Blood Components Database for the Recipient Epidemiology and Donor Evaluation Study-III (REDS-III)

Documentation for Public Use Data files

The objectives of the Recipient Epidemiology and Donor Evaluation Study-III (REDS-III) program are to ensure safe and effective blood banking and transfusion medicine practices through a comprehensive, multifaceted strategy involving basic, translational, and clinical research to improve the benefits of transfusion while reducing its risks. REDS-III was funded by the National Heart, Lung and Blood Institute of NIH.

Participants in the domestic component of the REDS-III program included:

- Four blood centers and 12 associated hospitals
  - Blood Center of Wisconsin
    - Froedtert Hospital, Milwaukee, WI
    - Marshfield Clinic
    - Saint Joseph's Ministry Hospital, Milwaukee, WI
    - Aurora Saint Luke's/Aurora Sinai Hospitals, Milwaukee, WI
  - Blood Centers of the Pacific
    - San Francisco General Hospital, San Francisco, CA
    - SF Veterans Administration Medical Center, San Francisco, CA
  - Institute for Transfusion Medicine
    - Presbyterian Hospital, Pittsburg, PA
    - Shadyside Hospital, Pittsburg, PA
    - St. Margaret's Hospital, Pittsburg, PA
  - American Red Cross Blood Services - New England Region
    - Yale-New Haven Hospital, New Haven, CN
    - Bridgeport Hospital, Bridgeport, CN
- A data coordinating center (DCC)
  - RTI International; and
- A central laboratory
  - Blood Systems Research Institute in San Francisco

To meet the objectives of REDS-III data were collected to produce three sets of core files. The donor/donation files contain information on attempted and successful donations of whole blood and blood products, as well as deferrals and the reasons for them. The component files contain information on processing of donated blood and blood products, such as separation of whole blood into red blood cells, platelets and plasma, as well as treatments, such as irradiation or leukocyte reduction. The transfusion recipient files contain information on both inpatient and outpatient transfusion recipients, such as type of product transfused, number of units transfused each day, and adverse outcomes for transfused patients. The three sets of core files were converted into three separate sets of public use files. One goal in REDS-III was to be able to link transfusion recipients to blood donations and blood processing records to permit studies of the effects of donor characteristics and component processing on transfusion outcomes. The ability to link the files has been preserved in the public use files. Users may also be interested in investigations that require only one or two of the core databases. The files are structured to support such analyses as well. The remainder of this document is a discussion of the blood components files data and associated public use files.

The data collection process.

Shortly after REDS-III began, a working group of REDS-III investigators, DCC staff and representatives from NHLBI was assembled to develop the specifications for the data to be collected. Plans for the components database called for collecting data in six tables. The data in four tables were obtained from the four blood centers while data in the remaining two tables were obtained from transfusion services at the participating hospitals. The six tables are:

- tbl_Comp_Components – Blood Center components data
- tbl_Comp_Donations_BC – Blood Center donation data
- tbl_Comp_ComponentsPooled_BC – Contains information for linking pooled components to donations
- tbl_Comp_TransfusionService – Hospital Transfusion Services (manufactured products) data
- tbl_Comp_ProductsPooled_TS – Hospital Transfusion Services pooled products
- tbl_Comp_Imports – Components imported from other entities into blood centers

Specifications for the tables are provided in the appendix.

The specifications for the data to be extracted from blood center records were sent to programmers at the hubs and hospitals. The programmers then developed extraction programs to pull the required data from the data management systems at the hubs. Data from the first quarter of 2013 were extracted for submission to the DCC. The data were reviewed at the hospitals before submission as an initial check against the specifications for data extraction provided by the DCC. The files were transmitted to the DCC through a secure portal that the DCC provided for this purpose. Further validation took place at the DCC, such as checks for duplicate records, range checks and value checks to make sure the values matched those allowed in the data dictionary. A report of the results of the checks was produced and sent to each hub or hospital for review. The programmers made any necessary changes to the extraction programs and sent revised data tables to the DCC for inspection and validation. Once this process was complete, data from the second quarter of 2013 were extracted and submitted to the DCC. The data were compared against data from the first quarter to ensure consistent application of the extraction rules.

