



# Vista Blood Establishment Computer Software (VBECS) Version 2.0.0

## Release Notes Version 7.0

Department of Veterans Affairs  
Product Development

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# Revision History

| Date     | Revision | Description  | Author   |
|----------|----------|--|----------|
| 02/28/13 | 1.0      | Initial version  | BBM team |
|          |          | <p>Changed Features and Functions section:<br/> Revised first sentence to read: "No changes were made to the VBECS application or to the VBECS administrator software with the exception of the identified report corrections and the addition of report export capability."<br/> Second sentence: Removed "development".<br/> 1<sup>st</sup> bullet: Changed "that will support" to "supporting".<br/> 2<sup>nd</sup> bullet: Changed "will be" to "is".</p> <p>Changes and Corrections section:<br/> Changed 3<sup>rd</sup> paragraph to "Customer Remedy Incident (INC) reports" and added Customer Incident (INC) reports: 626467, 823682, 861886, 862204, and 898608.</p> <p>Removed footnote text: Pending Order List, Pending Task List, Print SF-518 Equivalent, Print Unit Caution Tag and View/Print User Roles from the list of exportable reports.</p> <p>Added: "Reports that are not exportable are the View/Print User Roles, Pending Order List, Pending Task List, and Blood Transfusion Record Form. The Caution Tag is not a report and is not exportable. (DR 4607)"</p> <p>Customer Support section: Revised 3<sup>rd</sup> paragraph.</p> <p>Test Group 3 Scenario 1, 13<sup>th</sup> bullet: Removed "of Caution Tags and" (DR 4593)</p> <p>Appendix A: Added Test Group Scenario Four for CR 3325.</p> <p>Appendix B: Added for CR 3337 and DR 4592.</p> <p>KDA CR 2223 was moved within the table.</p> <p>Added KDA CRs: 1514, 1515, 1531, 1577, 1607, 1633, 1639, 1949, 1950, 1968, 1991, 2008, 2011, 2022, 2046, 2083, 2123, 2133, 2202, 2216, 2217, 2226, 2463, 2545, 2627, 2639, 2641, 2694, 2716, 2766, 2778, 2868, 2869, 2886, 2992, and 3100.</p> <p>Added CRs: 3243, 3276, 3277, 3283, 3284, 3289, 3315, 3325, 3326 and 3377.</p> |          |
| 11/06/13 | 2.0      | Added DRs: 4607, 4581, 4598, 4589, 4599, 4592, and 4627.   | BBM team |

| Date     | Revision | Description   | Author   |
|----------|----------|---|----------|
| 04/08/14 | 3.0      | <p>Changes and Corrections:</p> <p>Edited second paragraph sentence to read "There is no blood product description code update included in this release." Removed related References.</p> <p>Edited third paragraph to read "Resolution of Customer Remedy Incident (INC) report related to VBECS:"</p> <p>Resolution of Customer Remedy Incident (INC) reports related to VBECS added Remedy Tickets 383473, 466628, 953847, 758840, 841367, and 981395.</p> <p>Added Resolution of Customer Remedy Incident (INC) reports related to VBEC*1*54 information. Added related to VBEC*1*54 added Remedy Tickets 923654, 925197, and 948143.</p> <p><u>Updates by Option Section:</u><br/> 3rd row added INC 841367 to option<br/> 4th row changed "Test Group Scenario 4" to "Test Group Scenario Four"<br/> 5th row changed "None Provided" to "Appendix A, Test Scenario Group Five"</p> <p><u>Report Updates Section</u><br/> 6<sup>th</sup> row option: Added Testing Worklist Report, INC 758840, and INC 953847.<br/> 8<sup>th</sup> row option: Added INC 383473 and INC 466628</p> <p><u>User Guide Updates Section</u><br/> Added sentence to the header. Updated 4<sup>th</sup> row</p> <p>Revised VistA Software Dependencies section. (DR 4957)</p> <p>Report Export associated User Guide Update: Added information to DR 4821 about the MS Word problem associated with exported reports.</p> <p>Report Updates: Added a row for Unit History Report, KDA CR 2180.</p> <p>VBECS User Documents: Added (INC 981395) to <i>VistA Blood Establishment Computer Software (VBECS) 2.0.0 Technical Manual-Security Guide</i></p> <p>Added Test Scenario Group Five.</p> <p>Added hyperlinks from Test Scenario references to the scenario.</p> <p>Appendix B: revised to include only rows related to CR 3337 and DR 4592.</p> <p>Updated References section.</p> <p>Revised Test Scenario Group One, Note in Scenario 1 box.</p> <p>Updated Test Scenario Group Two, Scenario 1, Step 3.</p> <p>Updated Test Scenario Group Three, Scenario 1 and Scenario 2.</p> <p>Revised Test Scenario Group Four, Test Objective.</p> | BBM team |

| Date    | Revision    | Description  | Author   |
|---------|-------------|--|----------|
| 8/27/14 | 4.0 (con't) | <p>Customer Support Section edited (DR 5025)<br/>           Changed footer Month to July.<br/> <u>The detail tables are re-organized in alphabetical order.</u><br/>           Changes and Corrections:<br/>           Organized Resolution of Customer Remedy Incident (INC) reports related to VBECS in numerical order. Removed 758840, 841367, 953847 and 981395.<br/>           Added 1024778 and 1027210.<br/> <u>Removed:</u><br/>           CR 2133 (Patient History Report) from the Report Updates section<br/> <u>Updates by Option Section</u><br/> <u>Added:</u><br/>           Accept Orders: Pending Order List (KDA CR 1401,<br/>           Patient Orders: Pending Task List (KDA CR 2149)<br/>           Component Classes KDA (CR 1992)<br/>           Configure Daily QC (KDA CR 1309, KDA CR 3066, KDA DR 1625, KDA CR 1637)<br/>           Discard or Quarantine (KDA CR 2074)<br/>           Display Order Alerts (KDA CR 2168)<br/>           Edit Financial Data (KDA CR 1890 and KDA CR 1819)<br/>           Edit Unit Information (KDA CR 1917, KDA CR 2310, KDA CR 2359,)<br/>           Enter Reflex Test Results (KDA DR 1651)<br/>           Finalize/Print TRW (KDA CR 2455)<br/>           Free Directed Unit For Crossover (KDA CR 1448)<br/>           Help About (CR 3453)<br/>           Incoming Shipment (CR and KDA CR 1721 and KDA CR 2809)<br/>           Issue Blood Components (KDA CR 2085, (CR 3471, INC 1024778)<br/>           Maintain Specimen (KDA CR 875)<br/>           Modify Units (not Pool or Split) (KDA CR 1698, KDA CR 1920, KDA CR 1921, KDA CR 1924,)<br/>           Modify Units: Split a Unit (CR 3248)<br/>           Modify Units: Pool Units (KDA CR 2387, KDA CR 2650)<br/>           Patient Testing: Pending Task List (KDA CR 2874, KDA CR 1775)<br/>           Patient Testing (KDA CR 1617)<br/>           Patient Updates, Added INC 1027210 to CR 3315<br/>           Post Transfusion Information (Added KDA CR 2607 to KDA CR 1655)<br/>           Product Modifications (Division Configuration KDA CR 1732)<br/>           Reagents, (KDA CR 1910, KDA CR 2810)<br/>           Server System Administrator (KDA CR 1670, KDA CR 2113, KDA CR 2234)<br/>           Special Instructions &amp; Transfusion Requirements (KDA CR 2078)<br/>           Throughout VBECS (KDA CR 2657)<br/>           Unit Antigen Typing (KDA CR 1585, KDA CR 1830)<br/>           VBECS Administrator (KDA CR 2348, KDA CR 2841, KDA CR 2344)<br/> <u>Report Export Section:</u> Revised the list of reports for readability.<br/> <u>Report Updates Section:</u><br/> <u>Added:</u><br/>           C:T Ratio Report (KDA CR 2101)<br/>           Transfusion Effectiveness Report (KDA CR 2136)<br/>           Transfusion Reaction Count Report (KDA CR 2221)<br/>           Unit History Report (KDA CR 2682)</p> | BBM team |

| Date    | Revision    | Description   | Author   |
|---------|-------------|---|----------|
| 8/27/14 | 4.0 (cont.) | <u>Guide Updates Section, Added:</u><br>Viewing the VBECS Version Number section (DR 4991)<br>Edit Unit Information (DR 2218)<br>Finalize/Print TRW (DR 4788)<br>Invalidate Test Results, Limitations and Restrictions section (DR 4685)<br>Issue Blood Components Section, Routine: CR 3459, and edited Limitation and Restrictions, Additional Information items from the user guide updates.<br>Modify Units: Pool Units, Limitations and Restrictions and (DR 4474)<br>Patient Testing, General Instructions, Limitations and Restrictions (DR 4817)<br>Patient Updates (DR 4989)<br>Recent Orders section (KDA CR 3241, DR 2218)<br>Reagents, Limitations and Restrictions (KDA CR 1501)<br>Transfusion Complications Report and Transfusion Effectiveness Report (DR 4810)<br>Transfusion Reaction Count Report DR 2602, DR 2218<br>Working with Data Section KDA (CR 116)<br>Processing Orders, Accept Orders added DR 4854. | BBM Team |

| Date    | Revision | Description   | Author   |
|---------|----------|---|----------|
| 1/27/15 | 5.0      | <p>Updated footer.</p> <p>Global: Replaced “verification” with “validation”.</p> <p>Resolution of Customer Remedy Incident reports: Added 336190.</p> <p>Edit Unit Information, KDA CR 2310: Edited Validation Scenario.</p> <p>KDA CR 1917: Edited Resolution Summary and Validation Scenario.</p> <p>Finalize/Print TRW, KDA CR 2455: Edited Validation Scenario.</p> <p>Incoming Shipment, CR 3160: Edited Resolution Summary.</p> <p>Issue Blood Component, KDA CR 2085: Edited Resolution Summary.</p> <p>CR 3471, INC 1024778: Edited Problem Summary.</p> <p>Patient Testing, ABO/Rh Test CR 3277 DR 4592 Edited Problem summary</p> <p>Select Units, KDA DR 2703: Edited Problem Summary, Resolution Summary and Validation Scenario.</p> <p>Server System Administrator, KDA CR 1670: Edited Problem and Validation Scenario.</p> <p>Throughout VBECS, KDA CR 2657: Edited Problem and Resolution Summaries.</p> <p>VBECS Administrator, KDA CR 2348: Edited Resolution Summary.</p> <p>Audit Trail Report (Configure Daily QC), KDA CR 1949 and KDA CR 1950: Separated the CR.</p> <p>Blood Availability Report, Exception Report, Issued-Returned Report Order Summary Report (Reports menu), Testing WorkList Report and Transfusion Requirements Report, KDA CR 2070, KDA CR 2257 KDA CR 2512, KDA CR 2584 KDA CR 2793: Edited Option and Validation Scenario.</p> <p>Patient History Report, Transfusion Reaction Section, implicated Units, KDA CR 2226: Edited Option.</p> <p>Testing WorkList Report, Patient Testing Worklist Report, KDA CR 2694: Added HD 336190 and updated Validation Scenario.</p> <p>Throughout VBECS, KDA CR 2992: Edited Validation Scenario.</p> <p>Throughout VBECS, Exception Report, Unit History Report, Single Order History Report, Pending Task List, Order Comment, KDA CR 2870, KDA CR 2871, KDA CR 2872, KDA CR 2873: Edited Option and Problem Summary and Resolution Summary.</p> <p>Transfusion Effectiveness Report, KDA CR 2136: Edited Resolution Summary and Validation Scenario.</p> <p>Transfusion Reaction Count Report, KDA CR 2217: Edited Validation Scenario.</p> <p>Unit History Report, KDA CR 1607: Edited Validation Scenario.</p> <p>Unit History Report, KDA CR 2716: Edited Problem and Resolution Summaries.</p> <p>Unit History Report, KDA CR 2682: Edited Resolution Summary and Validation Scenario.</p> <p>Edit Unit Information, KDA DR 2218: Edited Resolution Summary.</p> <p>User Guide Updates, Added CR 3519 describing online help update.</p> <p>Customer Support section – Revised to better account for EO involvement.</p> <p>Test Scenario Group Two, Scenario Two: Edited.</p> <p>Appendix B: labeled the tables, changed Font color and spacing in response column.</p> | BBM Team |

