VBECS Data Conversion Recommended Validation Method

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Department of Veterans Affairs
Office of Enterprise Development

VBECS Data Conversion Recommended Validation Method

New Version Number	Date of Revision	Description of Revision	Author
1.0	3/4/2005	Initial Version of Calculations and Workbook Functionality Worksheets	BBM team
2.0	4/11/2005	Added Protection on cells, added password to macro, updated Step 1 on the Calculations worksheet, and the Password Protection section was add to the Workbook Functionality worksheet.	BBM team
3.0	2/15/2007	Updated instructions to match instructions in *Blood Bank Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide* . Reformatted heading rows, etc.	BBM team
4.0	1/4/2008	Changed all instances of DUZ to DFN.	BBM team
5.0	1/5/2009	Added Cover Page	BBM team

The verification of VistA records transferred to VBECS is an integral step in the VBECS validation process. Instructions for using a statistical sampling method are included in the *Pre-Implementation Data Validation, Mapping, and Conversion Installation and User Guide* as a starting point for validating a successful database conversion. Each site must evaluate the VBECS Data Conversion Recommended Validation Method for use and recognize that further validation will be necessary in certain situations.

Step	VBECS Data Conversion Recommended Validation Method Instructions	Enter Lot Size in Yellow Cell / Generated Number of Samples to Be	Sample Size Count	Patient Data Report Row Number	DFN Numbers	Place Check Here
1	Open *VBECS Data Conversion Recommended Validation Method* (Excel workbook).	1	1	1		
2	If the "Macros are disabled because the security level is set to High" message appears, click **Tools**, **Macro**, **Security**. Select the **Security Level tab**. Click the **Medium radio button**. Click **OK** and close the workbook. Reopen the workbook and click **Enable Macros** in the Security Warning dialog box. Keep the workbook open.	1	2			
3	Select the **Calculations worksheet**. The Calculations worksheet identifies a random set of numbers used to inspect the accuracy of the VistA-to-VBECS data conversion.		3			
4	Open *Patient_Data_Report* (Excel workbook). Press **Ctrl + End** to view the last entry. The row number of the last entry in the first column represents the total number of records converted (lot size).		4			
5	Return to *VBECS Data Conversion Recommended Validation Method* .		5			
6	Enter the lot size in Cell C4 (highlighted in yellow; default is "1,234"). Press the **Enter key** to generate the number of samples to be inspected (Cell C5, highlighted in blue) and random patient data report row numbers (Column E).		6			
7	Print the Calculations worksheet.		7			
8	Note the first entry in the Patient Data Report Row Number column (Column E).		8			
9	In *Patient_Data_Report* , find the row number that matches the Patient Data Report Row Number entry.		9			
10	Copy the DFN number from this row in Column A of Patient_Data_Report to the DFN Number cell corresponding to the row number in Column F in the Calculations worksheet.		10			
11	Find this DFN number in the other Excel worksheets generated by the conversion (located in C:\DBCONV\ on the system where the conversion took place) to locate associated records: Data_Comparison.XLS, Patient_Antibodies_Identified.XLS, Patient_Data_Report.XLS, Patient_Special_Instruction_Report.XLS, Patient_Test_Report.XLS, Patient_Transfusion_Comment_Report.XLS, Patient_Transfusion_Data.XLS.		11			
12	Compare the converted data in the Excel worksheets with the original VistA data.		12			

Step	VBECS Data Conversion Recommended Validation Method Instructions	Enter Lot Size in Yellow Cell Generated Number of Samples to Be	Sample Size Count	Patient Data Report Row Number	DFN Numbers	Place Check Here
13	Find the DFN number to locate associated records. (The patient DFN is the first column in all workbooks.) Compare them with their VistA data.		13			
14	When all data for a record are inspected and no errors found, insert a check mark in the No Errors Found column (Column G) in *VBECS Data Conversion Recommended Validation Method* .		14			
15	Select the next patient data report row number from the Calculations worksheet and verify each data element. Continue until data for all rows in Column E are inspected.		15			
	When all records are validated and found to be correct, the validator fills in the cells in Rows 20–23:		16			
	Inspected by (print):		17			
	Signature:		18			
	Title:		19			
16	Date:		20			
			21			
			22			
			23			
			24			
			25			
			26			
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			28			
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			35			

Workbook Functionality

Definitions and Strategy

Acceptable Quality Level (AQL): the maximum percentage of defects determined to be tolerable. This plan uses 1% (a commonly used value).
Lot size: the total number of converted records, which varies by medical center.
Sample: a subset of the lot size.
Random sample: a representative sample of the lot size, each of whose members has an equal chance of being selected without bias.
Zero acceptance number sampling plan: The number of random samples in this plan (see the Zero-Based Acceptance Sampling Plan table), based on output from the data conversion software, is determined by AQL, lot size, and "0" as the acceptance number (no defects are allowed). Blood Bank personnel will use these numbers to inspect the accuracy of the VistA-to-VBECS data conversion. If a defect is found, the lot is invalid and the data conversion and validation must be repeated.

Process

The user enters the lot size in Cell C4 of the Calculations worksheet. The Background Information table in the Calculations worksheet includes the portion of the Zero-Based Acceptance Sampling Plan table that corresponds to an AQL of 1%. The Excel VLOOKUP function reads the Background Information table (highlighted in green). (Note: the Lot Size Column is hidden.) A Visual Basic for Applications (VBA) script uses the Excel RAND function to generate a set of random numbers, sort them, and write them in the Patient Data Report Row Number column (Column E).

Protection

The worksheets and the Visual Basic macro in this workbook are protected from unintended changes by a password, "Random" (case sensitive).

Revision History

See the Revision History worksheet.

ZERO-BASED ACCEPTANCE SAMPLING PLAN

Notes: (1) An "A" in a cell indicates that the entire lot must be Inspected. (2) An AQL of 1.0% is suggested when one is not specified.

	Acceptable Quality Level (AQL)															
LOT SIZE	**0.01%**	**0.02%**	**0.03%**	**0.04%**	**0.07%**	**0.10%**	**0.15%**	**0.25%**	**0.40%**	**0.65%**	**1.00%**	**1.50%**	**2.50%**	**4.00%**	**6.50%**	**10.00%**
	Sample Size															
1-8	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	5	3	2	2
9-15	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	13	8	5	3	2	2
16-25	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	20	13	8	5	3	3	2
26-50	***A***	***A***	***A***	***A***	***A***	***A***	***A***	***A***	32	20	13	8	5	5	5	2
51-90	***A***	***A***	***A***	***A***	***A***	***A***	80	50	32	20	13	8	7	6	5	4
91-150	***A***	***A***	***A***	***A***	***A***	125	80	50	32	20	13	12	11	7	6	5
151-280	***A***	***A***	***A***	***A***	200	125	80	50	32	20	20	19	13	10	7	6
281-500	***A***	***A***	***A***	315	200	125	80	50	48	47	29	21	16	11	9	7
501-1200	***A***	800	500	315	200	125	80	75	73	47	34	27	19	15	11	8
1201-3200	1250	800	500	315	200	125	120	116	73	53	42	35	23	18	13	9
3201-10,000	1250	800	500	315	200	192	189	116	86	68	50	38	29	22	15	9
10,001-35,000	1250	800	500	315	300	294	189	135	108	77	60	46	35	29	15	9
35,001-150,000	1250	800	500	490	476	294	218	170	123	96	74	56	40	29	15	9
150,001-500,000	1250	800	750	715	476	345	270	200	156	119	90	64	40	29	15	9
500,001 & Over	1250	1200	1112	715	556	435	303	244	189	143	102	64	40	29	15	9