Subsequent data collection involved extracting data using the same extraction program; reviewing data at the hub; uploading the data through the secure portal; reviewing data at the DCC as described above, with queries back to the hub if needed; and loading the approved data into the donor database. The process of comparing data from a given quarter against data from previous quarters to ensure consistency of extraction continued throughout the data collection period. The final datasets included records from July 2012 through December 2016.

Changes to the data

The process of de-identifying the files involved replacing some variables and deleting others, as described below.

The component data files included several identifiers: donor ID, donation identification number (DIN), hub and/or hospital ID and the product key. Donor ID, DIN, hub ID and hospital ID were replaced with random numbers. The replacement variables are DonorID_Random, DIN_Random, CenterID_Random, and HospitalCode_Random, respectively.

To preserve the ability to link records and cluster encounters within donor, all occurrences of a given value for one of the identifiers were replaced with the same random number. To preserve the ability to link component records to records in the donor/donation database, the random replacements for the donor ID, DIN and blood center in the donor files was also used to replace the corresponding values in the components files. In some cases, the DIN matched a DIN in the recipient files but not in the donor files. The DIN in the components files was replaced with the value that was used in the recipient files where this occurred.

The product key, found in five of the six tables, contained the DIN, the product code and, in some cases, the division code. The DIN and product code were separated into two fields. The product code is the code for type of component donated or produced from the donation. The division code identifies multiple products that have the same DIN. For example, if a whole blood donation is split into red blood cells, platelets and plasma, then the three components would have the same DIN but different product codes and division codes. The three parts of the product key were separated into three separate variables. There are numerous instances in which the DIN embedded in the product key does not match the DIN listed separately on the same record. For example, in the two tables of data from pooled products, the separate DIN is the DIN assigned to the donation that was included in a pool while the DIN embedded in the product key is the DIN assigned to the pooled product. Because of these mismatches, the DIN extracted from the product key was replaced in all five tables with a random number labeled DIN_PK_Random with PK included to reflect extraction from the product key.

The user should be aware that the blood center that supplied a product to the hospital may not be the point of origin of that product. Some of the blood centers involved in REDS-III imported some blood products from other domestic blood centers. The records for imported products are provided in tbl_COMP_imports. The users of the data on imported blood products need to be aware of two features of the data. First, the donor/donation database does not include records for the imported blood products. Thus, a user who wishes to use complete donation data should request both the donor/donation files and the imports table from the component files. Both should be requested, for example, for an analysis that involves linking donors to recipients to determine if donor characteristics affect transfusion outcome. Second, the imports tables does not include information on screening for HIV, hepatitis C or the other pathogens that are included in the screening information in the donor/donation data. All imported units screened negative for the pathogens listed in the donor/donation file before being shipped to REDS-III blood centers. They should be treated as such in data analysis.

In the original files, all <u>dates</u> were stored as three separate fields - month, day, and year. Date of birth was replaced with integer age at the time of contact in the public use files. Most dates were replaced with days since donation. These and other changes to dates are listed below. Variables of the form, DaysDonToABC contain days from blood product donation to event ABC, where ABC is leukoreduction date, irradiation date, pooling date or another event as indicated by the variable name.

- tbl_Comp_Components
  - StatusDateYr, StatusDateMo and StatusDateDa were replaced with DaysDonToStatus
  - ExpirationDateYr, ExpirationDateMo, ExpirationDateDa were replaced with DaysDonToExpiration