| Date    | Revision | Description   | Author   |
|---------|----------|---|----------|
| 4/9/15  | 6.0      | CR 1830 and CR 3284: Removed.<br>DR 4685: Added Remedy ticket INC 848552.<br>CR 1732: Edited resolution to refer to cost. (DR 5154)   | BBM Team |
| 5/21/15 | 7.0      | VBECS User Documents: Edited. "Retrieve the following updated documents and guides from the VA Software Document Library (VDL): "<br>Test Scenario Group Five: Note: Revised. | BBM Team |



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# Introduction

*Vista Blood Establishment Computer Software (VBECS) Version 2.0.0 Release Notes* contains information and examples of test scenarios for changes and corrections made to VBECS.

Appendix A: Validation Planning and Example Test Scenarios contains examples of test scenarios for changes and corrections made in this release.

## Changed Features and Functions

The scope of VBECS 2.0.0 includes both a hardware and software refresh to replace aging infrastructure that supports VBECS operation. **This change in architecture and hardware is transparent to the user as access to VBECS continues to be via remote desktop connections (RDCs).**

- The architecture changed from the current single VBECS clustered server set per Veterans Health Information Systems and Technology Architecture (VistA), single or consolidated, instance to a server farm supporting multiple virtual VBECS instances.
- The VBECS SQL Server instance is separated from the VBECS Application server in order to provide improved performance.
- SQL Server Reporting Services (SSRS) replaces Crystal Reports as the report generation tool.
- VBECS reports will be exportable to a designated location on the VBECS server using default SSRS functionality.

Validation of correct installation and updates are collected as part of the installation process. Example validation scenarios are available in Appendix A: Validation Planning and Example Test Scenarios for the application. Test Scenario Group One compares report data from a prior version to the new reports to verify that the data migration was successful and complete from the old database to the new one. Test Scenario Group Three provides validation that the application continues to function as it did in the prior version on the new operating system, hardware and database framework.

## Changes and Corrections

This section lists changes and corrections to the existing VBECS application. Some items correspond to an item in *Known Defects and Anomalies* and some have a corresponding test objective in Appendix A.

There is no blood product description code update included in this release.

Resolution of Customer Remedy Incident (INC) reports related to VBECS:

- 336190
- 372543
- 383473
- 466628
- 626467
- 823682
- 848552
- 861886
- 862204
- 898608
- 1024778
- 1027210

Resolution of Customer Remedy Incident (INC) reports related to VBEC\*1\*54:

- 923654
- 925197
- 948143

## Updates by Option

| Option  | Problem Summary  | Resolution Summary  | Validation Scenario |
|---|--|---|---------------------|
| Accept Orders: Pending Order List<br>CR 1401      | The printed version of the Pending Order List differs in appearance from the screen view after the items are changed by the user (re-sorted).                  | The printed version is designed to print the default presentation order of the onscreen list. | None Provided.      |
| Patient Testing: Pending Task List<br>KDA CR 2149 | A system error occurs when an order has canned and free text comments that exceed 255 characters total.  | The system error no longer occurs.  | None Provided.      |
| Component Classes<br>KDA CR 1992                  | VBECs rounds the minutes entered in the maximum transfusion time field to a whole number.  | Transfusion time is recorded and transmitted in whole minutes, not portions of a minute.      | None Provided.      |
| Configure Daily QC<br>CR 3326                     | When user configures the rack by checking only Screening cell (SC) 4 (and not SC 3, SC 3 is checked but does not appear as part of the rack in Enter Daily QC. | SC 3 is available for testing.  | None Provided.      |
| Configure Daily QC<br>KDA CR 1309                 | The OK button on the Configure Daily QC form is enabled even though the user did not change details on the screen.   | OK button enables and disables correctly.   | None Provided.      |
| Configure Daily QC<br>KDA CR 3066                 | VBECs does not allow a user to save changed values in the Non-Commercial template.   | Changes in rack template are allowed and saved.   | None Provided.      |
| Configure Daily QC<br>KDA DR 1625                 | VBECs Configure QC option will allow a user to configure a reagent rack to use screening cells 1, 2, and 4, instead of 1, 2, and 3 and save.                   | VBECs Configure QC enables screening cell 3 when screening cell 4 only is selected.           | None Provided.      |
| Configure Division: Order Alerts<br>KDA CR 1637   | Configure Division/Order Alert setting changes are not included in the Audit Trail Report.   | Configure Division/Order Alert setting changes are included in the Audit Trail Report.        | None Provided.      |
| Discard or Quarantine<br>KDA CR 2074              | Cannot edit hour: minutes in Discard Date field.   | The hours and minutes in the Discard Date field are editable.                                 | None Provided.      |
| Display Order Alerts<br>KDA CR 2168               | The tool tip on the Patient Alert icon will not display after VBECs refreshes and no new updates are detected.   | The tool tip when the alert icon is displayed blinking or solid.                              | None Provided.      |

## Updates by Option

| Option   | Problem Summary   | Resolution Summary  | Validation Scenario   |
|--|---|---|---|
| Edit Financial Data<br>KDA CR 1890               | Entry of a hyphen (-) or a comma (,) in any of the three editable numeric fields generates an error message: "Value entered is not a valid number."   | This invalid entry is auto-corrected instead of allowing entry of invalid values and displaying a message.  | None Provided.  |
| Edit Financial Data<br>KDA CR 1819               | When a Technologist enters a unit ID and product code for a unit that is not in final status, VBECS does not enable the Special Test Cost field.  | This system restricts unit editing to Enhanced Technologist and higher access who can change the Special Test Cost field in the Edit Financial Data option. (DR 5012)                 | None Provided.  |
| Edit Unit Information<br>KDA CR 2359             | The OK button is enabled unnecessarily.   | The OK button is enabled and disabled as expected.  | None Provided.  |
| Edit Unit Information<br>KDA CR 2310             | When attempting to edit a unit in a final status, VBECS displays the wrong message "Blood Unit not found for Unit Id/Product Code".   | Correct message displays "Unit has been assigned a final status. Cannot edit/inactivate information."   | None Provided.<br>Do not use the "find" button.   |
| Edit Unit Information<br>KDA CR 1917             | In the unit volume field, numeric values outside the allowed range can be entered. VBECS changes the entry to an acceptable value without a warning message.  | This control now auto-corrects instead of allowing entry of invalid values. The unit volume (mL) maximum range may be saved from 1-2000 ml and may be saved at the user's discretion. | None Provided.<br>Enter a value >2000 and click into a different field; the value changes to the upper limit of 2000. |
| Enter Reflex Test Results<br>KDA DR 1651         | The facilities pick list is not restricted to those marked as testing facilities.   | This is a free text field not a pick list. No longer considered a KDA, as designed, now categorized as an enhancement request to present a filtered pick list.                        | None Provided.  |
| Finalize/Print TRW<br>KDA CR 2455                | When finalizing a TRW report and VistALink is down, a pop up message displays that VistALink is down and the DSS message cannot be sent. VBECS should resend the DSS message later. However, the message is not resent. | The DSS message is sent later.  | None Provided.  |
| Free Directed Unit For Cross-over<br>KDA CR 1448 | The "Unit is in a final status" VBECS message is missing the "a."   | The message is clear as written, "Unit is in final Status."   | None Provided.  |

## Updates by Option

| Option  | Problem Summary  | Resolution Summary   | Validation Scenario                  |
|---|--|--|--------------------------------------|
| Help About<br>CR 3453                             | No information is visible to the user when a revision is made to the current released build.   | A Revision indicator displays on the Help About window. See the VBECS User Guide for details.  | None Provided.                       |
| HL7 Messaging Processing<br>CR 3276<br>INC 823682 | VBECS included patient identifying information (PII) in message failure emails to the indicated mail group.  | No PII in any messages regarding HL7 message processes.  | None Provided.                       |
| Incoming Shipment<br>CR 3325<br>INC 862204        | Special testing information was not saved when the first save was canceled in the confirmation window, new special testing information was entered and unit record saved.  | A user can click NO to the confirmation message, enter special testing information and save the unit record as displayed at the re-attempt to save the data. | Appendix A, Test Scenario Group Four |
| Incoming Shipment<br>KDA CR 2809                  | A system error occurs when using the restrict to a patient search field and only 5 to 8 characters of the patient's SSN are entered to initiate the search for the patient.  | The system error no longer appears.  | None Provided.                       |
| Incoming Shipment<br>KDA CR 1721                  | When the user holds the mouse over the disabled OK button; VBECS displays the tool tip associated with the OK, instead of the tool tip that prevents the activation.   | The correct tool tip displays.   | None Provided.                       |
| Incoming Shipment<br>CR 3160                      | When entering a response of "YES" to the message that you are attempting to re-enter a unit, a pop up appears "System Error: Unit already exists in the division." Click OK and the expected message about "Are you sure you want to add this unit?" displays and allows the user to proceed normally. | The use of the term "system error" in the message header does not impede the re-entry of the same blood unit.  | None Provided.                       |

