmatched VistA Blood Bank Data Report
```

Enter/Edit Site Parameter Data [VBEC SITE PARAMETER ENTER/EDIT]

This option allows the user to input the name of the facility, the default directory where the system-level data extract files are to reside, and the VBECS mail group where database conversion information is to be routed. An existing mail group such as the VBECS DATA CONVERSION mail group may be used, or a new mail group may be created. Sites must assign users to the mail group. The users assigned to the mail group will be sent messages when an anomaly check was done, when the database conversion is complete, or when problems with the software are encountered.

Note: The VMS directory listed here is only an example. Please check with your System Manager for the appropriate path and directory name.

This option updates the DEFAULT DIRECTORY (#.06) and VBECS MAIL GROUP (#.07) fields on the VBEC SITE PARAMETER FILE (#6000).

Figure 4: Enter/Edit Site Parameter Data

```
Select Utilities used prior to the data conversion Option: ENTER/Edit Site
Parameter Data
```

```
Select Facility: VA HEARTLAND - WEST, VISN 15//      MO VAMC 589
...OK? Yes//      (Yes)
```

```
DEFAULT DIRECTORY: SYS$USER:[CEBE.SAVE] Replace
VBEC MAIL GROUP: VBEC DATA CONVERSION//
```

Run Legacy VistA Blood Bank Data Validation [VBEC DATA VALIDATION]

Use this option to check the PATIENT (#2) and LAB DATA (#63) VistA files for anomalies and perform a data validation (integrity check) on the legacy VistA Blood Bank 5.2 data based on business rules. All records in the aforementioned files are checked. Anomalies found are recorded in the VBEC DATA INTEGRITY/CONVERSION STATISTICS (#6001) file. Run the “Invalid Blood Bank Data Report” option to view the anomalies found.

Resolve the anomalies before the data are converted to VBEC table attributes or, when VBEC is running, enter the data in VBEC (in which case, none of the data with anomalies will be converted). (Refer to [Appendix A: Data Anomalies](#) for a list of standard data anomalies you may encounter.) It is recommended that this option run in the background; it may take several minutes, depending on the size of the database being checked. The software prompts the user to enter the start time for the data validation.

Figure 5: Run Legacy VistA Blood Bank Data Validation

Select Utilities used prior to the data conversion Option: run Legacy VistA Blood Bank Data Validation

The VBEC pre-implementation process will take some time to complete. It would be best if this process was run in the background.

Requested Start Time: NOW// (JUN 26, 2003@10:30:55)

VBEC pre-implementation process task number: 1789

The mail group configured to receive notification in the Enter/Edit Site Parameters option will receive this alert when the anomaly check is complete and anomalies were found:

Figure 6: Notice of Anomalies Identified

I VBEC Data Conversion complete, anomalies identified.

Note: The “I” denotes this as an informational message

The mail group configured to receive notifications in the Enter/Edit Site Parameters option will receive this alert when the anomaly check has completed and no anomalies were found:

Figure 7: Notice of No Anomalies Identified

I VBEC Anomaly Check complete, anomalies non-existent.

Note: The “I” denotes this as an informational message

If an error occurs, run “Delete data conversion and anomaly check histories” to eliminate any partial histories that remain on the system.

Invalid Blood Bank Data Report [VBEC INVALID DATA REPORT]

This option displays or prints the results of the VistA Blood Bank data validation. You may address anomalies listed on the report before continuing with the database conversion, or enter them into the VBEC database after the data has been converted to the VBEC system.

This option prints from the VBECS DATA INTEGRITY/CONVERSION STATISTICS (#6001) file and displays:

- The user responsible for the process
- The process being run (validate data or database conversion)
- The date and time the process was started and stopped
- Data integrity issues logged

Figure 8: Invalid Blood Bank Data Report: No Anomalies Identified

Select Utilities used prior to the data conversion Option: INVALID Blood Bank Data Report

There are no occurrences of VistA Blood Bank data anomalies on file to be displayed.

Figure 9: Invalid Blood Bank Data Report: Anomalies Identified

Select Utilities used prior to the data conversion Option: INVALID Blood Bank Data Report

DEVICE: HOME// UCX TELNET SESSION

VistA Blood Bank Data Anomalies Report

Date: Jul 14, 2004 Page: 1

Process initiated by: USER,ONE Process: CONVERT DATA

Start time: JUL 14, 2004@12:58 Finish time:

File Navigated: PATIENT(2)

Patient Name: PATIENT,ONE

File Navigated To: LAB DATA(63)

Lab Data ID: 7808

Data Integrity Issue: Patient mismatch between files: Patient (#2) & Lab Data (#63)

File Navigated: PATIENT(2)

Patient Name: PATIENT,TWO

Data Integrity Issue: Laboratory Reference (#63) field, Patient (#2) file data corruption

File Navigated: PATIENT(2)

Patient Name: PATIENT,THREE

File Navigated To: LAB DATA(63)

Lab Data ID: 25843

File Navigated: PATIENT(2)

Patient Name: MERGING INTO `124 USE THAT ENTRY (PATIENT,FOUR)

File Navigated To: PATIENT(2)

Patient Name: PATIENT,FIVE

Data Integrity Issue: Duplicate Patient Merge indicated in Patient Name

Total number of anomalies for file 2: 4

Enter RETURN to continue or '^' to exit:

Anomalies may be resolved before performing the database conversion. Unresolved anomalies will not be converted.

The possible anomalies include merged patients, invalid pointers between the PATIENT (#2) file and the LAB DATA (#63) files, and missing pointers between the PATIENT (#2) file and the LAB DATA (#63) files. Anomalies involving merged patients may be ignored. Conversion of the “Merged From” patients is not necessary. Patients with missing or invalid pointers should be reported to the appropriate IRM personnel for correction.

File a Remedy ticket for any questions or concerns about items on the Invalid Blood Bank Data Report as some may be difficult or impossible to correct.

AA Utilities That Manipulate Antibody/Antigen Data

This menu contains options to manipulate antibody and antigen data and to facilitate matching, move antibody and antigen records to a temporary file, and use the update feature to keep it synchronized with the VistA data. Prior to database conversion, match VistA antibody and antigen data to the VBECS list of antigens and antibodies. Matches can be assigned and undone. Lists of matched and unmatched data can be printed. The temporary table may be deleted.

Figure 10: Antibody and Antigen Utilities

Select Utilities used prior to the data conversion Option: AA Utilities that manipulate Antibody/Antigen data

- 1 Update antibody/antigen records in matching file
- 2 Match VistA antibody/antigen data
- Delete Antibody/Antigen temporary matching files