- CollectionDateDA was deleted but CollectionDateYR and CollectionDateMO were retained; this action matches changes made to the donation files.
- tbl_Comp_Donations_BC
  - StartDonationDateDa was deleted but StartDonationDateMo and StartDonationDateYr were retained
  - EndDonationDateMo, EndDonationDateDa, and EndDonationDateYr will be deletedReceiptDateYr, ReceiptDateMo and ReceiptDateDa were replaced with DaysDonToReceipt
  - InitialProcessingTimeYr, InitialProcessingTimeMo and InitialProcessingTimeDa were replaced with DaysDonToInitialProcessing
- tbl_Comp_ComponentsPooled_BC
  - StatusDateYr, StatusDateMo and StatusDateDa were replaced with DaysDonToStatus
- tbl_Comp_TransfusionService
  - ThawDateYR, ThawDateMO, ThawDateDA were replaced with DaysDonToThaw
  - LeukoreductionDateYR, LeukoreductionDateMO and LeukoreductionDateDA were replaced with DaysDonToLeukoreduction
  - IrradiationDateYR, IrradiationDateMO and IrradiationDateDA were replaced with DaysDonToIrradiation
  - PooledDateYR, PooledDateMO and PooledDateDA were replaced with DaysDonToPooled
  - RinsingSalineWashDateYR, RinsingSalineWashDateMO and RinsingSalineWashDateDA were replaced with DaysDonToRinsSalineWash
  - AliquotDateYR, AliquotDateMO and AliquotDateDA were replaced with DaysDonToAliquot
  - DeglycerolizationDateYR, DeglycerolizationDateMO and DeglycerolizationDateDA were replaced with DaysDonToDeglycerolization
  - ReconstitutionDateYR, ReconstitutionDateMO and ReconstitutionDateDA were replaced with DaysDonToReconstitution
  - VolumeReductionDateYR, VolumeReductionDateMO and VolumeReductionDateDA were replaced with DaysDonToVolumeReduction
  - ReleaseDateYR, ReleaseDateMO and ReleaseDateDA were replaced with DaysDonToRelease
- tbl_Comp_ProductsPooled_TS
  - no dates to replace
- tbl_Comp_Imports
  - DonDa will be deleted but DonMo and DonYr will be retained
  - BirthMo, BirthDa and BirthYr will be converted to age at donation
  - StatusDateYr, StatusDateMo and StatusDateDa were replaced with DaysDonToStatus

Many of the observations in the component database included the time as well as month, day and year. Time of day was preserved in the public use files. This will allow the user to order repeated events that take place on the same day and to determine time between blood processing and transfusion.

Six public use files were produced after these changes were implemented:

- Reds_III_cc_components.sas7bdat– Blood Center components data
- Reds_III_cc_pooled_components_bc.sas7bdat – Contains information for linking pooled components to donations
- Reds_III_cc_donations.sas7bdat – Blood Center donation data
- Reds_III_cc_imported_products.sas7bdat – Components imported from other entities into blood centers
- Reds_III_cc_pooled_components_ts.sas7bdat – Hospital Transfusion Services pooled products
- Reds_III_cc_transfusion_service.sas7bdat – Hospital Transfusion Services (manufactured products) data

Sorting and merging the files

DonorID_Random should be used to cluster records from repeated donations by the same donor within each table. Records in one of the tables can be linked to records in another using DIN_Random. tbl_Comp_Imports contains information from donated blood products that were brought into REDS-III blood centers from other blood centers. The other five tables contain information from donations made at the REDS-III blood centers. Therefore, records in tbl_Comp_Imports cannot be linked to records in the other five tables except for a small number of records of imports that were included in some of the other five files.

The components files and the donor/donation files both contain information from multiple donations by the same donors. Information such as time between contacts, where a contact may be a successful donation, an unsuccessful donation or a deferral, is preserved in the donor/donation files. Further information is provided in the documentation for the donor/donation files. Users may add this information to the components files by linking records from the donor/donation files to those in the component files using DIN_Random as the linking variable.

Some of the files in the components database contain multiple records with the same value for DIN_Random or DIN_Random_PK. The components file contains multiple records with the same value for DIN_Random. For example, a donation of a unit of whole blood may be recorded as a single record in the donations file but as multiple records in the components file if the unit was split into red blood cells, plasma and platelets. For certain analyses, users may need to track the product codes as well as DIN_random. The pooled products tables will contain multiple records with the same value for DIN_PK_random but separate values for DIN_Random with each record containing data from one of the donations that went into the pool.

Problems with the data

While extensive effort was made to collect complete data, some data are missing from the files. This does not include data missing by design; i.e. data on forms not used on some subgroups of subjects, as described earlier.

Users should also be aware that some fields contain small proportions of anomalous values. Examples include hemoglobin levels that are outside the range expected for blood donors and age at donation that is either too young for the donor to be eligible to donate or too old to be

realistic. The problems are mainly the result of data entry errors at the participating hospitals or blood centers; i.e. the data were downloaded as is from the hospitals and blood center files. Users are strongly encouraged to run univariate statistics on all variable of interest to identify values that are likely erroneous before proceeding with data analysis.