## Updates by Option

| Option  | Problem Summary  | Resolution Summary  | Validation Scenario |
|---|--|---|---------------------|
| Issue Blood Component<br>CR 3283                | A type specific unit may be issued using a database conversion blood type record when the patient antibody screen is complete.   | Only ABO Group O units may be issued per emergency issue rules when the current specimen's ABO/Rh is not complete and the antibody screen test is complete.     | None Provided.      |
| Issue Blood Component<br>KDA CR 2085            | Missing a space between the sentences: "This unit had a crossmatch result of incompatible or the crossmatch was not completed. This unit cannot be issued."                              | This message did not and does not appear in the updated application. A unit with an incompatible crossmatch is not available for selection in this option.      | None Provided       |
| Issue Blood Component<br>KDA CR 2011            | When the patient's ABO/Rh was performed in a Transfusion Only (TO) division, the ABO/Rh was not properly read by a Full Service division at issue.                                       | Override requirement is no longer displayed in Full Service division for patient whose previous ABO/Rh was performed in Transfusion Only division.              | None Provided.      |
| Issue Blood Component<br>CR 3471<br>INC 1024778 | When a user has a unit selected for issue and another user selects and attempts to release the same blood unit from assignment; the unit records are unavailable for further processing. | The "lock" on the unit's record no longer allows selection of the same unit at the same time in Issue Blood Component and Release Unit from Patient Assignment. | None Provided.      |
| Maintain Specimen<br>KDA CR 875                 | A VBECS system error occurs when a user allows two consecutive system timeouts.  | No system error occurs after system timeouts, single or multiple.   | None Provided.      |

## Updates by Option

| Option  | Problem Summary  | Resolution Summary   | Validation Scenario                               |
|---|--|--|---|
| Modify Units (not Pool or Split)<br>KDA CR 1920 | When a user enters a value outside the allowable range in the Target Unit Volume field; VBECS accepts the entry but disables the OK button.  | Target Unit Volume value returns to an acceptable value at the upper or lower end prior to saving.   | None Provided.                                    |
| Modify Units (not Pool or Split)<br>KDA CR 1921 | The Volume Reduce Unit form contains fields for discarded plasma volume and original unit volume. When either field contains data entry errors, the OK button is enabled, which allows the user to save the form.        | The OK button enables as expected.   | None Provided.                                    |
| Modify Units (not Pool or Split)<br>KDA CR 1924 | The Volume Reduce Unit form contains fields for discarded plasma volume and original unit volume. When either field contains data entry errors, the OK button is enabled, which allows the user to save the form.        | The discarded plasma volume and original unit volume values return to an acceptable value at the upper or lower end prior to saving.   | None Provided.                                    |
| Modify Units (not Pool or Split) KDA CR 1698    | VBECS truncates the product name.  | The short name of the product displays in full. The full product name is available for display when the unit is selected and the user hovers over the name to view the tool tip. | None Provided. This is unchanged system behavior. |
| Modify Units: Pool Units<br>KDA CR 2387         | VBECS allows a user to add a unit to a pool and transfer assignment to the pooled unit when both units are already assigned to the same patient. This creates a unit with dual assignment and the unit cannot be issued. | Dual assignment is not created and the unit is available for Issue Blood Component.  | None Provided.                                    |



## Updates by Option

| Option                                  | Problem Summary  | Resolution Summary  | Validation Scenario   |
|---|--|---|-----------------------|
| Modify Units: Pool Units<br>KDA CR 2650 | <p>When a user chooses to add or remove units from a pooled unit, the patient assignment is duplicated on the pool.</p> <p>Leading to additional complications:</p> <ul style="list-style-type: none"> <li>• Users are also prevented from selecting additional units for a patient that has a duplicate assignment until the duplicate is removed.</li> </ul> <p>A VBECS system error occurs when a user attempts to issue this unit with duplicate assignment.</p> | <p>Dual assignment is not created and the unit is available for Issue Blood Component.</p> <p>No system error occurs.</p> | <p>None Provided.</p> |

## Updates by Option

| Option   | Problem Summary  | Resolution Summary  | Validation Scenario                  |
|--|--|---|--------------------------------------|
| Modify Units: Split a Unit<br>KDA CR 3248                  | The system does not allow split modification for product types E065 = Washed Thawed Apheresis PLATELETS and E067 = Reconstituted FRESH FROZEN PLASMA   | The system does not allow any modifications on these product types. This is not an anomaly.   | None Provided.                       |
| Patient Testing, ABO/Rh Test<br>CR 3277<br>DR 4592         | Appendix B: Patient ABO/Rh Test System Response only rows incorrectly allowed invalid test result and interpretation patterns to be saved for patient with a processed override.               | Appendix B, rows 12 and 14 row validation fails, no override is displayed and the results and interpretations cannot be saved.<br>See Appendix B: Patient ABO/Rh Test System Response for all conditions. | Appendix A, Test Scenario Group Five |
| Patient Testing: Pending Task List<br>KDA CR 1775          | VBECs does not display the patient's middle initial on the printed Pending Task List.  | A patient's middle initial displays.  | None Provided.                       |
| Patient Testing: Pending Task List<br>KDA CR 2874          | A system error occurs when a user cancels an order adding canned and free text comments that exceed 255 characters total.  | The system error no longer occurs.  | None Provided.                       |
| Patient Testing<br>KDA CR 1617                             | When the user clicks the red X button in the upper right corner and clears the test results; VBECs clears the grid but does not disable the OK button when there are results in a second grid. | The OK button disables and enables correctly with valid, partially completed grid results.  | None Provided.                       |
| Patient Updates<br>CR 3315<br>INC 861886<br>INC 1027210    | VBECs was processing update records that did not contain a relevant change creating audit records for unchanged patient records.   | Patient Update messages that do not contain VBECs relevant changes are not updated or recorded in the VBECs audit table.  | None Provided.                       |
| Post Transfusion Information<br>KDA CR 1655<br>KDA CR 2607 | VBECs allows the user to save a transfused volume greater than the default average volume associated with the product code in Blood Products with a transfusion record.                        | Transfusion volume returns to an acceptable value at the upper or lower end prior to saving.  | None Provided.                       |

## Updates by Option

| Option   | Problem Summary   | Resolution Summary  | Validation Scenario  |
|--|---|---|--|
| Product Modifications<br>(Division Configuration)<br>KDA CR 1732 | When a user enters an amount less than 0.00 or greater than 9999.99 in a Cost field and presses the Enter key, VBECS changes the amount to 0.00 and 9999.99, respectively, and enables the OK button.   | Product cost value returns to an acceptable value at the upper or lower end prior to saving.                                    | None Provided.   |
| Reagents<br>KDA CR 1501  | Previously entered manufacturers' names may not persist in the manufacturers' drop-down list in Log In Reagents.  | Manufacturer's names persist in the drop-down list.   | None Provided.   |
| Reagents<br>KDA CR 1910  | The warning message displayed when the user exceeds the upper limit of the Vials Received field in Log In Reagents states the range as 0–999 when it is actually 1–999.   | Vials Received value returns to an acceptable value at the upper or lower end prior to saving.                                  | None Provided.   |
| Reagents<br>KDA CR 2810  | A system error occurs when a user enters reagents, clicks Ok to save and then NO to not commit the changes.   | The system no longer presents a system error.   | None Provided.   |
| Select Units<br>KDA DR 2703                                      | Blood product code "00950" WB CPD is listed as WB ACD-B in the short name and "27223" RBC CPDA-1 is listed as RBC CP2D in the short name.   | The product names are corrected: "00950" is WB CPD and "27223" RBC CPDA-1.  | Enter the product code in Tools, Blood Products to view the name change.   |
| Server System Administrator<br>KDA CR 1670                       | Locking: a system error (shutdown) occurred when the user opened the Invalidate Patient Test Results window and a same or different user has already selected and has the same specimen pending completion in a different option, specifically Transfusion Reaction Workup (TRW). | No system error occurs.   | TRW is open at the serologic test tab. Invalidate Patient Test window must be processed to OK where the locking message appears and does not allow invalidation. |
| Server System Administrator<br>KDA CR 2113                       | A VBECS system error will occur when a database timeout occurs. A Database timeout error should be handled by the software.   | The software notifies the administrator to correct the problem. The problem requires human intervention to correct the problem. | None Provided.   |

## Updates by Option

| Option   | Problem Summary   | Resolution Summary  | Validation Scenario |
|--|---|---|---------------------|
| Server System Administrator<br>KDA CR 2234                     | Microsoft Windows limits the number of non-interactive processes on the server. On rare occasions when the limit is exceeded the VBECS patch process will fail. User will be notified by message: "Error: occurred during VBECS application lock processing on the server." Repeat the patch process. | No longer an issue in the updated application.  | None Provided.      |
| Special Instructions & Transfusion Requirements<br>KDA CR 2078 | After a patient has been selected and the SI/TR entry screen appears, the OK button remains enabled.  | OK button enables and disables as expected when valid data entry is completed.  | None Provided.      |
| Throughout VBECS<br>CR 3377<br>INC 898608                      | Some, not all displays of the Patient Name were displaying with the first part of the name hidden.  | Patient name is formatted to left justified to display the patient's surname.<br><br>Scroll to view the first and middle names when not in view initially.          | None Provided.      |
| Throughout VBECS<br>KDA CR 2657                                | Patient names are truncated or improperly formatted on these reports when a full name exceeds 25 characters:<br>Unit History Report<br>Exception Report<br>Inappropriate Transfusion Request Report   | Patient names display completely.<br><br>Cost Accounting Report does not display patient names.<br><br>See KDA CR 3536 in the Known Anomalies and Defects document. | None Provided.      |
| Unit Antigen Typing<br>KDA CR 1585                             | When a user cancels out of an antigen testing worklist without performing any testing and then creates a new worklist for the same antiserum lot number; VBECS does not display the control cells on this worklist.   | Quality control cells present for testing as required.  | None Provided.      |
| VBECS Administrator<br>KDA CR 2344                             | Clicking the Clear button after saving any changes still displays a warning about discarding changes that were made to the division details.  | Clicking the Clear button clears the fields and no longer displays the warning message.   | None Provided.      |

## Updates by Option

| Option  | Problem Summary  | Resolution Summary  | Validation Scenario |
|---|--|---|---------------------|
| VBECS Administrator<br>KDA CR 2348                | The tool tip message for the disabled Clear button is incorrect. It states "Click to erase changes and reset screen." Expected to state "The data on the screen were not changed". | When opening the VBECS Administrator does not change any information, the clear button is enabled and save is disabled. Both display appropriate messages.<br><br>Clear button (enabled) displays a message stating "Click to disregard changes and clear for a new entry"<br>Save button (disabled) displays a message stating "Details did not change: cannot add or update." | None Provided.      |
| VBECS Administrator<br>KDA CR 2841                | Users are prompted with a VBECS Confirmation box when exiting the VBECS Administrator that asks if the user wants to abandon changes and continue when no change was made.         | Confirmation prompt is now consistent with the application.   | None Provided.      |
| VistA Message Processing<br>CR 3243<br>INC 626467 | Messages were incorrectly processed in the VBECS Test or Production account after an associated VistA mirror update as only the PORT number was being checked.                     | Incoming messages will be checked for the Processing ID of "P" (Production) or "T" (Test) as well as the port number associated with the message.   | None Provided.      |