- Standard Antigens and Antibodies Print
- Undo all antibody/antigen matches

Update Antibody/Antigen Records in Matching File [VBEC UPDATE ANTIBODY/ANTIGEN]

This option nondestructively updates VistA antibody and antigen data in the VBECS MATCHING TABLE (#6005) file with additions, deletions, and changes made since the last creation or update. File #6005 is a temporary file designed for population and used to match VistA data to standard data prior to database conversion. After running this option, run the unmatched item and matched item reports for a list of new matches created as a result of the update.

This option initially populates the VBECS MATCHING TABLE (#6005) file with antibody and antigen data from the FUNCTION FIELD (#61.3) file. After preliminary data population, edit checks are conducted between antibody and antigen data that reside in the VBECS MATCHING TABLE and FUNCTION FIELD files. When a record in the FUNCTION FIELD file is edited or added and no longer matches the associated record in the VBECS MATCHING TABLE file, the record in the VBECS MATCHING TABLE file is edited or (if necessary) created to reflect the changes in the FUNCTION FIELD file. All links between antibody and antigen data in the VBECS MATCHING TABLE file and their standardized counterparts in the STANDARD VBECS DATA (#6007) file are deleted.

The antibody and antigen data to be mapped for use with the VBECS software reside in the VBECS MATCHING TABLE file (#6005).

Figure 11: Update Antibody and Antigen Records in the Matching File

Select Utilities that manipulate Antibody/Antigen data Option: 1 Update antibody/antigen records in matching file

Adding site configured 'Antigen/Antibody' information into the VBECS MAPPING TABLE file (#6005).

148 antibody/antigen records added.

If an error occurs, run "Delete Antibody/Antigen temporary matching files". This will remove any partial entries from the file and ensure that no double entries are created during the matching process.

To redo all antibody and antigen matches, run AA Utilities that manipulate Antibody/Antigen data and select Undo all antibody/antigen matches.

Standard Antigens and Antibodies Print [VBEC STANDARD ANTIBODIES]

This option lists standard VBECS antigens and antibodies. Use this list to match legacy VistA antigen and antibody identifiers (which will be listed in the Unmatched VistA Blood Bank Data Report (Antibody/Antigen)) to new standard VBECS identifiers. The number of records in the file determines how long it will take to display the antigens and antibodies. To obtain the complete list of standard antigens and antibodies, press **Enter** at “Start With Attribute Name” and “Go To Attribute Name”.

It is highly recommended to match the identifiers on paper first and then in the application.

Figure 12: Standard Antigens and Antibodies Print

Select Utilities that manipulate Antibody/Antigen data Option: STANDARD
Antigens

and Antibodies Print

Start With Attribute Name:

Go To Attribute Name:

DEVICE: UCX TELNET SESSION

STANDARD VBECS DATA LIST

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,2008 14:34 PAGE 1

Name Antibody/Antigen SNOMED

VA FILEMAN FILE: 61.3

A1	Antigen	
Anti rhesus, NOS	Antibody	52000
Anti rhesus, other	Antibody	52130
Anti-A1	Antibody	51620
Anti-Au(a)	Antibody	52650
Anti-Au(b)	Antibody	
Anti-C	Antibody	52020
Anti-C(w)	Antibody	52080
Anti-C(x)	Antibody	52090
Anti-Ce	Antibody	52070

Unmatched VistA Blood Bank Data Report (Antibody/Antigen) [VBEC UNMATCHED VISTA DATA RPT]

This option displays VistA data elements not yet matched to VBECS entries. The report (a list of VistA antigens and antibodies) generated with this option will be used to manually match these items to the standard VBECS antigens and antibodies list (printed in Standard Antigens and Antibodies Print). Unmatched entries will not be converted to VBECS. Print this report and perform the match on paper first, then continue to the next option.

Figure 13: Unmatched VistA Blood Bank Data Report (Antibody/Antigen)

Select Utilities used prior to the data conversion Option: UNMATCHED VistA
Blood

Bank Data Report

Select one of the following:

AA Antigen/Antibody
TR Transfusion Reaction

Select the unmapped data attribute to display: AA Antigen/Antibody
DEVICE: HOME// UCX TELNET SESSION

Vista Data Not Mapped To Standard SQL Server Attributes

Date: Mar 21, 2008

Page: 1

Antigen/Antibody	Identifier
A,NOS	Antigen
A,variant,NOS	Antigen
A-1	Antigen
A-2	Antigen
A-3	Antigen
A-M	Antigen
A-X	Antigen
A1B	Antigen
A2B	Antigen
A3B	Antigen
AB	Antigen
ABO BLOOD GROUP, NOS	Antigen
ANTI A	Antibody
ANTI A,B	Antibody
ANTI A-1	Antibody
ANTI Au(a)	Antibody
ANTI B	Antibody

Enter RETURN to continue or '^' to exit:

Match VistA Antibody/Antigen Data [VBEC MATCH ANTIBODY/ANTIGEN]

This option matches VistA antibody and antigen data entries to standardized entries in VBECS. Matches are used during database conversion to determine which data values to write to host system files.

Unmatched VistA data and deleted or broken data points within the FUNCTION FIELD (#61.3) file will not be converted.

This process links a VistA record from the VBECS MATCHING TABLE (#6005) file to a record in the STANDARD VBECS DATA (#6007) file using a standard FileMan lookup (^DIC) utility.

One STANDARD VBECS DATA (#6007)file value may be matched to several VBECS MATCHING TABLE (#6005) values.

Figure 14: Match VistA Antibody and Antigen Data

Select Utilities that manipulate Antibody/Antigen data Option: 2 Match VistA antibody/antigen data

Antigen/Antibody information current, not updated.

Select VistA Antigen/Antibody: ANTI K 51810 (Antibody)

Select a standardized Antigen/Antibody: Anti-K

- 1 Anti-K 51810 (Antibody)
- 2 Anti-Kn(a) (Antibody)
- 3 Anti-Kp(a) 51830 (Antibody)
- 4 Anti-Kp(b) 51840 (Antibody)

CHOOSE 1-4: 1 Anti-K51810 (Antibody)

Select VistA Antigen/Antibody: ANTI E 52030 (Antibody)

Select a standardized Antigen/Antibody: Anti-E

- 1 Anti-E 52030 (Antibody)
- 2 Anti-E(w) 52110 (Antibody)

CHOOSE 1-2: 1 Anti-E52030 (Antibody)

Select VistA Antigen/Antibody:

*When selecting a VistA or standardized antigen or antibody, enter the antibody or antigen name (the SNOMED code displayed is for information only) as it appears on your printed copy (including special characters). Entries are case sensitive. Press ^ and **Enter** to exit when all VistA and VBECS standard antigens and antibodies are matched.*

*To redo all antibody and antigen matches, run AA Utilities that manipulate Antibody/Antigen data and select **Undo all antibody/antigen matches**.*

Delete Antibody/Antigen Temporary Matching Files [VBEC DELETE ANTIBODY/ANTIGEN]

When all matches were performed in error, this option deletes antigen and antibody data from the VBECs MATCHING TABLE (#6005) file to restart the matching of antigens and antibodies. Then run the Update antibody/antigen records in matching file option.

Figure 15: Delete Antibody and Antigen Temporary Matching Files