APPENDIX

Specifications for the data collection tables for the REDS-III blood components database

Specifications for tbl_Comp_Components

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
ProductKey		Combined DIN + ISBT/Codabar Product Code	Varchar	25		Y	
StatusDateYr		Status Date Year	Integer	4	yyyy	Y	Required field
StatusDateMo		Status Date Month	Integer	2	mm	Y	Required field
StatusDateDa		Status Date Day	Integer	2	dd	Y	Required field
StatusDateTime		Time of Status	Time	5	hh:mm	Y	Required field - Hour should use 24-hour clock (00:00 - 23:59)
CenterID		Blood Center ID	Integer	2		Y	
	31	Blood Center of Wisconsin					
	32	Blood Center of the Pacific/University of California, San Francisco					
	35	Institute for Transfusion Medicine					
	36	American Red Cross Blood services, CT Region					
DIN		Donation Identification Number (DIN) /Blood Unit Identifier/Whole Blood Number/ Barcode/ Pool ID	Varchar	13		Y	
DonorID		Donor ID.	Varchar	10			Pooled components will not have a single Donor ID so this is no longer a part of the primary key. If the component is not a pooled product, then this is a required field. DonorID can be null is when the product is imported.

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
CollectionDateYR		**Date Year that the product is collected**	Integer	4	yyyy		May be important to determine the age of the component. In ISBT this field is called "Collection Date" and it is barcoded on each unit. Date is recorded without Time.
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
CollectionDateMO		**Date Month that the product is collected**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
CollectionDateDA		**Date Day that the product is collected**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ISBTProductCode		**ISBT Unit Identifier (Product Code)**	Varchar	8			There is a possibility of a longer length of the Product Code in the data from data sources.
CodabarProductCode		**Codabar Unit Identifier (Product Code)**	Integer	5			
ProductType		**Product Type**	Varchar	5		Y	
	PLAS	Plasma, -includes all types of plasma. FFP, FP24, liquid, etc.					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
	RBC	Red Cells					
	PLAT	Platelets					
	CRYO	Cryoprecipitate					
	GRAN	Granulocytes					
	WHOL	Whole Blood					
	OTHER	Other Product Type					
Volume		**Volume of the component in mL**	Decimal	10,4			The volume is required when the component is issued, however it should be "null" if it's not available. The DCC will monitor the occurrences of the null volumes by reporting them on the data processing QC report. It will be considered a "soft" QC check.
VolumeType		**Type of volume measure**	Varchar	3			
	ACT	Actual					
	DEF	Default					
Status		**Status of product**	Varchar	10		Y	List is incomplete
	SHIPPED	Shipped					
	DISCARDED	Discarded					
DiscardCode		**Code for reason the product was discarded as waste or disposed**	Varchar	20			Actual code values from blood center systems.
DiscardReason		**Reason the product was discarded as waste or disposed**	Varchar	50			Actual reason text from blood center systems.
ShippedToType		**The type of place this component was shipped to**	Varchar	5			
	HOSP	Hospital					
	MANUF	Further Manufacturing					
	BCEXP	Blood Center (Export)					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
	OTHER	Other					
ShippedToCode		**A code to identify the place this component was shipped to**	Varchar	20			
ExpirationDateYr		**The expiration date year of the component**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ExpirationDateMo		**The expiration date month of the component**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ExpirationDateDa		**The expiration date day of the component**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ExpirationDateTime		**The expiration time of the component**	Time	5	hh:mm		Hour should use 24-hour clock (00:00 - 23:59)
	00:00 - 23:59						
	-6	Other Notation					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ImportFlag		**Was the product imported from another blood center?**	Varchar	1		Y	
	Y	Yes					
	N	No					
PlateletCount		**Platelet Count**	Integer				
PlateletValueAct		**Is the Platelet Count value "Actual" or "Default"**	Varchar	3			
	ACT	The Platelet Count is the actual count in the component					
	DEF	The Platelet Count is the default/range count in the component					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments/Questions
DIN		**Donation Identification Number (DIN) /Blood Unit Identifier/Whole Blood Number/ Barcode/ Pool ID**	Varchar	13		Y	
CenterID		**Blood Center ID**	Integer	2		Y	
	31	Blood Center of Wisconsin					
	32	Blood Center of the Pacific/University of California, San Francisco					
	35	Institute for Transfusion Medicine					
	36	American Red Cross Blood services, CT Region					
DonorID		**Donor ID.**	Varchar	10		Y	
StartOfDonationDateYr		**Start Date Year of the donation collection/procedure**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
StartOfDonationDateMo		**Start Date Month of the donation collection/procedure**	Integer	2	mm		
	1-12						
	-6	Other Notation					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments/Questions
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
StartOfDonationDateDa		**Start Date Day of the donation collection/procedure**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
StartOfDonationDateTime		**Start Hour and Minute (hh:mm) of the donation collection/procedure**	Time	5	hh:mm		Hour should use 24-hour clock (00:00 - 23:59)
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
EndOfDonationDateYr		**Start Date Month of the donation collection/procedure**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments/Questions
EndOfDonationDateMo		**End Date Month of the donation collection/procedure**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
EndOfDonationDateDa		**End Date Day of the donation collection/procedure**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
EndOfDonationDateTime		**End Hour and Minute (hh:mm) of the donation collection/procedure**	Time	5	hh:mm		Hour should use 24-hour clock (00:00 - 23:59)
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
AphMachineMake		**Aphaeresis Machine Make**	Varchar	100			This information can be captured or inferred. To be provided by the HUBs within the extracted data if at all possible.