## Report Export

| Option   | Problem Summary   | Resolution Summary  | Validation Scenario                 |
|--|---|---|-------------------------------------|
| All VBECS reports*<br>DR 1473, DR 3147, DR 3148,<br>DR 4499, DR 4607   | VBECS does not allow report data export.<br><br>Ad Hoc reporting capability is requested to support internal, transfusion service, and external, national, statistical reports that require different combinations of information available from VBECS. | VBECS report data is exportable to a designated location in the VBECS server.<br><br>Exported data may be analyzed and recombined using available local software allowing for local ad hoc report creation and use. | Appendix B. Test Scenario Group Two |
| <p><b>*Exportable reports:</b></p> <ul style="list-style-type: none"> <li>• Administrative Data Report</li> <li>• Blood Bank Supplies Report</li> <li>• Division Transfusion Report</li> <li>• Exception Report</li> <li>• Medication Profile.</li> <li>• Patient History Report</li> <li>• Transfusion Complications Report</li> <li>• Transfusion Reaction Work Up Report</li> <li>• View/Print Current Patient</li> <li>• Audit Trail Report</li> <li>• Cost Accounting Report</li> <li>• Division Workload Report</li> <li>• Inappropriate Transfusion Request Report</li> <li>• Order History Report</li> <li>• Prolonged Transfusion Time Report</li> <li>• Transfusion Effectiveness Report</li> <li>• Transfusion Requirements Report</li> <li>• Unit History Report</li> <li>• Blood Availability Report</li> <li>• Crossmatch to Transfusion Ratio Report</li> <li>• Equipment Report</li> <li>• Issued/Returned Report</li> <li>• Outgoing Shipment Invoice</li> <li>• Reagent Inventory Report</li> <li>• Testing Worklist Report</li> <li>• Transfusion Reaction Count Report</li> </ul> <p><b>Reports that are not exportable:</b></p> <ul style="list-style-type: none"> <li>• Blood Transfusion Record Form.(BTRF)</li> <li>• View/Print User Roles</li> <li>• Pending Order List</li> <li>• Pending Task List</li> </ul> <p><b>The Caution Tag is not a report and is not exportable.</b></p> |   |   |                                     |

## Report Updates

| Option   | Problem Summary   | Resolution Summary  | Validation Scenario |
|--|---|---|---------------------|
| Accept Order (Printed Pending Order List)<br>KDA CR 1774 | When the user clicks Print and selects certain date ranges, a system error (shutdown) may occur due to a Crystal Reports bug. | Clicking print no longer causes a system error.           | None Provided.      |
| Audit Trail Report (Configure Daily QC)<br>KDA CR 1949   | Screening Cells vial numbers were not displayed on the Audit Trail Report when there is a configuration change.               | Screening Cell vial numbers display with change detailed. | None Provided.      |

## Report Updates

| Option   | Problem Summary   | Resolution Summary  | Validation Scenario   |
|--|---|---|---|
| Audit Trail Report<br>(Configure Daily QC)<br>KDA CR 1950  | Daily QC Setup change comment details did not display on the Audit Trail Report when there was a configuration change in template type, number of racks, daily alert time, rack names or enhancement media.<br><br>See Table 18, Details in Audit Trail Report in the User Guide. | A configuration change in Daily Rack QC configuration (template type, number of racks, daily alert time, rack names or enhancement media) displays with the comment details.<br><br>This does not apply to other changes to the testing on the selected rack entries. | None Provided.  |
| Audit Trail Report<br>KDA CR 1968  | Special Instructions and Transfusion Requirements comments may not display completely on the report.  | Complete comments display.  | None Provided.  |
| Audit Trail Report<br>KDA CR 2766<br>KDA CR 2869   | The Audit Trail Report does not display the full comments a user can enter when using the Justify ABO/Rh or Inactivate Patient Transfusion Requirement option. The report will only show the first 100 characters.  | The entire comment displays.  | None Provided.  |
| Audit Trail Report<br>KDA CR 1531  | VBECS allows the user to click the report header; it displays as a separate tab.  | No longer occurs.   | None Provided.  |
| Blood Availability Report<br>KDA CR 2463   | "Units with Final Disposition (Not Transfused)" report, defaults a start date of 1/1/1900 and end date of 12/31/9999. Even though the user manually enters new start/end dates, they are not used when the report data is generated.  | Defaults are corrected. Report delivers per entered date range.   | None Provided.  |
| Blood Availability Report<br>Exception Report<br>Issued-Returned Report<br>Order Summary Report<br>(Reports menu)<br>Testing WorkList Report<br>Transfusion Requirements Report<br>KDA CR 2070, KDA CR 2257<br>KDA CR 2512, KDA CR 2584<br>KDA CR 2793 | The report scheduler does not work for the listed reports. Users must run the report when needed.   | The report(s) may be scheduled to print at a future date/time.  | None Provided.<br><br>Order Summary Report is available on the Reports menu, not the Orders menu. |

## Report Updates

| Option   | Problem Summary  | Resolution Summary  | Validation Scenario |
|--|--|---|---------------------|
| Cost Accounting Report<br>Testing Worklist Report<br>KDA CR 2757<br>INC 372543           | Certain combinations of patient data and the printer settings create a report too large to fit on a page leading to a Crystal Reports failure (error).   | The report displays and prints with all combinations of data regardless of printer settings.  | None Provided.      |
| Cost Accounting Report<br>KDA CR 1633  | The modification time displays in GMT (system time) on the Cost Accounting Report.   | Time displays correctly.  | None Provided.      |
| C:T Ratio Report<br>KDA CR 2101  | Unable to schedule report print time in the future.  | Report can be scheduled to print at a future time.  | None Provided.      |
| Display Current Patient Medications<br>KDA CR 1560                                       | A Crystal Reports Forms Viewer Error may appear: "Query Engine Error".   | No such message appears in the application.   | None Provided.      |
| Display Current Patient Medications<br>KDA CR 1577                                       | VBECs does not display the "No medications were found for the date range" message when the report does not return data.  | Message displays on a print preview of the selected report.   | None Provided.      |
| Exception Report<br>KDA CR 2022  | When invalidating results from Unit Antigen Typing the Exception Report does not show all invalidated values.  | All invalidated values display.   | None Provided.      |
| Exception Report (and its display on a Patient History Report)<br>CR 3289<br>KDA CR 2202 | Exceptions associated with emergency issue overrides display a system interpretation for ABO of "I" and for Rh of "Pos" incorrectly when all of the ABO/Rh reaction entries are partially completed. | The exception will display a system interpretation of "Not Available" when the ABO/Rh testing is not complete when emergency issue overrides are processed. | None Provided.      |
| Order History Report<br>KDA CR 1846  | VBECs does not provide a message that it is compiling the report.  | A report-compiling message displays.  | None Provided.      |
| Order History Report<br>KDA CR 2778<br>INC 383473<br>INC 466628                          | The Single Order History Report displays the patient's middle name as the provider's middle name too.  | The correct middle names display for the patient and the provider.  | None Provided.      |
| Patient History Report<br>KDA CR 1639  | When an incoming unit is associated to a restricted patient, a duplicate line displays in the Demographics section of the report.  | Duplicated information no longer displays.  | None Provided.      |
| Patient History Report<br>KDA CR 1991  | VBECs displays a transfused volume of "0" on the Patient History Report when the defaults are unchanged.   | VBECs default volume appears as the transfused volume when unchanged in Enter Post Transfusion Details.   | None Provided.      |



## Report Updates

| Option  | Problem Summary   | Resolution Summary   | Validation Scenario |
|---|---|--|---------------------|
| Patient History Report<br>KDA CR 2123   | The section separator between Patient Association & Unit Testing is missing.  | Separator displays.  | None Provided.      |
| Patient History Report, Transfusion Reaction Section, implicated Units<br>KDA CR 2226 | Implicated Units display same information 5 times on report.  | Duplicated information no longer displayed.                  | None Provided.      |
| Patient History Report Exception Report<br>KDA CR 2886                                | An exception item generated in Select Unit or Issue Blood Components that includes the product name displays only the first four characters of the product name.  | The exception record displays the component class name.      | None Provided.      |
| Prolonged Transfusion Time Report<br>KDA CR 3100                                      | The Prolonged Transfusion Time Report closes after the user prints it.  | The print preview displays until the user closes the window. | None Provided.      |
| Reagent Report<br>KDA CR 1515   | VBECs truncates text in the print preview and printed versions of the Reagent Inventory Report. When VBECs does not find a match for selections entered in the Reagent Search window, it creates a report with "No Reagents Found" instead of presenting a message that no match was found. | Text is no longer truncated.                                 | None Provided.      |
| Testing WorkList Report<br>KDA CR 2046  | "Automated Instrument" does not display on the report.  | "Automated Instrument" displays.                             | None Provided.      |
| Testing WorkList Report<br>KDA CR 2083  | The Testing Worklist Report does not display the "Entered in Error" comment when a Unit ABO/Rh Confirmation Test is invalidated.  | The "Entered in Error" comment displays as expected.         | None Provided.      |
| Testing WorkList Report<br>KDA CR 2627  | The Testing Worklist Report only displays the first 218 characters entered in the ABID results comment field.   | The entire comment displays.                                 | None Provided.      |
| Testing WorkList Report<br>KDA CR 2868  | The Rack QC and Reagent QC sections display only the first 100 characters of comments entered in the POS or NEG control comment fields as saved in a Patient or Unit Antigen Typing test.   | The entire comment displays.                                 | None Provided.      |

## Report Updates

| Option   | Problem Summary   | Resolution Summary  | Validation Scenario  |
|--|---|---|--|
| Testing WorkList Report<br>Patient Testing Worklist Report<br>KDA CR 2694<br>HD 336190   | The Testing Worklist Report does not display the last name of the tester if their user name includes a site abbreviation [e.g. First Name, Middle Initial, and (Division Abbreviation Last Name)].  | The last name of the tester displays.   | None Provided.<br>Example (Kevin M. (HIN) Kania)                                   |
| Throughout VBECS<br>KDA CR 2992  | VBECS reports cannot be printed as two sided documents.   | Reports may be printed as two sided documents on a correspondingly enabled printer.   | None Provided. Printer must be capable and configured to allow two-sided printing. |
| Throughout VBECS<br>KDA CR 1514  | Printed reports in VBECS use gray lines to designate the end of patient or unit data. The lines should be darker to make reading the report easier.   | Shading is no longer used to designate sections. Sections are clearly divided.  | None Provided.   |
| Throughout VBECS<br>Exception Report<br>Unit History Report<br>Single Order History Report<br>Pending Task List, Order Comment<br>KDA CR 2870, KDA CR 2871<br>KDA CR 2872, KDA CR 2873 | Comments greater than 200 characters in length can be entered in VBECS, but only the first 200 characters of that comment display on the report.<br><br>(Exception Report types associated with Crossmatch testing, Unit selection and ABO/Rh confirmation) | In VBECS, the entire comment displays as entered.<br><br>Note: A VBECS comment displayed in VistA may not display in its entirety due to the VistA field limitations. | None Provided.   |
| Throughout VBECS<br>Testing Worklist Report<br>Division Workload Report<br>Order History Report<br>Transfusion Requirements Report)<br>KDA CR 1967, KDA CR 2021<br>KDA CR 2855         | On some reports, VBECS prints the page number but does not include the total number of pages printed (e.g., 1 of 75).   | The total number of pages displays and prints on the identified reports.  | None Provided.   |
| Transfusion Effectiveness Report<br>KDA CR 2136  | The report scheduler does not schedule prints on the same date.   | The report cannot be scheduled to print at a future time as the report requires the user to be logged into VistALink to retrieve the Laboratory results.              | None Provided.<br>No change in system behavior.                                    |
| Transfusion Reaction Count Report<br>KDA CR 2221   | The first page of the report is blank except for the header, title and section header.  | The report prints starting on the first page.   | None Provided.   |