```
Select Utilities that manipulate Antibody/Antigen data Option: delete
antibody/Antigen temporary matching files
Antibodies/Antigens have been mapped, are you sure you want to purge? No// y
YES
Please be patient, this may take awhile.

Done, total number of records deleted: 148
```

Undo All Antibody/Antigen Matches [VBEC UNDO ANTIBODY/ANTIGEN]

This option deletes the matches between the VistA antibody and antigen records and the matched antibody and antigen records in the VBECs MATCHING TABLE (#6005) file.

Use this option with caution: the user must rematch all VistA antibodies and antigens to VBECs standard names.

The linkage to the STANDARD VBECs DATA (#6007) file is removed by deleting data in the STANDARD VBECs DATA (#.05) field in the VBECs MATCHING TABLE file.

Figure 16: Undo All Antibody and Antigen Matches

```
Select Utilities that manipulate Antibody/Antigen data Option: UNDO all
antibody/antigen matches
Are you sure you want to decouple mappings? No// YES

Please be patient, this may take a while

Finished decoupling 4 mapped records from the VBECs MAPPING TABLE (#6005)
file. For VistA Antibodies/Antigens data types.
```

Matched Blood Bank Data Report (Antibody/Antigen) [VBEC PRINT SQL/VISTA MATCHES]

This option displays the VistA data elements matched to their equivalent VBECs entries. Run the “Matched Blood Bank Data Report (Antibody/Antigen)” option to check the matches the user made before converting them. It is highly recommended to review the report for accuracy. If you encounter an incorrectly matched item, run the “Unmatch a single matched VistA record” option, run the “Match VistA Antibody/Antigen data” option to map the item, and review the “Matched Blood Bank Data Report”.

Figure 17: Matched Blood Bank Data Report (Antibody/Antigen)

Select Utilities used prior to the data conversion Option: MATCHED Blood Bank data report

Select one of the following:

AA	Antigen/Antibody
TR	Transfusion Reaction

Select mapped data attribute to display: AA Antigen/Antibody
DEVICE: HOME// UCX TELNET SESSION

VistA Data Mapped To Standard SQL Server Attributes
Date: Mar 21, 2008 Page: 1

Attribute being mapped: Antigen/Antibody

VistA FileMan File: 61.3
VistA FileMan IEN: 16
Standard Record Name: Anti-E
VistA Record Name : ANTI E
Antigen/Antibody : Antibody

VistA FileMan File: 61.3
VistA FileMan IEN: 45
Standard Record Name: Anti-K
VistA Record Name : ANTI K
Antigen/Antibody : Antibody

Unmatch a Single Matched VistA Record [VBEC UNDO SINGLE MATCHING]

This option allows the user to enter the name of and unmatch a VistA item. This breaks the link between the VBECS MATCHING TABLE (#6005) file and the link (“AB” cross-reference) with the STANDARD VBECS DATA (#.05) field. Enter the VistA record name from the “Matched Blood Bank Data Report” to unmatch the data.

Figure 18: Unmatch a Single Matched VistA Record

Select Utilities used prior to the data conversion Option: UNMATCH A single matched VistA record

Select one of the following:

AA	Antigen/Antibody
TR	Transfusion Reaction

Select the unmapped data attribute to display: AA Antigen/Antibody
Select VBECS MATCHING TABLE NAME ATTRIBUTE: ANTI Au(a) (52650)

Mapping for ANTI Au(a) (52650) decoupled.

*To redo all antibody and antigen matches, run AA Utilities that manipulate Antibody/Antigen data and select **Undo all antibody/antigen matches**.*

TR Utilities That Manipulate Trans. Reaction Data

This menu contains options to manipulate transfusion reaction data and to facilitate matching. Move transfusion reaction records to a temporary file, and use the update feature to keep it synchronized with the VistA data. Prior to database conversion, match VistA transfusion reaction data to the VBECS list of transfusion reactions. Matches can be assigned and undone. Lists of matched and unmatched data can be printed. The temporary table may be deleted.

Figure 19: VBEC Transfusion Reaction Utilities

Select Utilities used prior to the data conversion Option: TR Utilities that manipulate Trans. Reaction data

- 1 Update trans. reaction records in matching file
- 2 Match VistA transfusion reaction data
- Delete Transfusion Reaction temporary match files
- Standard Transfusion Reactions Print
- Undo all transfusion reaction matches

Select Utilities that manipulate Trans. Reaction data Option:

Update Trans. Reaction Records in Matching File [VBEC UPDATE TRANS. REACT. REC]

This option nondestructively updates VistA transfusion reaction data in the VBECs MATCHING TABLE (#6005) file with additions, deletions, and changes made since the last creation or update. File #6005 is a temporary file designed for population and used to match VistA data to standard data prior to database conversion. After running this option, run the unmatched item and matched item reports for a list of new matches created as a result of the update.

This option initially populates the VBECs MATCHING TABLE (#6005) file with transfusion reaction data from the BLOOD BANK UTILITY (#65.4) file. After preliminary data population, edit checks are conducted between transfusion reaction data that reside in the VBECs MATCHING TABLE and BLOOD BANK UTILITY files. When a record in the BLOOD BANK UTILITY file was edited or added and no longer matches the associated record in the VBECs MATCHING TABLE file, the record in the VBECs MATCHING TABLE file is edited or (if necessary) created to reflect the changes in the BLOOD BANK UTILITY file. All links between transfusion reaction data in the VBECs MATCHING TABLE file and their standardized counterparts in the STANDARD VBECs DATA (#6007) file are deleted.

The transfusion reaction information to be mapped for use with the VBECs software resides in file #6005.

Figure 20: Update Trans. Reaction Records in Matching File

```
Select Utilities that manipulate Trans. Reaction data Option: 1 Update  
trans. reaction records in matching file
```

```
Adding site configured 'Transfusion Reaction' information into the VBECs  
MAPPING TABLE file (#6005).
```

```
15 transfusion records added.
```

If an error occurs, run “Delete Transfusion Reaction temporary matching files”. Any errors should be reported to the appropriate IRM personnel for resolution. This will remove incomplete matches in the file.

*To redo all transfusion reaction matches, run TR Utilities which manipulate Trans. Reaction data and select **Undo all transfusion reaction matches**. This will clear the matching table and allow a complete update of the data.*

Standard Transfusion Reactions Print [VBEC STANDARD TRANS. REACTIONS]

This option lists standard transfusion reactions. Use this list to match legacy VistA transfusion reaction identifiers (which will be listed in the “Unmatched VistA Blood Bank Data Report for Transfusion Reaction”) to new standard VBECS identifiers. The number of records in the file determines how long it will take to display the transfusion reactions. To obtain the complete list of standard transfusion reactions, press **Enter** at “Start With Attribute Name and Go To Attribute Name”.

It is highly recommended to match the identifiers on paper first and then in the application.

Figure 21: Standard Transfusion Reaction Print

```
Select Utilities that manipulate Trans. Reaction data Option: STANDARD
Transfusion Reactions Print
Start With Attribute Name:
Go To Attribute Name:
DEVICE: UCX TELNET SESSION
STANDARD VBECS DATA LIST          JUL  1
Transfusion Reaction
-----
```

```
VA FILEMAN FILE: 65.4
Acute Hemolytic
Anaphylaxis
Circulatory
Delayed Hemolytic
Febrile Nonhemolytic
Graft vs. Host disease
Other
Post Transfusion - Associated Disease
Transfusion Related Acute Lung Injury
Urticaria
```

Unmatched VistA Blood Bank Data Report (Transfusion Reaction) [VBEC UNMATCHED VISTA DATA RPT]

This option displays VistA data elements not yet matched to VBECS entries. The report (a list of VistA transfusion reactions) generated with this option will be used to manually match these items to the Standard VBECS transfusion reactions. Unmatched entries will not be converted to VBECS. Perform the match on paper first, then proceed with the next option.

Figure 22: Unmatched VistA Blood Bank Data Report (Transfusion Reaction)

```
Select Utilities used prior to the data conversion Option: UNMATCHED VistA
Blood Bank Data Report
```

Select one of the following:

```
AA      Antigen/Antibody
TR      Transfusion Reaction
```

```
Select the unmapped data attribute to display: TR  Transfusion Reaction
DEVICE: HOME// UCX TELNET SESSION
```

Transfusion Reaction

 ALLERGIC
 ALLERGIC-MILD
 ALLERGIC-SEVERE
 BACTERIAL CONTAMINATION
 CIRCULATORY OVERLOAD
 DELAYED ANTIBODY FORMATION
 DELAYED HEMOLYTIC
 FEBRILE NONHEMOLYTIC
 HEMOLYTIC
 IMMEDIATE HEMOLYTIC
 INCOMPATIBLE FLUIDS
 POST TRANSFUSION
 TRANSFUSION REACTION-OTHER
 UNRELATED TO TRANSFUSION
 URTICARIA

Match VistA Transfusion Reaction Data [VBEC MATCH TRANSFUS REACTION]

This option matches VistA transfusion reaction data entries to standardized entries in VBECS. Matches are used during database conversion to determine which data values to write to host system files. Unmatched VistA data and deleted or broken data points within the BLOOD BANK UTILITY (#65.4) file will not be converted.

This process links a VistA record from the VBECS MATCHING TABLE (#6005) file to a record in the STANDARD VBECS DATA (#6007) file using a standard FileMan lookup (^DIC) utility.

One VBECS MATCHING TABLE (#6005) file value may be matched to several STANDARD VBECS DATA (#6007) values.

Figure 23: Match VistA Transfusion Reaction Data

Select Utilities that manipulate Trans. Reaction data Option: 2 Match VistA transfusion reaction data

Transfusion Reaction information current, not updated.

Select VistA Transfusion Reaction: ALLERGIC-SEVERE
 Select a standardized Transfusion Reaction: ANAPHYLAXIS Anaphylaxis
 Select VistA Transfusion Reaction: circulatory overload
 Select a standardized Transfusion Reaction: circulatory Circulatory
 Select VistA Transfusion Reaction: delayed hemolytic
 Select a standardized Transfusion Reaction: delayed hemolytic Delayed Hemolytic
 Select VistA Transfusion Reaction: immediate hemolytic
 Select a standardized Transfusion Reaction: acute hemolytic Acute Hemolytic
 Select VistA Transfusion Reaction: ^

*VistA and VBECS standard transfusion reaction entries are not case sensitive. Press ^ and **Enter** to exit when all VistA and VBECS standard transfusion reactions are matched.*

*To redo all transfusion reaction matches, run TR Utilities that manipulate Trans. Reaction data and select **Undo all transfusion reaction matches**.*

Delete Transfusion Reaction Temporary Match Files [VBEC DELETE TRANS. REACTION]

When all matches were performed in error, this option deletes transfusion reaction data from the VBECS MATCHING TABLE (#6005) file to restart the matching of transfusion reactions. Then, run the “Update Trans. Reaction Records in Matching File” option.

Figure 24: Delete Transfusion Reaction Temporary Matching Files

```
Select Utilities that manipulate Trans. Reaction data Option: DELETE
Transfusion Reaction temporary match files
Transfusion Reactions have been mapped, are you sure you want to purge? No//
YES
Please be patient, this may take awhile

Done, total number of records deleted: 15
```

*To redo all transfusion reaction matches, run TR Utilities that manipulate Trans. Reaction data and select **Undo all transfusion reaction matches**.*

Undo All Transfusion Reaction Matches [VBEC UNDO TRANS. REACTIONS]

This option deletes the matches between the VistA transfusion reactions records and the matched transfusion reactions records in the VBECS MATCHING TABLE (#6005) file.

Use this option with caution; the user must rematch all VistA transfusion reactions to VBECS standard names.

The linkage to the STANDARD VBECS DATA (#6007) file is removed by deleting data in the STANDARD VBECS DATA (#.05) field in the VBECS MATCHING TABLE file.

Figure 25: Undo All Transfusion Reaction Matches

```
Select Utilities that manipulate Trans. Reaction data Option: UNDO all
transfusion reaction matches
Are you sure you want to decouple mappings? No// YES

Please be patient, this may take a while

Finished decoupling 4 mapped records from the VBECS MAPPING TABLE (#6005)
```

Matched Blood Bank Data Report (Transfusion Reaction) [VBEC PRINT SQL/VISTA MATCHES]

This option displays the VistA data elements matched to their equivalent VBECs entries. Run the “Matched Blood Bank Data Report” (Transfusion Reaction) option to check the matches the user made before converting them. It is highly recommended to review the report for accuracy. If you encounter an incorrectly matched item, run the “Unmatch a Single Matched VistA Record” option, run the “Match VistA Transfusion Reaction Data” option to map the item, and review the “Matched Blood Bank Data Report”.

Figure 26: Matched Blood Bank Data Report (Transfusion Reaction)

Select Utilities used prior to the data conversion Option: MATCHED Blood Bank data report

Select one of the following:

AA	Antigen/Antibody
TR	Transfusion Reaction

Select mapped data attribute to display: TR Transfusion Reaction
DEVICE: HOME// UCX TELNET SESSION

VistA Data Mapped To Standard SQL Server Attributes
Date: Jul 02, 2004 Page: 1

Attribute being mapped: Transfusion Reaction

VistA FileMan File: 65.4
VistA FileMan IEN: 60
Standard Record Name: Anaphylaxis
VistA Record Name : ALLERGIC-SEVERE

VistA FileMan File: 65.4
VistA FileMan IEN: 64
Standard Record Name: Circulatory
VistA Record Name : CIRCULATORY OVERLOAD

VistA FileMan File: 65.4
VistA FileMan IEN: 54
Standard Record Name: Delayed Hemolytic
VistA Record Name : DELAYED HEMOLYTIC

VistA FileMan File: 65.4
VistA FileMan IEN: 55
Standard Record Name: Acute Hemolytic
Enter RETURN to continue or '^' to exit:

VistA Data Mapped To Standard SQL Server Attributes
Date: Jul 02, 2004 Page: 2

Attribute being mapped: Transfusion Reaction

VistA Record Name : IMMEDIATE HEMOLYTIC

Unmatch a Single Matched VistA Record [VBEC UNDO SINGLE MATCHING]

This option allows the user to enter the name of and unmatch a VistA item. This breaks the link between the VBECS MATCHING TABLE (#6005) file and the link (“AB” cross-reference) with the STANDARD VBECS DATA (#.05) field. Enter the VistA record name from the “Matched Blood Bank Data Report” to unmatch the data.

Figure 27: Unmatch a Single Matched VistA Record

Select Utilities used prior to the data conversion Option: UNMATCH A single matched VistA record

Select one of the following:

AA	Antigen/Antibody
TR	Transfusion Reaction

Select the unmapped data attribute to display: TR Transfusion Reaction
Select VBECS MATCHING TABLE NAME ATTRIBUTE: ALLERGIC-SEVERE (IGA)

Mapping for ALLERGIC-SEVERE (IGA) decoupled.

CONV Utilities Used for the Database Conversion

This menu's option is used during the conversion of VistA Blood Bank 5.2 data to VBECS standard data. Data matching must be accounted for prior to running the database conversion. The database conversion moves VistA Blood Bank 5.2 data to temporary host system files using matched data stored in other temporary files to determine values for blood transfusion reactions, antibodies, and antigens.

The program disables options, files, and fields (see the "Disable VistA Blood Bank Components" section) so that users cannot enter or edit data in VistA.

Figure 28: Utilities Used for Data Conversion

Select VBECS Data Matching/Conversion Menu Option: CONV Utilities used for the data conversion