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments/Questions
AphMachineModel		**Aphaeresis Machine Model**	Varchar	100			This information can be captured or inferred. To be provided by the HUBs within the extracted data if at all possible.
AphMachineSoftwareVersion		**Aphaeresis Machine Software Version**	Varchar	50			This information can be captured or inferred. To be provided by the HUBs within the extracted data if at all possible.
LeukoDuringCollection		**Leukoreduction Performed During Machine or Inline Collection Flag**	Varchar	1			
	Y	Yes					
	N or Null	No					
LeukoFilter		**The inline filter make/model used for leukoreduction**	Varchar	100			
Data Required	**Valid Values**	**Description**	**Data Type**	**Length**	**Format**	**Required**	**Comments/Questions**
ReceiptDateYr		**Date Year donation was checked into the blood center**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ReceiptDateMo		**Date Month donation was checked into the blood center**	Integer	2	mm		
	1-12						
	-6	Other Notation					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments/Questions
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ReceiptDateDa		**Date Day donation was checked into the blood center**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ReceiptDateTime		**Hour and Minute (hh:mm) donation was checked into the blood center**	Time	5	hh:mm		Hour should use 24-hour clock (00:00 - 23:59)
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
InitialProcessingTimeYr		**Date Year the first processing step after receipt at the BC was done (e.g. spin)**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments/Questions
	-9	NOT COLLECTED at Hospital or Hub					
InitialProcessingTimeMo		**Date Month the first processing step after receipt at the BC was done (e.g. spin)**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
Data Required	**Valid Values**	**Description**	**Data Type**	**Length**	**Format**	**Required**	**Comments/Questions**
InitialProcessingTimeDa		**Date Day the first processing step after receipt at the BC was done (e.g. spin)**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
InitialProcessingTimeHrMin		**Hour and Minute (hh:mm) the first processing step after receipt at the BC was done (e.g. spin)**	Time	5	hh:mm		Hour should use 24-hour clock (00:00 - 23:59)
	00:00 - 23:59						
	-6	Other Notation					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments/Questions
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					

Specifications for tbl_Comp_ComponentsPooled_BC

Field Name	Valid Values	Description	Data Type	Length	Required	Notes
PooledProductKey		**Pooled Donation Identification Number (DIN) + Pooled ISBT/Codabar Product Code**	Varchar	25	Y	pooled DIN + the product code of the pooled product (e.g. pooled cryo or pooled platelet)
StatusDateYr		**Status Date Year**	Integer	4	Y	Required field
StatusDateMo		**Status Date Month**	Integer	2	Y	Required field
StatusDateDa		**Status Date Day**	Integer	2	Y	Required field
StatusDateTime		**Status Hour and Minute (hh:mm)**	Time	5	Y	Required field - Hour should use 24-hour clock (00:00 - 23:59)
DIN		**Donation Identification Number (DIN)**	Varchar	13	Y	The original DIN becoming part of the pool
CenterID		**Blood Center ID**	Integer	2	Y	
	31	Blood Center of Wisconsin				
	32	Blood Center of the Pacific/University of California, San Francisco				
	35	Institute for Transfusion Medicine				
	36	American Red Cross Blood services, CT Region				