## Report Updates

| Option   | Problem Summary  | Resolution Summary   | Validation Scenario  |
|--|--|--|--|
| Transfusion Reaction Count Report<br>KDA CR 2216                 | Hardcopy of Summary Report does not print "Page x of y" at bottom right page.  | Page numbers print.  | None Provided.   |
| Transfusion Reaction Count Report<br>KDA CR 2217                 | First Name and Middle Initial may be concatenated.   | First Name and Middle initial are separated.   | None Provided.<br>Selected patient must have middle initial. |
| Transfusion Reaction Count Report and all reports<br>KDA CR 2223 | Hovering a mouse pointer over a report produces tool tips that are meaningless.  | Tool tips do not appear describing technical details about the report sections.              | None Provided.   |
| Unit History Report<br>KDA CR 1607                               | If a unit is entered in inventory, shipped via Outgoing Shipment, and reentered in inventory via Incoming Shipment; the Unit History Report includes incomplete Outgoing Shipment information on the Incoming Shipment page. | No longer displays duplicated information.   | None Provided.<br>This is unchanged system behavior.         |
| Unit History Report<br>KDA CR 2008                               | The column header reads "Crossmatched By" instead of "Released By."  | Headers are correct.   | None Provided.   |
| Unit History Report<br>KDA CR 2180                               | Tested By column is blank for Unit Antigen Typing.   | The report displays the selected "Tested By" name associated with Unit Antigen Typing tests. | None Provided.   |
| Unit History Report<br>KDA CR 2545                               | The last digit of the minute printed for the Date Processed field is difficult to read.  | All information clearly displays.  | None Provided.   |
| Unit History Report<br>KDA CR 2639                               | Unit Tests section of the Unit History Report incorrectly displays the QC results for unit antigen typing. The control cells display the unit test result not their own results.   | The QC test results display.   | None Provided.   |
| Unit History Report<br>KDA CR 2641                               | Antigen typing comments for QC does not appear on the Unit History Report. The testing comments entered for a unit appear for the positive and negative controls instead.  | The comments appear associated with the unit's antigen typing test.                          | None Provided.   |

## Report Updates

| Option                             | Problem Summary   | Resolution Summary  | Validation Scenario  |
|------------------------------------|---|---|--|
| Unit History Report<br>KDA CR 2716 | The Crossmatch Tests section of the Unit History Report will display testing without interpretations if the unit selected was tested in a batch of units selected for one patient and results were not entered. | Only units that have partial or completed serologic crossmatch tests appear in this section. There is no longer an additional blank line for the untested but assigned unit.                | None Provided.   |
| Unit History Report<br>KDA CR 2682 | The exception detail captured for the exception type Previously Recorded Results Invalidated do not appear on the Unit History Report.  | The exception type Previously Recorded Results Invalidated does appear on the Unit History Report as well as the Exception Report.<br><br>Note: not applicable to ABO/Rh confirmation test. | UNIT antigen typing test must be partially completed when invalidated using the red x in the upper right hand corner of the test grid. |

## User Guide Updates

This is not a comprehensive list of user guide changes. Please review the *VBECs 2.0.0 User Guide's Revision History* for additional changes to that document.

| Problem Summary  | Resolution Summary   | Validation Scenario  |
|--|--|--|
| Online Help update required to align with VBECs 2.0.0 User Guide updates.<br>CR 3519 | Online Help is updated and aligned with VBECs 2.0.0 User Guide, version 12.0.  | None provided.   |
| Accept Orders, Processing Orders<br>DR 4854  | Accept an Order, Limitations and Restrictions: Added first bullet explaining that an order for TAS must be accepted before a component order if the user wants to include the component request to the Inappropriate Transfusion Request Report. Also added second note to Step 6 explaining the same. | None provided as this is a new statement in the user guide describing unchanged system behavior. |

## User Guide Updates

This is not a comprehensive list of user guide changes. Please review the *VBECS 2.0.0 User Guide's Revision History* for additional changes to that document.

| Problem Summary   | Resolution Summary  | Validation Scenario   |
|---|---|---|
| <p>Audit Trail documentation of Transfusion requirement inactivation appears in the original division when inactivated by another division in a multidivisional VBECS configuration was not adequately explained.<br/>DR 4598</p> | <p>VBECS 2.0.0 User Guide, Maintain Patient Records section, Step 4, Notes: Edited the Transfusion Requirements note edited.</p> <p><i>When a Transfusion Requirement is inactivated in any division in a multidivisional configuration, a comment (free text or from a canned comment with the context: Transfusion Requirement Inactivation) must be added that will be saved and printed on the audit trail of originating division.</i></p> <p><i>Note: It is best practice that inactivating a TR in the non-originating division involves a consultation with the originating division and allowing the originating to make the change with any locally required documentation. This alerts the originating division of the change to the patient's TR setting if they are not consulted regarding that change.</i></p> | <p>None Provided.</p>   |
| <p>Canned Comments, subsection: Limitations and Restrictions: This statement is no longer accurate: "Comments must not contain an apostrophe."<br/>DR 4599</p>  | <p>Removed Canned Comment: "Comments must not contain an apostrophe."</p>   | <p>None Provided.</p>   |
| <p>Edit Unit Information<br/>KDA DR 2218</p>  | <p>Defined and described as a limitation. A user can change the restricted to patient associated with a split unit when it is not assigned to the patient</p>   | <p>None provided as this is a new statement in the user guide describing unchanged system behavior.</p> |
| <p>Finalize/Print TRW<br/>DR 4788</p>   | <p>Step 3: Added a third bullet stating the 1,000-character limitation in the TRW comment.</p>  | <p>None provided as this is a new statement in the user guide describing unchanged system behavior.</p> |
| <p>Issue Blood Components Section, Routine<br/>DR 4854<br/>CR 3459</p>  | <p>Limitations and Restrictions edited 6<sup>th</sup> bullet: Changing a patient's transfusion requirements (component requirements, antigen negative requirement or antibody identified) after a unit is crossmatched does not provide an alert at Issue Unit regarding the type of crossmatch (electronic or serologic) performed on a unit available for issue</p> <p>Added Additional Information: User must date all signature lines on the BTRF dating of the signatures [i.e., Inspected and issued by, Issued to, First Identifier, Second Identifier, Transfusion Data section completed by, Transfusion Reaction Data section completed by (as needed)].</p> <p>Step 2: Added a second note about error messages.<br/>Step 5: Added a seventh note stating that whole blood may not be emergency issued.</p>        | <p>None provided as this is a new statement in the user guide describing unchanged system behavior.</p> |

## User Guide Updates

This is not a comprehensive list of user guide changes. Please review the *VBECS 2.0.0 User Guide's Revision History* for additional changes to that document.

| Problem Summary   | Resolution Summary   | Validation Scenario  |
|---|--|--|
| Invalidate Test Results, Limitations and Restrictions section<br>DR 4685<br>INC 848552        | Added a fourth bullet indicating that a user should not invalidate only part of the Type and Screen (TAS), the entire battery of tests should be invalidated and re-entered, as appropriate.   | None provided as this is a new statement in the user guide describing unchanged system behavior. |
| Modify Units: Pool Units subsection Limitations and Restrictions<br>DR 4474                   | Remove the row, which contains this statement: "VBECS does not allow a user to select a pool of mixed ABO/Rh units for a patient. Instead, the user must select random units for the patient and pool the mixed ABO/Rh units to allow issue."  | None provided as this is a new statement in the user guide describing unchanged system behavior. |
| Patient Testing, General Instructions, Limitations and Restrictions<br>DR 4817                | Added fourth bullet stating that VBECS cannot compare the pending or saved test results of two or more specimens when entering test results at the same time on different specimens for the same patient.  | None provided as this is a new statement in the user guide describing unchanged system behavior. |
| Patient Updates<br>DR 4989  | The Patient Location table is updated with an ADT event. VBECS searches for the current patient location in VBECS, if VBECS has a blank location based on prior discharge; it searches to find a current CPRS (VBECS) order. If a location is found it displays. If no location is available in VBECS or in a current CPRS (VBECS) order, none will be displayed in the Patient Select Tool.   | None provided.   |
| Recent Orders<br>KDA CR 3241<br>DR 2218   | Added Step One Note, 3 <sup>rd</sup> bullet: Orders with a status of Canceled, Completed, Expired or Filled are not displayed in this view. See Order History Report.  | None provided as this is a new statement in the user guide describing unchanged system behavior. |
| Report Export associated User Guide Update:<br>DR 4607, DR 4581, DR 4589,<br>DR 4627, DR 4821 | Added section Report Exporting:<br>Reports that are not exportable are the View/Print User Roles, Pending Order List, Pending Task List, and Blood Transfusion Record Form. The Caution Tag is not a report and is not exportable.<br><br>There is a bug in MS Word that causes the message "Word cannot start the converter MSWRD632.wpc" to display when opening files in MS Word that were not created using MS Word (e.g., text file that was renamed to .doc file). This message also shows for reports exported to Word from VBECS. See the User Guide for details on how to fix this locally as required. | Appendix A: Test Scenario Group Two  |
| Reagents, Limitations and Restrictions<br>KDA CR 1486, DR 2218                                | Added a Limitation: Free text details can be added only when "Other" is selected as the canned comment.  | None provided as this is a new statement in the user guide describing unchanged system behavior. |
| Transfusion Complications Report<br>DR 4810   | Step 3: Added second note about report requiring a logged on VistA user to retrieve lab results.   | None provided as this is a new statement in the user guide describing unchanged system behavior. |

## User Guide Updates

This is not a comprehensive list of user guide changes. Please review the *VBECS 2.0.0 User Guide's Revision History* for additional changes to that document.

| Problem Summary                                     | Resolution Summary  | Validation Scenario  |
|---|---|--|
| Transfusion Effectiveness Report<br>DR 4810         | Step 4: Added second note about report requiring a logged on VistA user to retrieve lab results.  | None provided as this is a new statement in the user guide describing unchanged system behavior. |
| Transfusion Reaction Count Report<br>KDA DR 2602    | The user guide already correctly states that the user may select one or all divisions.  | None provided as this is a new statement in the user guide describing unchanged system behavior. |
| Viewing the VBECS Version Number section<br>DR 4991 | The application startup verifies that the binary build number on the app server matches the build number in the database. If it does not, display a message "The application server build is not in sync with the SQL server build. Please contact your system administrator." This check would apply to VBECS and VBECS Admin. If the system is out of sync, after displaying the message, the application will close. | None Provided.   |
| Working with Data<br>KDA CR 116, DR 2218            | Added a bullet describing normal Windows functionality that allows a user to adjust and possibly hide columns. This applies to all columns in the application.  | None provided as this is a new statement in the user guide describing unchanged system behavior. |
| Working with Data                                   | 3 <sup>rd</sup> Bullet Revised to read: Information displayed on an active window is updated with information from other options only when it is refreshed (closed and reopened).   | None provided as this is a new statement in the user guide describing unchanged system behavior. |

## Untestable System-Level Corrected Code Requests

None

## VistA Software Dependencies

- VBEC\*1\*54

This patch changes the CPRS Blood Bank Report. The CPRS Blood Bank Report will no longer display Transfusion Reaction Workup (TRW) test results (Remedy tickets INC 923654 and INC 925197). This patch will allow VBECS to retrieve only collected orders for processing (Remedy Ticket INC 948143).