```
Convert VistA Blood Bank data to host files
```

Fields Included in the Database Conversion

These fields are included in the conversion for patients with blood bank data:

- PATIENT File (#2)
 - Internal Entry Number (IEN)
 - .01 - NAME (0;1)
 - .02 - SEX (0;2)
 - .03 - DATE OF BIRTH (0;3)
 - .09 - SOCIAL SECURITY NUMBER (0;9)
 - 991.01 - INTEGRATION CONTROL NUMBER ("MPI";1)
- LAB DATA File (#63)
 - .05 - ABO GROUP (0;5)
 - .06 - RH TYPE (0;6)
 - RBC ANTIGENS PRESENT (other)(Sub-file #63.13)
 - .01 - RBC ANTIGENS PRESENT (0;1)
 - .02 - RBC ANTIGENS PRESENT COMMENT (0;2)
 - RBC ANTIGENS ABSENT (other) (Sub-file #63.016)
 - .01 - RBC ANTIGENS ABSENT (0;1)
 - .02 - RBC ANTIGENS ABSENT COMMENT (0;2)
 - ANTIBODIES IDENTIFIED (Sub-file #63.075)
 - .01 - ANTIBODIES IDENTIFIED (0;1)
 - .02 - ANTIBODIES IDENTIFIED COMMENT (0;2)
 - TRANSFUSION REACTION DATE (Sub-file #63.0171)
 - .01 - TRANSFUSION REACTION DATE (0;1)
 - .02 - TRANSFUSION REACTION TYPE (0;2)
 - TRANSFUSION REACTION COMMENT (#63.172; .01)
 - BLOOD BANK COMMENTS (#63.076; .01)
- BLOOD INVENTORY File (#65)
 - 6.8 - TRANSFUSION REACTION TYPE (6;8)
 - 4.2 - DISPOSITION DATE (4;2)

Convert VistA Blood Bank Data to Host Files [VBEC DATA CONV. TO HOST FILES]

This option collects legacy VistA Blood Bank 5.2 data, moves them to host system files, and tags the information with the intended VBECS database name. A process outside of the scope of the VistA side of the database conversion transfers the host files to VBECS tables.

Complete data matching before running this option; unmatched data will not be converted. This option uses VistA Blood Bank 5.2 data and matching files to determine data values to write to host system files.

This option searches VistA Blood Bank 5.2 files for data to convert and moves them from VistA application globals to temporary storage globals and then to system-level files using a Kernel utility.

The system-level files are transferred to the SQL Server database using the File Transfer Protocol (FTP). This option is an extension of the data integrity check; it uses the same software but the input parameter differs. The user may stop the conversion through Kernel utilities.

- In these instances, a message addressed to the VBEC DATA CONVERSION mail group alerts the user to the conversion status.

During the conversion process, the software searches these fields for blank spaces and deletes them so that the number of VistA and VBECS entries matches:

- Patient name
- SSN
- Blood Bank Comments
- RBC Antigens Present
- RBC Antigens Present Comment
- RBC Antigens Absent
- RBC Antigens Absent Comment
- Antibodies Identified
- Antibodies Identified Comment

Figure 29: Convert VistA Blood Bank Data to Host Files

Select Utilities used for the data conversion Option: CONVERT VistA Blood Bank data to host files

Checking the integrity of Antibody/Antigen data.
'*' indicates truncated data (65 chars max)..
Checking the integrity of Transfusion Reaction data.
'*' indicates truncated data (65 chars max).

You must enter the name of the database where the converted data will be loaded.

An invalid database name will cause a failure when loading the data into VBECS.

VBECS Database Name:¹

This can only be **VBECS_V1_PROD** or **VBECS_V1_TEST**. Convert the VistA production account to VBECS_V1_PROD and VistA test account to VBECS_V1_TEST.

You must enter the name of the server where the converted data will be loaded.

An invalid server name will cause a failure when loading the data into VBECS.

VBECS Server Name:²

Enter the VBECS Virtual Server Network name to send the files to VBECS. The Virtual Server Network name can be found in Appendix E: Server Configuration Checklist, Server Hardware Information section of the VBECS 1.4.0.0 Installation Guide.

The VBECS data conversion process will take some time to complete. It would be best if this process was run in the background.

Requested Start Time: NOW// (JUL 02, 2004@10:37:12)

VBECS data conversion task number: 69734

Record the requested start date and time of the conversion. They will be used to identify and display the "Database Conversion Statistics Report" using the Display data conversion statistics [VBEC DATA CONVERSION STATS] option in the POST Utilities Used after the Database Conversion menu when more than one conversion has been executed.

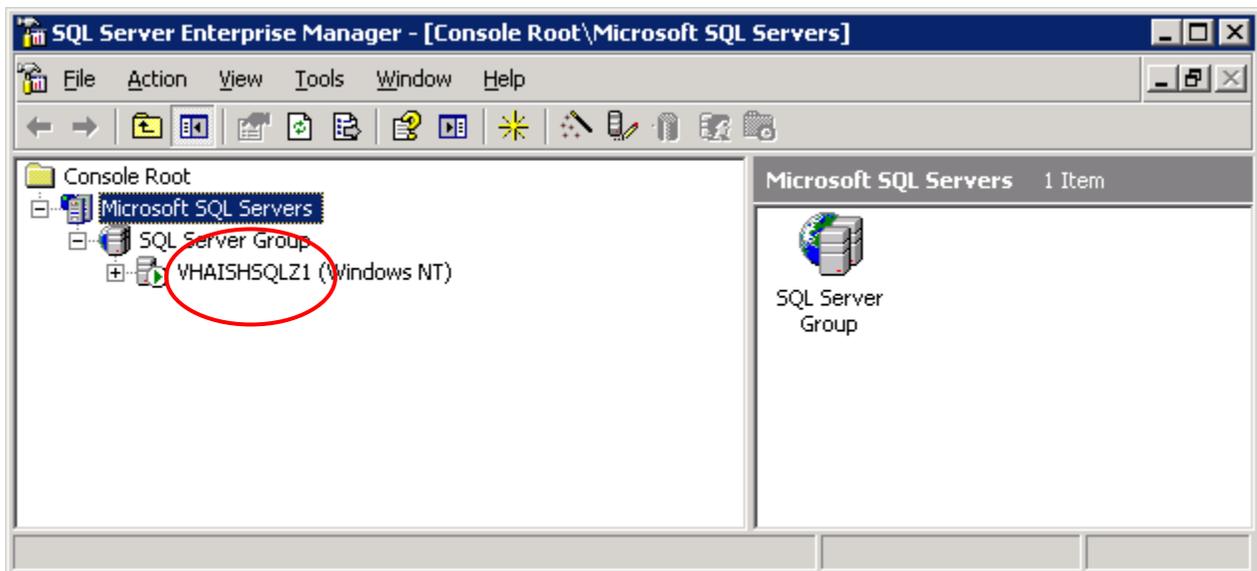
¹ Enter the name of the VBECS database (contact the VBECS System Administrator if you are unsure of the exact name).[Can only be VBECS_V1_TEST or VBECS_V1_PROD. Convert VistA test to VBECS test and VistA production (live) to VBECS PROD.]

² Enter the name of the VBECS Virtual Server Network (contact the VBECS System Administrator or Implementation Manager if you are unsure of the exact name).

If an error occurs, run “Delete data conversion and anomaly check histories” [VBEC DELETE CONV. STATS], “Delete all Blood Bank Data in Temporary Globals” [VBEC DELETE EXTRACTED DATA], “Delete Blood Bank Data in System Level Files” [VBEC DELETE SYSTEM LEVEL FILES], “Enable VistA Blood Bank Components” [VBEC BB COMPONENTS ENABLE], “Undo all antibody/antigen matches” [VBEC UNDO ANTIBODY/ANTIGEN], and “Undo all transfusion reaction matches” [VBEC UNDO TRANS. REACTIONS]. This will ensure data integrity when the conversion data is re-entered and a new conversion process is started.

The Enterprise Manager can be used to determine the VBECS Server name. Start the Enterprise Manager from the Windows Start menu and expand the Microsoft SQL Servers and SQL Server Group. The server name will be displayed. Figure 30 shows an example of the VBECS Server Name.

Figure 30: Determining the VBECS Server Name.



POST Utilities Used after the Database Conversion Has Run

Run this menu’s options after successful database conversion and to test the database conversion before running the software in a production account. These options perform clean-up functions such as deleting data in temporary files used to stage the conversion data prior to writing them to host system files. In test mode, run the option to enable VistA Blood Bank 5.2 options to make them accessible to users after the database conversion. In a production system, do not run the option to enable VistA Blood Bank 5.2 options after database conversion: users must not enter data in the VistA Blood Bank 5.2 system.

Figure 31: Utilities Used after Data Conversion

Select VBECS Data Matching/Conversion Menu Option: POST Utilities used after the data conversion has run