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
ProductKey		ProductKey to uniquely identify each Product in table.	99999999999				*For ISBT: ISBT Blood Unit Identifier (DIN) || ISBT Unit Identifier (Product Code) *For Codabar: Codabar Blood Unit Identifier (DIN) || Codabar Unit Identifier (Product Code)
Product Type		**Product Type**	9				See Data Dictionary Entries for definitions Renamed from Product Category to Product Type (4/18/2014) Added Product Type values for documentation (1/27/2016)
	PLAS	Plasma, -includes all types of plasma. FFP, FP24, liquid, etc.					
	RBC	Red Cells					
	PLAT	Platelets					
	CRYO	Cryoprecipitate					
	GRAN	Granulocytes					
	WHOL	Whole Blood					
	OTHER	Other Product Type					
ISBT DIN		ISBT Blood Unit Identifier (DIN) Example: W036311266086	13				

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
ISBT Product Code		ISBT Product Code Example: E0291V00	8				Report the product code after the manufacturing event (The FINAL product code as it was released for transfusion.) (4/18/2014) There is a possibility of a longer length of the Product Code in the data from data sources.
Codabar DIN		Codabar Blood Unit Identifier (DIN) Example: 32LZ30611	9				
Codabar Product Code		Codabar Product Code Example: 18499	99999				Report the product code after the manufacturing event (The FINAL product code as it was released for transfusion.) (4/18/2014)
HospitalCode		**Hospital identifier (01-12) where encounter occurred**	Integer	2			
	1	Froedtert Hospital					
	2	Marshfield Clinic/ Saint Joseph's Hospital					
	3	Aurora Saint Luke's Hospital					
	4	Aurora Sinai Hospitals					
	5	UCSF Medical Center					
	6	San Francisco General Hospital					
	7	San Francisco Veterans Administration					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
	8	University of Pittsburgh Medical Center Presbyterian					
	9	University of Pittsburg Medical Center Shadyside					
	10	University of Pittsburg Medical Center St. Margaret's					
	11	Bridgeport Hospital					
	12	Yale-New Haven Hospital					
ThawDateYR		**Thaw Date - Year**	Integer	4	yyyy		All components Allows calculation of storage age of component.
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ThawDateMO		**Thaw Date - Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ThawDateDA		**Thaw Date - Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ThawDateTime		**Thaw Time**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
LeukoreductionDateYR		**Leukoreduction Date - Year**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
LeukoreductionDateMO		**Leukoreduction Date - Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
LeukoreductionDateDA		**Leukoreduction Date - Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
LeukoreductionDateTime		**Leukoreduction Time**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
IrradiationDateYR		**Irradiation Date - Year**	Integer	4	yyyy		