This is also an Informational Patch to announce the release of VBECS 2.0.0.

## VBECS User Documents

Retrieve the following updated documents and guides from the VA Software Document Library (VDL):

See each guide's revision history for change details:

- *VistA Blood Establishment Computer Software (VBECS) 2.0.0 Technical Manual-Security Guide*
- *VistA Blood Establishment Computer Software (VBECS) 2.0.0 User Guide*

- *VistA Blood Establishment Computer Software (VBECS) 2.0.0 Known Defects and Anomalies*
- *VistA Blood Establishment Computer Software (VBECS) 2.0.0 Release Notes*

## Customer Support

### Problems?

Contact your **Local** Information Resource Management (IRM) or Laboratory Automated Data Processing Application Coordinator (ADPAC) if you encounter VistA or CPRS connection problems and for training support **before** contacting the National Help Desk.

**Problems with connectivity to VistA and CPRS may require personnel from Enterprise Operations (EO) with VBECS server administrator access and VistA IT support access.**

**Please ensure local VistA Support contact information is available at all times. EO personnel will be engaged by National Support as needed.**

**If the problem remains unresolved after local VistA triage, contact the national Information Technology (IT) support service:**

**National VA Service Desk Contact**

**REDACTED**

**National VA Service Desk Alternate Contacts**

- **REDACTED**

## References

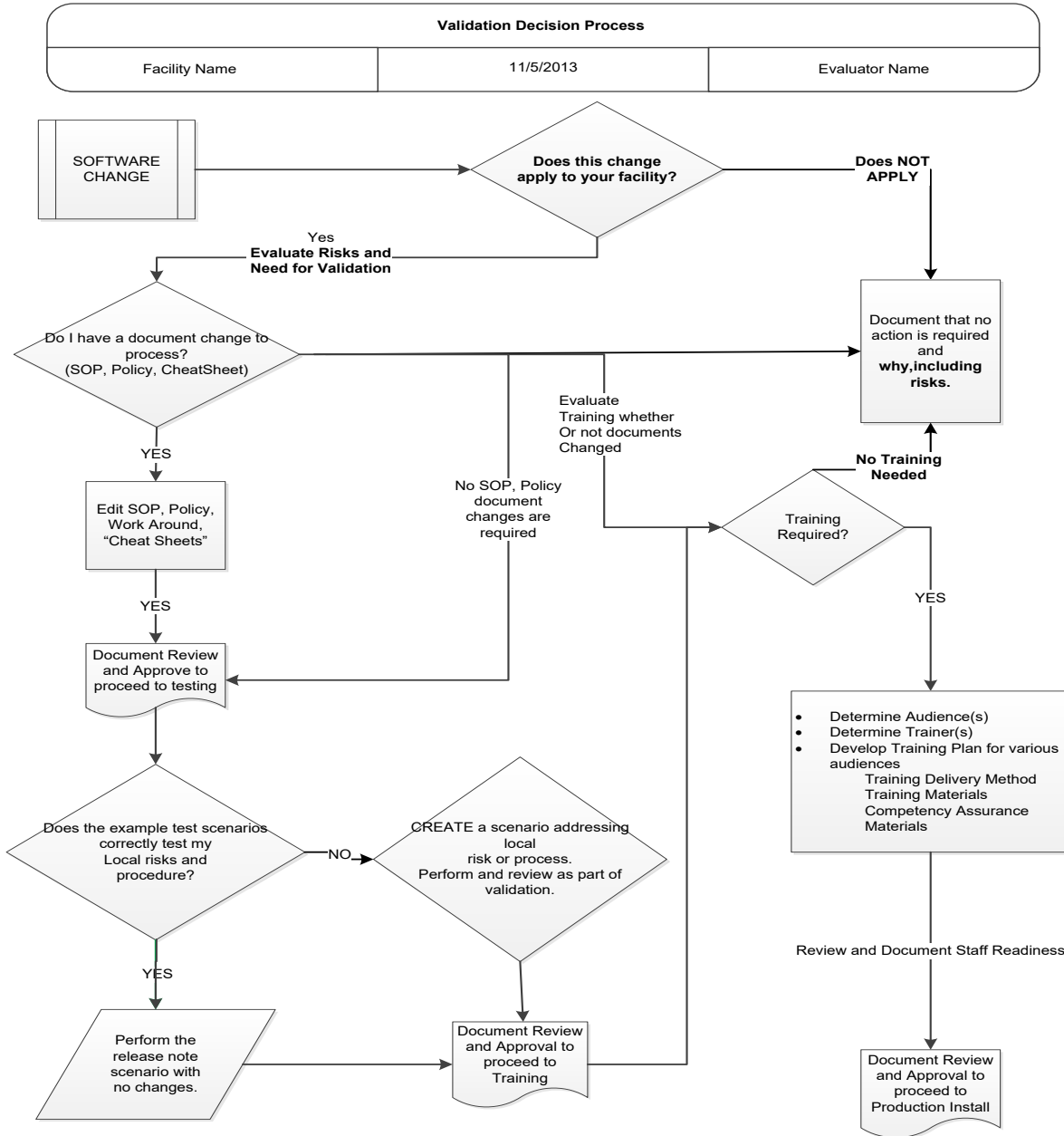
None




# Appendices

## Appendix A: Validation Planning and Example Test Scenarios

The following is a flowchart to help assess any one change and plan accordingly.



 *These are examples of test scenarios. Each site is responsible for evaluating changes for their intended use, assess risk, and for establishing additional validation test scenarios.*



## Test Scenario Group One

**Test Objective:** Demonstrate the system provides information in the new report formats as it did in 1.6.1.

**Scenario 1:** Verify that reports provide the data entered prior to the installation of 2.0.0.

Note: Refreshing your VistA test account does not change information in VBECS, so you may compare prior VBECS reports to the updated reports.

Note: When the Presumed Transfusion Background Job executes, this will update "issued" units to "presumed transfused". The reports will reflect this change in the unit's status.

|                         |   |
|-------------------------|---|
| <b>Data</b>             | Print reports from VBECS 1.6.1 to verify in VBECS 2.0.0 after data migration.<br>NOTE: Data migration is a one-time event. Changes in VBECS 1.6.1 cannot be made as the TEST database will be read only and will not accept new data after the data migration to the VBECS 2.0.0 test database. |
| <b>User</b>             | No specific user role is required.  |
| <b>Steps</b>            | <ol style="list-style-type: none"><li>1. Print the selected reports using the VBECS 2.0.0 test environment immediately after data migration.</li><li>2. Compare the same reports from VBECS 1.6.1 and VBECS 2.0.0.</li></ol>  |
| <b>Expected Outcome</b> | <ol style="list-style-type: none"><li>2. The VBECS 2.0.0 report contains the same data as the same previously printed VBECS 1.6.1 report.</li></ol>   |

## Test Scenario Group Two

(This is a Generic Test Group for testing the export of reports and may be executed for any or all reports.)

**Test Objective:** Demonstrate that the report can be exported to the designated server file.

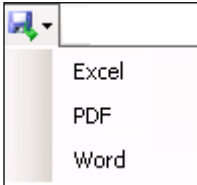
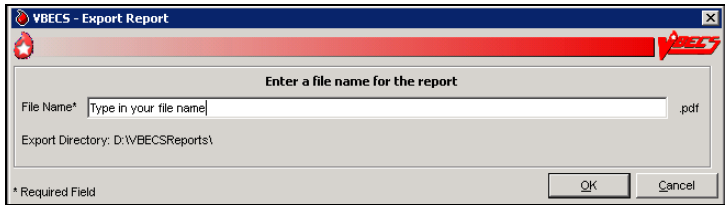
**Scenario 1 (Selected Report):** Verify that a report can be exported to the designated server file.

Note: Verify that the report folder has been configured for use and is available on your server before executing this scenario.

|             |  |
|-------------|--|
| <b>Data</b> | Create data needed to create a report or run the report, as data should be present in the system from earlier testing. |
| <b>User</b> | No specific user role is required.   |

## Test Scenario Group Two

(This is a Generic Test Group for testing the export of reports and may be executed for any or all reports.)

|   |  |
|---|--|
| <p><b>Steps</b></p>   | <ol style="list-style-type: none"> <li>1. Request the report.</li> <li>2. Click on the <b>report export</b> button in the Report Tool Bar and choose a report type.           <div data-bbox="824 415 1019 598" style="text-align: center;">  </div> </li> <li>3. Enter the name of the file to which the report will be exported, "&lt;Insert report name&gt; Test Group Two SC 1". Remove the &lt;&gt; as they are not allowed as part of a file name. For example, <i>Exception Report Test Group Two Sc1</i>.           <div data-bbox="532 716 1252 919" style="text-align: center;">  </div> </li> <li>4. Record the file name for use in Scenario 2.</li> <li>5. Click the <b>OK</b> button to process the export.</li> </ol> |
| <p><b>Expected Outcome</b></p>  | <ol style="list-style-type: none"> <li>1. The <b>export</b> button is enabled and presents the three report types for export, .xls, .pdf, and .doc.</li> <li>5. The report success message is displayed with the file name, which shows the complete path.</li> </ol>  |
| <p><b>Scenario 2 (Selected Report):</b> Verify that an exported report server file may be viewed using the shortcut to the server report folder and may be optionally moved to a local shared drive for processing.</p> <p>Note: There are no viewers installed on the VBECs server. The shortcut allows the files to be opened on the local PC using the processing application (e.g. WORD, EXCEL, or ADOBE).</p> <p>The instructions as to how to move the file from the server location are not included. This is based on local policy, procedure and user access. Personnel able to access the server folder must be locally trained to maintain privacy and security of the records, which may or may not include patient data.</p> |  |
| <p><b>Data</b></p>  | <p>The exported report file created on the server by executing Scenario 1.</p>   |
| <p><b>User</b></p>  | <p>No specific user role is required but the user must have local access to the drive and folder.</p>  |
| <p><b>Steps</b></p>   | <ol style="list-style-type: none"> <li>1. On a workstation with the shortcut to the server folder, using Windows Explorer, locate the file created in Scenario 1.</li> <li>2. Select the file.</li> <li>3. Open the file.</li> <li>4. Proceed to save the file to the local shared location.</li> </ol>  |
| <p><b>Expected Outcome</b></p>  | <ol style="list-style-type: none"> <li>3. The file may be opened.</li> <li>4. The file is saved to the local file/folder location.</li> </ol>  |

## Test Scenario Group Three

**Test Objective:** Demonstrate that the system will allow the selected user role to perform normal workflow activities as they did in 1.6.1 and earlier.