```
HIST  Delete data conversion and anomaly check histories
STAT  Display data conversion statistics
      Delete all Blood Bank Data in Temporary Globals
      Delete Blood Bank Data in System Level Files
      Disable VistA Blood Bank components
      Enable VistA Blood Bank components
```

STAT Display Data Conversion Statistics [VBEC DATA CONVERSION STATS]

This option displays the number of data elements converted from Lab Data file (#63). The number of data elements converted for all Lab Data file records is also displayed. These and the VBECS statistics will be compared to ensure that the same number of records sent to VBECS from VistA was filed in VBECS. The user will be prompted for the date and time of the database conversion for which they would like to view statistics. If the date and time of the conversion is unknown, the user may enter “??” at the prompt and the software will display all database conversion events.

The following table contains a list of the data elements that will be converted. These elements reside in the VBECS DATA INTEGRITY/CONVERSION STATISTICS (#6001) file.

ABO	Non-interactive; indicates the number of occurrences (maximum of one) that the 'ABO' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
ANTIBODIES IDENTIFIED	Non-interactive; indicates the number of 'Antibodies Identified' data related to this Lab Data record.
ANTIBODIES IDENTIFIED CHARS	Non-interactive; indicates the number of characters of all the 'Antibodies Identified Comment' data related to this Lab Data record.
ANTIBODIES IDENTIFIED COMMENTS	Non-interactive; indicates the number of 'Antibodies Identified Comment' data related to this Lab Data record.

BLOOD BANK COMMENT CHARS	Non-interactive; indicates the number of characters of all the 'Blood Bank Comments' data related to this Lab Data record.
BLOOD BANK COMMENTS	Non-interactive; indicates the number of occurrences that the 'Blood Bank Comment' data element appears in the Lab Data file record.
DFN	Non-interactive; format will be a number between 1 and 999999999999, 0 decimal digits.
DOB	Non-interactive; indicates the number of occurrences (maximum of one) that the 'DOB' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
FAMILY NAME	Non-interactive; indicates the number of occurrences (maximum of one) that the 'Family Name' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
GIVEN NAME	Non-interactive; indicates the number of occurrences (maximum of one) that the 'Given Name' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
ICN	Non-interactive; indicates the number of occurrences (maximum of one) that the 'ICN' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
LRDFN	Non-interactive; format will be a number between 1 and 999999999999, 0 decimal digits.
MIDDLE NAME	Non-interactive; indicates the number of occurrences (maximum of one) that the 'Middle Name' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
RBC ANTIGENS ABSENT	Non-interactive; indicates the number of 'RBC Antigen Present' data related to this Lab Data record.
RBC ANTIGENS ABSENT CHARS	Non-interactive; indicates the number of characters of all the 'RBC Antigen Absent' data related to this Lab Data record.
RBC ANTIGENS ABSENT COMMENTS	Non-interactive; indicates the number of 'RBC Antigen Absent' data related to this Lab Data record.
RBC ANTIGENS PRESENT	Non-interactive; indicates the number of 'RBC Antigen Present' records related to this Lab

	Data record.
RBC ANTIGENS PRESENT CHARS	Non-interactive; indicates the number of characters of all the 'RBC Antigen Present' data related to this Lab Data record.
RBC ANTIGENS PRESENT COMMENTS	Non-interactive; indicates the number of 'RBC Antigen Present Comment' records related to this Lab Data record.
RH	Non-interactive; indicates the number of occurrences (maximum of one) that the 'RH' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
SEX	Non-interactive; indicates the number of occurrences (maximum of one) that the 'Sex' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
SSN	Non-interactive; indicates the number of occurrences (maximum of one) that the 'SSN' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
SUFFIX (NAME)	Non-interactive; indicates the number of occurrences (maximum of one) that the 'Suffix' data element appears in the Lab Data file record. Will either not exist (0), or exist (1).
TRANS. REACTION COMMENT CHARS	Non-interactive; indicates the number of characters of all the 'Transfusion Reaction Comment' data related to this Lab Data record.
TRANSFUSION REACTION	Non-interactive; indicates the number of occurrences that 'Transfusion Reaction' data appears in this Lab Data file record.
TRANSFUSION REACTION COMMENTS	Non-interactive; indicates the number of occurrences that 'Transfusion Reaction Comments' appear for this Lab Data record.
TRANSFUSION REACTION DATE	Non-interactive; indicates the number of occurrences that 'Transfusion Reaction Date' data appears in this Lab Data file record.

The values passed reflect the number of instances of the data element in a qualifying Lab Data record. For example, in a Lab Data record with one instance of BLOOD BANK COMMENTS (a word processing field), one instance of that data element is attributed to the Lab Data record.

Figure 32: STAT Display Data Conversion Statistics

Select Utilities used after the data conversion has run Option: STAT Display
data conversion statistics

Select the data conversion event date/time: ??

1 JUL 14, 2004@12:58

Select the data conversion event date/time: 1 7-14-2004@12:58:00

...OK? Yes// (Yes)

Select one of the following:

B Both Individual & Summary

I Individual Records

S Summary

Enter Data Conversion statistics report type: Summary//

Individual Records and Summary (Reports)

These reports contain the statistics from the Individual Records and Summary (Reports).

Figure 33: Individual Records Report

Enter Data Conversion statistics report type: Summary// Individual Records

DEVICE: HOME// UCX TELNET SESSION

VistA Blood Bank Data Element Summary

Data Conversion start time: JUL 15, 2004@07:19

Data Conversion end time: Jul 15, 2004@08:20

User: USER,ONE

Report Run Date: Jul 15, 2004

Page: 1

LRDFN: 118

DFN: 7701

Family Name: 1

Given Name: 1

Middle Name: 1

Suffix (Name): 0

Sex: 1

DOB: 1

SSN: 1

ICN: 0

ABO: 1

RH: 1

RBC Antigens Present: 0

RBC Antigens Present Comments: 0

RBC Antigens Present Chars: 0

Enter RETURN to continue or '^' to exit:

VistA Blood Bank Data Element Summary

Data Conversion start time: JUL 15, 2004@07:19

Data Conversion end time: Jul 15, 2004@08:20

User: USER,ONE

Report Run Date: Jul 15, 2004

Page: 2

RBC Antigens Absent: 0
RBC Antigens Absent Comments: 0
RBC Antigens Absent Chars: 0
Antibodies Identified: 0
Antibodies Identified Comments: 0
Antibodies Identified Chars: 0
Transfusion Reaction Date: 0
Transfusion Reaction: 0
Transfusion Reaction Comments: 0
Trans. Reaction Comment Chars: 0
Blood Bank Comments: 0
Blood Bank Comment Chars: 0

LRDFN: 121
DFN: 19361
Enter RETURN to continue or '^' to exit:

Vista Blood Bank Data Element Summary

Data Conversion start time: JUL 15, 2004@07:19
Data Conversion end time: Jul 15, 2004@08:20
User: USER,ONE
Report Run Date: Jul 15, 2004

Page: 3

Family Name: 1
Given Name: 1
Middle Name: 0
Suffix (Name): 0
Sex: 1
DOB: 1
SSN: 1
ICN: 1
ABO: 1
RH: 1
RBC Antigens Present: 0
RBC Antigens Present Comments: 0
RBC Antigens Present Chars: 0
RBC Antigens Absent: 0
RBC Antigens Absent Comments: 0

Figure 34: Summary (Report)

Enter Data Conversion statistics report type: Summary//
DEVICE: HOME// UCX TELNET SESSION

Vista Blood Bank Data Element Summary
Data Conversion start time: JUL 15, 2004@07:19
Data Conversion end time: Jul 15, 2004@08:20
User: USER,ONE
Report Run Date: Jul 15, 2004

Page: 1

Total number of data elements converted

LRDFN: 27237
DFN: 27237
Family Name: 27237
Given Name: 27237
Middle Name: 22914
Suffix (Name): 213
Sex: 27235
DOB: 27237
SSN: 27237
ICN: 20576
ABO: 26992
RH: 26988
RBC Antigens Present: 1481
RBC Antigens Present Comments: 0
Enter RETURN to continue or '^' to exit:

Vista Blood Bank Data Element Summary
Data Conversion start time: JUL 15, 2004@07:19
Data Conversion end time: Jul 15, 2004@08:20
User: USER,ONE
Report Run Date: Jul 15, 2004

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RBC Antigens Present Chars: 0
RBC Antigens Absent: 948
RBC Antigens Absent Comments: 0
RBC Antigens Absent Chars: 0
Antibodies Identified: 706
Antibodies Identified Comments: 147
Antibodies Identified Chars: 4017
Transfusion Reaction Date: 8
Transfusion Reaction: 7
Transfusion Reaction Comments: 4
Trans. Reaction Comment Chars: 87
Blood Bank Comments: 1174
Blood Bank Comment Chars: 81085

HIST Delete Database Conversion and Anomaly Check Histories [VBEC DELETE CONV. STATS]

This option deletes database conversion and anomaly check histories from the VBEC DATA INTEGRITY/CONVERSION STATISTICS (#6001) file.

Figure 35: HIST Delete Database Conversion and Anomaly Check Histories

Select VBECs Data Matching/Conversion Menu Option: POST Utilities used after the data conversion has run