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
IrradiationDateMO		**Irradiation Date - Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
IrradiationDateDA		**Irradiation Date - Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
IrradiationDateTime		**Irradiation Time**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
PooledDateYR		**Pooled Date - Year**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
PooledDateMO		**Pooled Date - Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
PooledDateDA		**Pooled Date - Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
PooledDateTime		**Time Pool Created**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
RinsingSalineWashDateYR		**Rinsing or Saline Wash Date - Year**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
RinsingSalineWashDateMO		**Rinsing or Saline Wash Date - Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
	-9	NOT COLLECTED at Hospital or Hub					
RinsingSalineWashDateDA		**Rinsing or Saline Wash Date - Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
RinsingSalineWashDateTime		**Time Product Was Rinsed or Saline Washed**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
AliquotDateYR		**Aliquot Date - Year**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
AliquotDateMO		**Aliquot Date - Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
AliquotDateDA		**Aliquot Date - Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
AliquotDateTime		**Time Aliquot Was Produced**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
DeglycerolizationDateYR		**Deglycerolization Date - Year**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
DeglycerolizationDateMO		**Deglycerolization Date - Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
DeglycerolizationDateDA		**Deglycerolization Date - Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
DeglycerolizationDateTime		**Time Product was Deglycerolized**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ReconstitutionDateYR		**Reconstitution Year**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ReconstitutionDateMO		**Reconstitution Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ReconstitutionDateDA		**Reconstitution Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ReconstitutionDateTime		**Time Product Was Reconstituted**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
VolumeReductionDateYR		**Volume Reduction Date - Year**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
VolumeReductionDateMO		**Volume Reduction Date - Month**	Integer	2	mm		
	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
VolumeReductionDateDA		**Volume Reduction Date - Day**	Integer	2	dd		
	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
VolumeReductionDateTime		**Time Volume Was Reduced**	Time	5	hh:mm		
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
Product ABO		**ABO of product**	Varchar	6			
	A						
	B						
	O						
	AB						
	POOLED	Pooled					
Product Rh		**Rh of product**	Varchar	6			
	POS	Positive					
	NEG	Negative					
	POOLED	Pooled					
Unit Volume		**Volume of unit**		9999			
ReleaseDateYR		**Release Date - Year**	Integer	4	yyyy		
	2012-2020						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
		Release Date - Month	Integer	2	mm		
ReleaseDateMO	1-12						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
		Release Date - Day	Int	2	dd		
ReleaseDateDA	1-31						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					
ReleaseDateTime		**Release Time**	Time	5	hh:mm		

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Comments & Questions
	00:00 - 23:59						
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					
	-9	NOT COLLECTED at Hospital or Hub					

Field Name	Valid Values	Description	Data Type	Length	Required	Notes
PooledProductKey		**Pooled Donation Identification Number (DIN) + Pooled ISBT/Codabar Product Code**	Varchar	25	Y	pooled DIN + the product code of the pooled product (e.g. pooled cryo or pooled platelet)
DIN		**Donation Identification Number (DIN)**	Varchar	13	Y	The original DIN becoming part of the pool
HospitalCode		**Hospital identifier (01-12) where encounter occurred**	Integer	2		
	1	Froedtert Hospital				
	2	Marshfield Clinic/ Saint Joseph's Hospital				
	3	Aurora Saint Luke's Hospital				
	4	Aurora Sinai Hospitals				
	5	UCSF Medical Center				
	6	San Francisco General Hospital				
	7	San Francisco Veterans Administration				
	8	University of Pittsburgh Medical Center Presbyterian				
	9	University of Pittsburg Medical Center Shadyside				
	10	University of Pittsburg Medical Center St. Margaret's				
	11	Bridgeport Hospital				
	12	Yale-New Haven Hospital				

tbl_Comp_Imports

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
ProductKey		Combined DIN + ISBT/Codabar Product Code	Varchar	25			
StatusDateYr	2012-2016	Status Date Year	Integer	4	yyyy	Y	Required field
StatusDateMo	1-12	Status Date Month	Integer	2	mm	Y	Required field
StatusDateDa	1-31	Status Date Day	Integer	2	dd	Y	Required field
StatusDateTime	00:00 - 23:59	Time of Status	Time	5	hh:mm	Y	Required field - Hour should use 24-hour clock (00:00 - 23:59)
CenterID		Blood Center ID	Integer	2		Y	
	31	Blood Center of Wisconsin					
	32	Blood Center of the Pacific/University of California, San Francisco					
	35	Institute for Transfusion Medicine					
	36	American Red Cross Blood services, CT Region					
DIN		Donation Identification Number (DIN) /Blood Unit Identifier/Whole Blood Number/ Barcode/ Pool ID	Varchar	13		Y	
DonorID		Donor ID.	Varchar	10			DonorID can be null is when the product is imported.
DonYr	2012-2017	Year of Donation	Integer	4		Y	Can be part of Unique Identifier if no duplicates.
DonMo	1-12	Month of Donation	Integer	2		Y	Can be part of Unique Identifier if no duplicates.
DonDa	1-31	Day of Donation	Integer	2		Y	Can be part of Unique Identifier if no duplicates.
BirthYr	1900-2001	Year of Birth	Integer	4			RTI to perform age validation by calculating age at the time of donation for 16 yrs or above for all donor except autologous. Autologous donors do not have age restriction.