**Scenario 1 (Normal Workflow):** Verify that your daily practices testing executes in VBECS 2.0.0 as it did in VBECS 1.6.1.

Your local test plan will demonstrate that the system will perform normal, uncomplicated daily work per your local policies, procedures and local validation plan that may include:

- Accessing VBECS via Remote Desktop Connection (Logon, File: Change Division).
- Login to VistALink at initial sign in and Reconnect VistALink for the required options (various).
- Configurations are as previously set (Tools: Antibodies, Canned Comments, Component Classes, MSBOS, Transfusion Complications, Transfusion Effectiveness, View or Update User Roles, Workload Codes, Configure Division).
- Entry of daily Quality Control (QC) per site's configuration (Reagents: Enter Daily QC, Configure Daily QC).
- Entry of Blood Components per site's configuration of Suppliers and Products (Shipments: Incoming Shipment, Tools: Blood Products, Tools: Local Facilities).
- Entry of ABO-Rh confirmation (ABO/Rh Confirmation, from both Blood Unit and Shipment menu options).
- Displays signed CPRS orders in VBECS with or without VistA accessioning (Orders, Accept Orders).
- Acceptance of test and component orders after VistA accessioning (Orders, Accept Orders, Maintain Specimen).
- Performing a Patient History check (various options).
- Perform a Type and Screen test set per local configuration (Patients: Patient Testing).
- Select blood components for current orders (Blood Units: Select Units).
- Perform crossmatch tests: Electronic and serologic variations (Blood Units: Select Units).
- Printing BTRF and Caution Tag forms (multiple menu paths).
- Blood Unit modifications configured onsite, including Thawing Fresh Frozen Plasma (Blood Units: Modify Units, Tools: Supplies).
- Issue of fully tested blood components (Patients: Issue Blood Components).
- Return of previously issued blood components (Return Issued Units to Blood Bank either menu path).
- Release from assignment of a blood component (Release Units from Assignment either menu path).
- Final disposition of issued blood components (Patients: Post Transfusion Information).
- Disposition of units not transfused [Blood Units: Discard or Quarantine (Release of Quarantine), Shipments: Outgoing Shipment).
- Entry of Direct Antiglobulin Testing (Patients: Patient Testing).
- Report data from these actions is available for retrieval.

|                         |   |
|-------------------------|---|
| <b>Data</b>             | Retrieve your local daily practices testing script(s) output as executed in VBECS 1.6.1. Set up all data, as instructed and execute your local daily practices test scripts using VBECS 2.0.0 test environment. |
| <b>User</b>             | User role as specified  |
| <b>Steps</b>            | 1. User processes normal daily work in VBECS.   |
| <b>Expected Outcome</b> | 1. User accesses VBECS and performs work as expected.   |

## Test Scenario Group Three

**Scenario 2 (Non-Standard workflows):** Verify that your non-standard work testing executes in VBECS 2.0.0 as it did in VBECS 1.6.1.

Your local test plan will demonstrate that the system will perform normal complicated, or possibly role restricted work per your local policies, procedures and local validation plan that may include:

- Entry of Special Instructions and Transfusion Requirements based on findings of a Remote Data check or VistA Legacy record check (Patients: Special Instructions and Transfusion Requirements).
- Selection and issue of blood components for Emergency Issue processing (Orders: Accept Orders, Blood Units: Select Units, Patients: Issue Blood Components).
- Entry of various overrides by each security role enabled at site: (Technologist, Enhanced Technologist, Lead Technologist, Traditional Supervisor, Enhanced Supervisor, and Administrator/Supervisor) used to provide blood components for transfusion (various).
- Acceptance and processing of a component order without the required specimen (Orders: Accept Orders, Patients: Issue Blood Component).
- Association of a specimen with an emergency processed component order (Blood Units: Select Unit).
- Entry of Antibody Identification (Patients: Patient Testing, and Special Instructions and Transfusion Requirements).
- Entry of patient antigen typing (Patients: Patient Testing, Orders: Order Reflex Tests).
- Entry of blood component antigen typing (Blood Units: Unit Antigen Typing, Edit Unit Information).
- Entry and finalization of a Transfusion Reaction Workup (Patients: Patient Testing, Reports: Finalize/Print TRW).
- Correction of patient tests (Patients: Invalidate Test Results, Patient Testing).
- Correction of blood component tests (Blood Units: Edit Unit Information).
- Use of the supervisory options (Supervisor: Document ABO Incompatible Transfusion, Justify ABO/Rh Change, and Remove Final Status).
- Report data from these actions is available for retrieval.

|                         |   |
|-------------------------|---|
| <b>Data</b>             | Retrieve your local copy of the non-standard practices testing output as executed in VBECS 1.6.1. Set up all data as instructed to execute your local non-standard practices testing using VBECS 2.0.0. |
| <b>User</b>             | User role as specified  |
| <b>Steps</b>            | 1. User processes overrides and exceptions encountered in daily work in VBECS   |
| <b>Expected Outcome</b> | 1. User accesses VBECS overrides and performs work as expected in VBECS.  |

## Test Scenario Group Four

**Test Objective:** Demonstrate that the Unit History Report's Incoming Shipment record contains Special Testing information added after the user clicks NO to the confirmation message.

Note: Due to KDA CR 1932, the information on a re-entered unit does not display on the report section. Please review in Blood Units, Edit Unit Information.

**Scenario 1 (Normal Workflow):** Verify that the added special testing information is saved when the user has added information after the save button has been clicked once and the confirmation window response was "no".

|                         |   |
|-------------------------|---|
| <b>Data</b>             | None required.  |
| <b>User</b>             | No specific user role is required.  |
| <b>Steps</b>            | <ol style="list-style-type: none"> <li>Shipments, Incoming Shipment, select an existing invoice or create a new invoice. The Labeling type may be either or both Codabar or ISBT 128 format.</li> <li>Enter minimal required information (Unit ID, Product Code, ABO/Rh, Expiration Date) for a new RED BLOOD CELL unit to enable the save button with no Special Testing indicated.</li> <li>Click the <b>Save</b> button. The VBECS Confirmation window appears (<i>? Are you sure you want to add this unit, by clicking Yes, you acknowledge that you inspected this unit and that it is satisfactory.</i>)</li> <li>Click the <b>No</b> button on the confirmation window. The window closes and the unit record is displayed and available for changes.</li> <li>Add Special Testing to the unit. (CMV Negative, SC Negative and/or RBC Antigens)</li> <li>Click the <b>Save</b> button. The VBECS Confirmation window appears.</li> <li>Click the <b>Yes</b> button on the confirmation window.</li> </ol> |
| <b>Expected Outcome</b> | 7. The unit information displays in the list at the bottom of the window with the indicated special testing information as entered in Step 5.   |
| <b>Reports</b>          | <p>7. The Unit History report, Incoming Shipment section displays the entered information including the Special Testing information.</p> <p>The unit's Special Testing information may also be verified by reviewing the unit's information in Blood Units, Edit Unit Information that does not have a print option. Save a screen shot of the updated unit record for your validation documentation.</p>   |

## Test Scenario Group Five

**Test Objective:** Demonstrate the changes described in **Appendix B: Patient ABO/Rh Test System Response** that the system response in rows 12 and 14 does not allow the software to save the ABO/Rh test with those specific conditions.

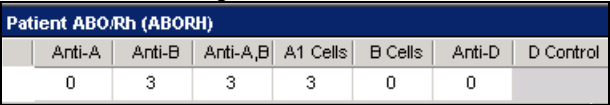
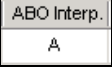
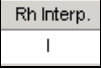


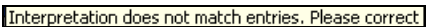
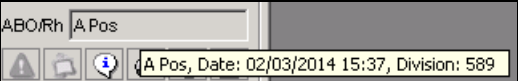
**Note:** The intent of this scenario's group is to enter a set of reaction results that are invalid for the ABO or Rh test and an Inconclusive interpretation for the other confirming that VBECS will not allow the invalid interpretations to be saved.

- Each example is for a patient with a specific blood type to create an invalid pattern related to historic information
- The configuration of your local testing grid may differ from the example presented but should use the specified blood type comparison.
- Tool tips used in verification display when hovering over the testing grid, not the disabled OK button.
- Repeat if necessary with different blood group and type records.

## Test Scenario Group Five

**Scenario 1:** Verify the software change for the system response for row 12:

- Historic (Previous test) ABO/Rh record: NR
- User Entered ABO interpretation: INVALID interpretation entered (Does not match the Historic or valid entry pattern)
- User Entered Rh Interpretation: Inconclusive

|   |   |
|---|---|
| <b>Data</b>   | <ol style="list-style-type: none"> <li>1. Create a CPRS ABO/Rh test order for a patient with NO previous VBECS ABO/Rh test or database conversion records.</li> <li>2. Accession the ABO/Rh order in VistA Lab.</li> <li>3. Accept the ABO/Rh order in VBECS.</li> </ol>  |
| <b>User</b>   | No specific user role is required.  |
| <b>Steps</b>  | <ol style="list-style-type: none"> <li>1. Select the ABO/Rh test order in Patient Testing; proceed to the ABO/Rh testing grid.</li> <li>2. Enter a result pattern for a valid B Negative.</li> </ol>  <ol style="list-style-type: none"> <li>3. Enter the ABO interpretation as A. </li> <li>4. Enter the Rh interpretation as I (Inconclusive). </li> </ol> |
| <b>Expected Outcome</b>   | <ol style="list-style-type: none"> <li>4. The row validation icon appears as a red E. </li> <li>4. The OK button is disabled. </li> <li>4. The tool tip message is available: <i>Interpretations does not match entries. Please correct.</i><br/></li> </ol>   |
| <b>Reports</b>  | None.   |
| <p><b>Scenario 2:</b> Verify the software change for the system response for rows 12:</p> <ul style="list-style-type: none"> <li>• <u>Historic (Previous VBECS test) ABO/Rh record:</u> Valid and not discrepant with previous typing</li> <li>• <u>User Entered ABO interpretation:</u> INVALID interpretation entered (<i>Does not match the Historic blood Group or the valid reaction result pattern</i>)</li> <li>• <u>User Entered Rh Interpretation:</u> I (Inconclusive)</li> </ul> <p>Note: The previous blood type record must be from a previous VBECS blood test record, not database conversion as the most recent previous historic record.<br/>This example is written for a patient with a blood type of Group AB, Rh Negative. Repeat as required; comply with the testing conditions.</p> |   |
| <b>Data</b>   | <ol style="list-style-type: none"> <li>1. Create a CPRS ABO/Rh test order for a patient with a previous VBECS ABO/Rh (test) record. In this example, the patient's historic record is A Pos.</li> </ol>  <ol style="list-style-type: none"> <li>2. Accession the ABO/Rh order in VistA Lab.</li> <li>3. Accept the ABO/Rh order in VBECS.</li> </ol>  |
| <b>User</b>   | No specific user role is required.  |