```
HIST  Delete data conversion and anomaly check histories
STAT  Display data conversion statistics
       Delete all Blood Bank Data in Temporary Globals
       Delete Blood Bank Data in System Level Files
       Disable Vista Blood Bank components
       Enable Vista Blood Bank components
```

Select Utilities used after the data conversion has run Option: HIST Delete data conversion and anomaly check histories

```
This option deletes all data conversion and anomaly check history
from the VBECs DATA INTEGRITY/CONVERSION STATISTICS (#6001) file.
```

```
Are you sure you want to delete data conversion and anomaly check
histories? No// YES
```

```
Done; 10 data conversion and anomaly check histories deleted.
```

```
HIST  Delete data conversion and anomaly check histories
STAT  Display data conversion statistics
       Delete all Blood Bank Data in Temporary Globals
       Delete Blood Bank Data in System Level Files
       Disable Vista Blood Bank components
       Enable Vista Blood Bank components
```

Select Utilities used after the data conversion has run Option:

Delete All Blood Bank Data in Temporary Globals [VBEC DELETE EXTRACTED DATA]

The deleted data are used to extract records from Vista Blood Bank 5.2 prior to writing the data to system host files and are no longer needed after the host files have been created.

Run this option prior to running “Convert Vista Blood Bank Data to Host Files” each time the user runs the database conversion. This cleans out previously extracted data so that test results are accurate.

Figure 36: Delete all Blood Bank Data in Temporary Globals

Select Utilities used after the data conversion has run Option: Delete all Blood Bank Data in Temporary Globals

```
No data to delete.
```

Delete Blood Bank Data in System Level Files [VBEC DELETE SYSTEM LEVEL FILES]

While testing the database conversion, use this option to delete host system files to which VistA Blood Bank conversion data were written. This makes it possible to retest and rewrite these files through the database conversion option, ensuring accurate test results.

In a production environment, do *not* delete these files immediately after database conversion. The files must be kept until the site confirms that there are no database conversion problems on the VBECs side. Programmers may use these files in debugging to determine whether there are problems due to converted data.

The system-level files created during the database conversion are only considered useful for 10 days after their creation. This creation date can be found in the PROCESS COMPLETION TIMESTAMP field (#.03) in the VBECs DATA INTEGRITY/CONVERSION STATISTICS FILE (#6001). Delete these files after the results of the conversion have been validated.

Figure 37: Delete Blood Bank Data in System Level Files