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
BirthMo	1-12	**Month of Birth**	Integer	2			
BirthDa	1-31	**Day of Birth**	Integer	2			
Sex		**Sex of Donor**	Varchar	1			
	M	Male					
	F	Female					
	9	Unknown					
ResidenceZip		**Zip Code of Donor**	Varchar	10			
BornUSA		**Born in USA**	Varchar	1			
	N	No					
	Y	Yes					
	9	Unknown					
Country		**[If NO above] What is country of birth?**	Integer	3			
		ISO 3166-1 list of country codes that will be updated annually by RTI					
	9	Unknown					
Race		**What is your race? (Mark all that apply)**	Varchar	6			Site to send the multiple races as concatenated field
	W	White					
	B	Black or African American					
	E	American Indian/Alaska Native					
	A	Asian					
	L	Native Hawaiian or other Pacific Islander					
	O	Other					
	9	Not sure, or do not wish to answer					
Ethnicity		**Ethnicity of subject**	Char	2			
	Y	Hispanic or Latino					
	N	Not Hispanic or Latino					
	-6	Other Notation					
	-8	NOT REPORTED or UNKNOWN for Participant					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
	-9	NOT COLLECTED at Hospital or Hub					
ISBTProductCode		**ISBT Unit Identifier (Product Code)**	Varchar	8			There is a possibility of a longer length of the Product Code in the data from data sources.
CodabarProductCode		**Codabar Unit Identifier (Product Code)**	Integer	5			
DonProc		**Donation Procedure - Recommended Codes**	**Varchar**	**2**			
	WB	WHOLE BLOOD					
	SO	SAMPLE ONLY					
	PP	PLATELETPHERESIS					
	LP	LEUKOPHERESIS					
	PL	PLASMAPHERESIS					
	P2	PLATELETPHERESIS/PLASMA PHERESIS					
	P3	PLATELETPHERESIS/PLASMA PHERESIS/RBC					
	P4	PLATELETPHERESIS/RBC					
	P5	PLASMAPHERESIS/RBC					
	R2	DOUBLE RBC					
	SC	STEM CELLS					
	OT	OTHER					
	R1	SINGLE RBC					
	99	NOT AVAILABLE					
ProductType		**Product Type**	Varchar	5		Y	
	PLAS	Plasma, -includes all types of plasma. FFP, FP24, liquid, etc.					
	RBC	Red Cells					
	PLAT	Platelets					
	CRYO	Cryoprecipitate					
	GRAN	Granulocytes					
	WHOL	Whole Blood					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
	OTHER	Other Product Type					
Product ABO		**ABO of product**	Varchar	6			
	A						
	B						
	O						
	AB						
	POOLED	Pooled					
	-8	NOT REPORTED or UNKNOWN for Participant					
Product Rh		**Rh of product**	Varchar	6			
	POS	Positive					
	NEG	Negative					
	POOLED	Pooled					
	-8	NOT REPORTED or UNKNOWN for Participant					
ABO_RH		**Blood Type of Donor**	Varchar	3			
	O+	O POSITIVE					
	A+	A POSITIVE					
	B+	B POSITIVE					
	AB+	AB POSITIVE					
	O-	O NEGATIVE					
	A-	A NEGATIVE					
	B-	B NEGATIVE					
	AB-	AB NEGATIVE					
	UNT	UNTYPED					
	-8	NOT REPORTED or UNKNOWN for Participant					
HB_Value		**HEMOGLOBIN VALUE**	Single	3.1			
	07.0-25.6	07.0-25.6					
	99.1	HB Below Range					
	99.2	HB Above Range					

Field Name	Valid Values	Description	Data Type	Length	Format	Required	Notes
	99.9	Not Available					
PrevScrnHx		**Previous Screening History**	Varchar	1			
	N	No previous Blood Unit Identifier (BUI) in the Blood Center Database (BCDB) for Donor					
	T	BUI with Screening Test Results in BCDB from earlier donation by same donor					
	B	BUI Assigned earlier to Donor, but Screening Test Results not in BCDB					
	9	Not Available					