## Test Scenario Group Five

| <p><b>Steps</b></p>   | <ol style="list-style-type: none"> <li>1. Select the ABO/Rh test order in Patient Testing; proceed to the ABO/Rh testing grid.</li> <li>2. Enter a result pattern for a valid AB Negative.</li> </ol> <table border="1" data-bbox="586 359 1203 464"> <thead> <tr> <th colspan="8">Patient ABO/Rh (ABORH)</th> </tr> <tr> <th>Anti-A</th> <th>Anti-B</th> <th>Anti-A,B</th> <th>A1 Cells</th> <th>B Cells</th> <th>Anti-D</th> <th>D Control</th> <th></th> </tr> </thead> <tbody> <tr> <td>3</td> <td>4</td> <td>3</td> <td>0</td> <td>0</td> <td>0</td> <td></td> <td></td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Enter the ABO interpretation as B (invalid). <input type="text" value="ABO Interp. B"/></li> <li>4. Enter the Rh interpretation as I (Inconclusive). <input type="text" value="Rh Interp. I"/></li> </ol>                     | Patient ABO/Rh (ABORH) |          |         |        |           |  |  |  | Anti-A | Anti-B | Anti-A,B | A1 Cells | B Cells | Anti-D | D Control |  | 3 | 4 | 3 | 0 | 0 | 0 |  |  |
|---|---|------------------------|----------|---------|--------|-----------|--|--|--|--------|--------|----------|----------|---------|--------|-----------|--|---|---|---|---|---|---|--|--|
| Patient ABO/Rh (ABORH)  |   |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| Anti-A  | Anti-B  | Anti-A,B               | A1 Cells | B Cells | Anti-D | D Control |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| 3   | 4   | 3                      | 0        | 0       | 0      |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| <p><b>Expected Outcome</b></p>  | <ol style="list-style-type: none"> <li>4. The row validation icon appears as a red E. <input type="text" value="E"/></li> <li>4. The OK button is disabled. <input type="button" value="OK"/></li> <li>4. The tool tip message is available: <i>Interpretations does not match entries. Please correct.</i><br/><input type="text" value="Interpretation does not match entries. Please correct"/></li> </ol>   |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| <p><b>Reports</b></p>   | <p>None.</p>  |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| <p><b>Scenario 3:</b> Verify that the software change for the system response for row 14 is working as expected for a patient with an ABO/Rh historic record of NR.</p> <ul style="list-style-type: none"> <li>• <u>Historic (Previous test) ABO/Rh record:</u> NR</li> <li>• <u>User Entered ABO interpretation:</u> "Inconclusive" interpretation entered</li> <li>• <u>User Entered Rh Interpretation:</u> Invalid interpretation entered</li> </ul> |   |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| <p><b>Data</b></p>  | <ol style="list-style-type: none"> <li>1. Create a CPRS ABO/Rh test order for a patient with NO previous VBECS ABO/Rh test or database conversion records.</li> <li>2. Accession the ABO/Rh order in VistA Lab.</li> <li>3. Accept the ABO/Rh order in VBECS.</li> </ol>  |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| <p><b>User</b></p>  | <p>No specific user role is required.</p>   |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| <p><b>Steps</b></p>   | <ol style="list-style-type: none"> <li>1. Select the ABO/Rh test order in Patient Testing; proceed to the ABO/Rh testing grid.</li> <li>2. Enter a result pattern for a valid A Negative.</li> </ol> <table border="1" data-bbox="607 1257 1182 1354"> <thead> <tr> <th colspan="8">Patient ABO/Rh (ABORH)</th> </tr> <tr> <th>Anti-A</th> <th>Anti-B</th> <th>Anti-A,B</th> <th>A1 Cells</th> <th>B Cells</th> <th>Anti-D</th> <th>D Control</th> <th></th> </tr> </thead> <tbody> <tr> <td>4</td> <td>0</td> <td>X</td> <td>0</td> <td>3</td> <td>0</td> <td></td> <td></td> </tr> </tbody> </table> <ol style="list-style-type: none"> <li>3. Enter the ABO interpretation as I (Inconclusive). <input type="text" value="ABO Interp. I"/></li> <li>4. Enter the Rh interpretation as P (positive, which is invalid). <input type="text" value="Rh Interp. P"/></li> </ol> | Patient ABO/Rh (ABORH) |          |         |        |           |  |  |  | Anti-A | Anti-B | Anti-A,B | A1 Cells | B Cells | Anti-D | D Control |  | 4 | 0 | X | 0 | 3 | 0 |  |  |
| Patient ABO/Rh (ABORH)  |   |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| Anti-A  | Anti-B  | Anti-A,B               | A1 Cells | B Cells | Anti-D | D Control |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| 4   | 0   | X                      | 0        | 3       | 0      |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| <p><b>Expected Outcome</b></p>  | <ol style="list-style-type: none"> <li>4. The row validation icon appears as a red E. <input type="text" value="E"/></li> <li>4. The OK button is disabled. <input type="button" value="OK"/></li> <li>4. The tool tip message is available: <i>Interpretations does not match entries. Please correct.</i><br/><input type="text" value="Interpretation does not match entries. Please correct"/></li> </ol>   |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |
| <p><b>Reports</b></p>   | <p>None.</p>  |                        |          |         |        |           |  |  |  |        |        |          |          |         |        |           |  |   |   |   |   |   |   |  |  |

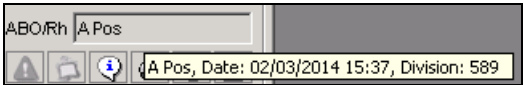
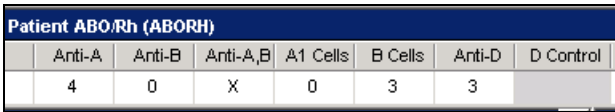

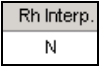

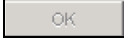
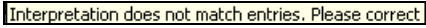
## Test Scenario Group Five

**Scenario 4:** Verify that the software change for the system response for rows 14 is working as expected for a patient with a valid ABO/Rh historic record of group A, B, AB or O.

- Historic (Previous test) ABO/Rh record: Valid and not discrepant with previous VBECS typing.
- User Entered ABO interpretation: Inconclusive interpretation entered
- User Entered Rh Interpretation: INVALID interpretation entered, does not match the Hx, or valid entry pattern

Note: The previous blood type record must be from a previous VBECS blood test record, not database conversion as the most recent previous historic record.

This example is for a patient with a blood type of Group A, Rh Positive. Repeat as required complying with the testing conditions.

|                                |   |
|--------------------------------|---|
| <p><b>Data</b></p>             | <p>1. Create a CPRS ABO/Rh test order for a patient with a previous VBECS ABO/Rh (test) record. In this example, the patient's historic record is A Pos.</p>  <p>2. Accession the ABO/Rh order in VistA Lab.<br/>3. Accept the ABO/Rh order in VBECS.</p>   |
| <p><b>User</b></p>             | <p>No specific user role is required.</p>   |
| <p><b>Steps</b></p>            | <p>1. Select the ABO/Rh test order in Patient Testing; proceed to the ABO/Rh testing grid.<br/>2. Enter a result pattern for a valid A Positive.</p>  <p>3. Enter the ABO interpretation as I (Inconclusive).</p>  <p>4. Enter the Rh interpretation as N (Invalid).</p>  |
| <p><b>Expected Outcome</b></p> | <p>4. The row validation icon appears as a red E. </p> <p>4. The OK button is disabled. </p> <p>4. The tool tip message is available: <i>Interpretations does not match entries. Please correct.</i><br/></p>   |
| <p><b>Reports</b></p>          | <p>None.</p>  |

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## Appendix B: Patient ABO/Rh Test System Response

This table describes system responses when evaluating the matches between the historic ABO/Rh system interpretations and user entered interpretations. **The software change is limited to correcting the system response, which was incorrectly allowing the user to process an override and save invalid test results and interpretations.**

**Table 1: Truth Table Rows**

| ABO/Rh Test Consolidated Expected System Responses |  |                 |  |  |   |
|--|--|-----------------|--|--|---|
| Historic<br>(Previous test)<br>ABO/Rh record       | VBECS interpretation of the entered result pattern (not visible on screen to the user) |                 | User Entered   |  | Expected System Response                            |
|  | ABO result entry   | Rh result entry | ABO interpretation   | Rh Interpretation  |   |
| NR or same as VBECS interpretation                 | Valid (A, B, AB, O)  | Valid (P or N)  | <b>INVALID interpretation entered, does not match the Hx, or valid entry pattern</b> | Inconclusive   | Row validation fails. No override. Cannot be saved. |
| NR or same as VBECS interpretation                 | Valid (A, B, AB, O)  | Valid (P or N)  | Inconclusive (I)   | <b>INVALID interpretation entered, does not match the Hx, or valid entry pattern</b> | Row validation fails. No override. Cannot be saved. |

\*See VBECS 2.0.0 User Guide: Alerts Table 1: Alerts That May Occur in Patient Testing: General Instructions, User Action Step 6: When the ABO/Rh interpretation matches observed results, is not inconclusive, and does not match the patient's historic ABO/Rh (if any, including from database conversion), VBECS emits an audible alert, warns that the current ABO/Rh does not match previous results, and instructs the user to enter a comment to continue, or click **Cancel** to clear the ABO/Rh testing results and interpretation from the screen. VBECS captures details for inclusion in an Exception Report (exception type: ABO/Rh discrepancy).

**Table 2: Examples of Rows in Table 1**

| Examples: The ABO or Rh interpretation is invalid because it does not match either the historic or the system interpretation. |  |                 |                    |                   |   |
|---|--|-----------------|--------------------|-------------------|---|
| Historic<br>(Previous test)<br>ABO/Rh record  | VBECS interpretation of the entered result pattern (not visible on screen to the user) |                 | User Entered       |                   | Expected System Response                                |
|   | ABO result entry   | Rh result entry | ABO interpretation | Rh Interpretation |   |
| A Neg   | B  | N               | O                  | Inconclusive      | ABO Row validation fails. No override. Cannot be saved. |
| NR  | Inconclusive   | P               | Inconclusive       | N                 | Rh Row validation fails. No override. Cannot be saved.  |

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