```
Select Utilities used after the data conversion has run Option: Delete Blood
Bank Data in System Level Files
Purge system level data extract files? No// y YES
```

All system level legacy Blood Bank files have been deleted.

Disable VistA Blood Bank Components [VBEC BB COMPONENTS DISABLE]

This option allows the user to manually disable VistA Blood Bank 5.2 options and files so that users cannot enter or edit data in VistA. This automatically occurs when “Convert VistA Blood Bank Data to Host Files” is run.

These files are disabled during and after the conversion:

- AGGLUTINATION STRENGTH (#62.55)
- BLOOD INVENTORY (#65)
- BLOOD BANK UTILITY (#65.4)
- BLOOD DONOR (#65.5)
- BLOOD PRODUCT (#66)
- BLOOD BANK VALIDATION (#66.2)
- OPERATION (MSBOS) (#66.5)
- BLOOD COMPONENT REQUEST (#66.9)
- LAB DATA (#63) BB subscript specific elements

These options are disabled during and after conversion:

- LRBLAD Print data change audits
- LRBLAR Remove data change audits
- LRBLDA Donor collection/deferral edit
- LRBLDAWARD Acknowledge donor award by deletion
- LRBLDC Donor collection/processing
- LRBLDCP Collection disposition/component preparation
- LRBLDCU Cumulative donations and awards
- LRBLDCX Edit donor consent
- LRBLDD Donor demographics
- LRBLDDAT ABO/Rh testing of donor units
- LRBLDEDIT Blood donor group/type edit
- LRBLDEF Permanent deferral/special comments
- LRBLDK Remove ex-donors
- LRBLDLG Donor registration
- LRBLDLT Enter/edit donor letters
- LRBLDMV Move a blood donation
- LRBLDO Old blood donor records
- LRBLDPH Donor phenotyping
- LRBLDR Donor history, physical and consent form
- LRBLDRR Test review/Component labeling/release
- LRBLDT Lab tests(not ABO/Rh) on donor units
- LRBLDUC Donor unit ABO/Rh recheck
- LRBLIDN Disposition -not transfused
- LRBLIDR Disposition -relocation
- LRBLILA Unit CAUTION tag labels
- LRBLILR Log-in regular (invoices)
- LRBLILS Enter blood inventory typing charges
- LRBLISH Shipping invoices for blood components
- LRBLIUC Unit ABO/Rh confirmation
- LRBLIUP Unit phenotyping
- LRBLIUR Units release to stock (cancel) by patient
- LRBLIW Inventory ABO/Rh testing worksheet
- LRBLJM Edit pooled blood product
- LRBLJTR Transfer unit to new division
- LRBLPC Request/select/xmatch blood components
- LRBLPCS Blood component requests
- LRBLPED Pediatric unit preparation
- LRBLPEDIT Patient ABO/Rh edit
- LRBLPER Previous records
- LRBLPET Enter test data
- LRBLPH Patient Medication List

- LRBLPIC Select units for patients
- LRBLPLOGIN Specimen log-in
- LRBLPOST File 81 conversion
- LRBLPSI Special instructions
- LRBLPT Blood transfusion results
- LRBLPTXR Unknown unit transfusion reaction
- LRBLPX Enter crossmatch results
- LRBLRIN Supplier invoices (inventory)
- LRBLRIS Special typing charges (inventory)
- LRBLRIT Supplier transactions (inventory)
- LRBLSEB Edit blood product file
- LRBLSEC Edit unit - patient fields
- LRBLSED Edit unit disposition fields
- LRBLSEE Free autologous/directed donor units
- LRBLSEF Edit blood bank descriptions file
- LRBLSEH Edit donor history questions
- LRBLSEL Edit unit log-in
- LRBLSER Remove units with final disposition
- LRBLSET Tests for inclusion in transfusion report
- LRBLSEU Edit blood bank utility file
- LRBLSF Edit number of lines in a label
- LRBLSI Blood bank inventory edit options
- LRBLSLL Edit lab letter file
- LRBLSMS Maximum surgical blood order edit
- LRBLNSO Edit Corresponding Antigen/Antibody
- LRBLSP Blood bank patient edit options
- LRBLSP Edit previous transfusion record
- LRBLSRI Remove inappropriate transfusion requests
- LRBLSRQ Edit Blood Component Request File
- LRBLSSP Edit blood bank site parameters
- LRBLST Tests for display on patient look-up
- LRBLTTW Test worklist
- LRBLTX Tests for transfusion follow-up
- LRBLVAL Blood bank validation documentation

Figure 38: Disable VistA Blood Bank Components

Select Utilities used after the data conversion has run Option: disable VistA Blood Bank components

Are you sure you want to disable specific VistA Blood Bank option, files, and fields? No// YES

finished setting specific VistA Blood Bank options 'Out-of-Order'.

Finished disabling specific VistA Blood Bank components.

Enable VistA Blood Bank Components [VBEC BB COMPONENTS ENABLE]

This option allows the user to reenable options disabled in the VistA Blood Bank 5.2 options and files disabled by the Disable VistA Blood Bank components option. Run this option in test mode, after testing the database conversion on a test system to make the VistA Blood Bank 5.2 menus and options accessible.

Do *not* run this option on a production system after database conversion begins; the VistA Blood Bank 5.2 options must remain disabled after database conversion.

Figure 39: Enable VistA Blood Bank Components

Select Utilities used after the data conversion has run Option: ENABLE VistA Blood Bank components

Are you sure you want to enable specific VistA Blood Bank option, files, and fields? No// YES

finished setting specific VistA Blood Bank options 'In Order'.

Finished enabling specific VistA Blood Bank components.

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References

None

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Glossary

Acronym, Term	Definition
ADPAC	Automated Data Processing Application Coordinator.
Antibody	A protein in the serum of some people that will react to a specific antigen on the blood cells. <i>In the case of a red blood cell transfusion, a patient with a clinically significant (leading to a transfusion reaction and possible patient harm) identified antibody must receive only red cells that are typed and found negative for the associated antigen. Once a clinically significant antibody is identified, antigen-negative cells must always be transfused even if a current specimen no longer shows the presence of the antibody.</i>
Antigen	A substance on the surface of a red cell that stimulates an immune response (formation of an antibody).
Business rule	A description of what the system must do to define or constrain an aspect of the system business to provide the expected result.
Database	A collection of data arranged for ease and speed of retrieval.
Facility (see “Site”)	A blood bank laboratory where a blood unit is located.
File	Source code, data, and documentation.
FTP	File Transfer Protocol.
Process	One or more interrelated resources and/or activities that transform inputs (for example, intents, policies) into outputs (procedures).
Production system	The hardware/software system in active use by one or more VA Medical Centers to record administrative and patient treatment information and, in some cases, to assist in determining patient treatment.
Rh	Rhesus factor.
Rhesus factor	Any of one or more genetically determined antigens usually present in the red blood cells of humans and higher animals and capable of inducing intense immunogenic reactions.
Rh₀	The major antigen of the Rh system. Also “D.” <i>The presence of this antigen on red blood cells determines if a patient or donor is Rh Pos or Rh Neg. A weak expression of the D antigen, referred to as “Du” or “weak D,” may require additional testing to determine its presence.</i>
SI	Special Instruction.
Site (see “Facility”)	A blood bank laboratory where a blood unit is located.
Special Instructions	Free-text or canned comments entered by the Blood Bank Technologist to communicate problems, restrictions, and considerations not otherwise documented in a patient’s record.
TR	Transfusion Requirement.
Transfusion Requirements	Mandatory blood product attributes applied to every transfusion.
VBECS	VistA Blood Establishment Computer Software.
VistA	Veterans Health Information Systems and Technology Architecture.

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Appendices

Appendix A: Data Anomalies

Standard Error Messages

- Laboratory Reference (#63) field, Patient (#2) field data corruption. (This condition identifies that the ^DPT(DFN, "LR") data node is null or set to a non-valid pointer value.)
- Patient mismatch between files: Patient (#2) & Lab Data (#63) corruption. (This condition identifies that the ^DPT(DFN, "LR") data node is a valid pointer value, but the patient indicated for this Lab Data file does not match the patient on the Patient file record.)

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Appendix B: VBECS Standard Antibody/Antigen Table

Table 1: VBECS Standard Antibodies

VBECS Standard Antibodies	VBECS Standard Antibodies	VBECS Standard Antibodies
Anti-A1	Anti-Js(a)	Anti-Rg
Anti-Au(a)	Anti-Js(b)	Anti-S
Anti-Au(b)	Anti-K	Anti-Sc1
Anti-C	Anti-Kn(a)	Anti-Sc2
Anti-C(w)	Anti-Kp(a)	Anti-Sd(a)
Anti-C(x)	Anti-Kp(b)	Anti-U
Anti-Ce	Anti-LW	Anti-V
Anti-Ch	Anti-LW(a)	Anti-Xg(a)
Anti-Co(a)	Anti-LW(b)	Anti-Yk(a)
Anti-Co(b)	Anti-Le(a)	Anti-Yt(a)
Anti-Cs(a)	Anti-Le(ab)	Anti-Yt(b)
Anti-D	Anti-Le(b)	Anti-c
Anti-Di(a)	Anti-Le, other	Anti-e
Anti-Di(b)	Anti-Lu	Anti-f
Anti-Do(a)	Anti-Lu(a)	Anti-i
Anti-Do(b)	Anti-Lu(b)	Anti-k
Anti-E	Anti-Lu3	Anti-rhesus, NOS^
Anti-E(w)	Anti-M	Anti-rhesus, other
Anti-Fy(a)	Anti -M, other	Anti-s
Anti-Fy(b)	Anti-M(g)	Antibody to High-Incidence Antigen
Anti-G	Anti-McC(a)	Antibody to Low-Incidence Antigen
Anti-H	Anti-Mi(a)	Antibody, No Specificity Identified
Anti-I	Anti-N	Cold auto-antibody
Anti-I(int)	Anti-N, other	HTLA (probable)
Anti-JMH	Anti-P	Warm auto-antibody
Anti-Jk(a)	Anti-P1	
Anti-Jk(b)	Anti-P1+P + P(k)	
Anti-Jk3	Anti-Pk	

Table 2: VBECS Standard Antigens

VBECS Standard Antigens
A1
Au(a)
Au(b)
C
C(w)
C(x)
Ch
Co(a)
Co(b)
Cs(a)
D
Di(a)
Di(b)
Do(a)
Do(b)
E
E(w)
Fy(a)
Fy(b)
H

VBECS Standard Antigens
JMH
Jk(a)
Jk(b)
Js(a)
Js(b)
K
Kn(a)
Kp(a)
Kp(b)
LW(a)
LW(b)
Le(a)
Le(b)
Lu(a)
Lu(b)
M
M(g)
McC(a)
Mi(a)
N

VBECS Standard Antigens
P
P(k)
P1
P1+P+P(k)
Rg
S
Sc1
Sc2
Sd(a)
U
V
Xg(a)
Yk(a)
Yt(a)
Yt(b)
c
e
k
s

Appendix C: VBECS Standard Transfusion Reactions

- Acute Hemolytic
- Anaphylaxis
- Circulatory
- Delayed Hemolytic
- Febrile Nonhemolytic
- Graft vs. Host disease
- Other
- Post Transfusion - Associated Disease
- Transfusion Related Acute Lung Injury
- Urticaria

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