|  |
| --- |
| V 2.8 HL7 Proposal |
| *Change Request ID:* |  |
| *File Name:* | *Proposalv2.8-BloodDonation 2011 01 03.doc* |
| *Description:* | *This is a proposal add new messages for 2.8. These new messages are for communications between systems in a typical Blood Donation Site.* |
| *Status:* | *New Proposal* |
| *Sponsoring Person* | *Patrick Loyd**Jonathan Harber* |
| *Sponsoring Business Unit* | *America’s Blood Centers* |
| *Date Originated:* | *4/1/2010* |
| *Date HL7 approved:* |  |
| *Backward Compatible:* |  |
| *Forward Compatible:* |  |
| *HL7 Status & Date* |  |

#

# Table of Contents

[Table of Contents 2](#_Toc269670554)

[1 How To Read This Proposal 4](#_Toc269670555)

[1.1 Assumptions 4](#_Toc269670556)

[1.2 Message Types And Segments FAQs 4](#_Toc269670557)

[2 Justification Detail 6](#_Toc269670558)

[3 Issues 6](#_Toc269670559)

[4 Change Request Impact 7](#_Toc269670560)

[5 Documentation Changes 7](#_Toc269670561)

[5.16 Donation Service (Blood Bank) Trigger Events and Messages 7](#_Toc269670562)

[5.16.1 Usage Notes for Donation Service (Blood Bank) 7](#_Toc269670563)

[5.16.2 Activity Diagram 7](#_Toc269670564)

[5.16.3 Actors 9](#_Toc269670565)

[5.16.3.1 Ordering Provider 9](#_Toc269670566)

[5.16.3.2 Registration System 9](#_Toc269670567)

[5.16.3.3 Donor book of record System 9](#_Toc269670568)

[5.16.3.4 Mini-physical System 9](#_Toc269670569)

[5.16.3.5 Questionnaire System 9](#_Toc269670570)

[5.16.3.6 Donation System 9](#_Toc269670571)

[5.16.3.7 Device Interfaces 9](#_Toc269670572)

[5.16.3.8 Provider Master 9](#_Toc269670573)

[5.16.3.9 Shipping System 9](#_Toc269670574)

[5.16.4 DBC - Create Donor Record Message (Event O41) 10](#_Toc269670575)

[5.16.5 DBU - Update Donor Record Message (Event O42) 10](#_Toc269670576)

[5.16.6 QBP - Get Donor Record Candidates (Event Q33) 11](#_Toc269670577)

[5.16.7 RSP - Get Donor Record Candidates Response (K33) 11](#_Toc269670578)

[5.16.8 QBP - Get Donor Book of Record (Event Q34) 12](#_Toc269670579)

[5.16.9 RSP - Get Donor Book of Record Response (K34) 12](#_Toc269670580)

[5.16.10 DRG - Donor Registration (Event O43) 13](#_Toc269670581)

[5.16.11 DER - Donor Eligibility Request (Event O44) 13](#_Toc269670582)

[5.16.12 DEO - Donor Eligibility Observations (Event O45) 14](#_Toc269670583)

[5.16.13 DEL - Donor Eligibility (Event O46) 15](#_Toc269670584)

[5.16.14 DRC - Donor Request to Collect (Event O47) 15](#_Toc269670585)

[5.16.15 DPR - Donation Procedure (Event O48) 16](#_Toc269670586)

[5.17 Donation Service (blood bank) segment 17](#_Toc269670587)

[5.17.1 DON – DONATION Segment 17](#_Toc269670588)

[5.17.1.1 DON-1 Donation Identification Number - DIN (EI) 17](#_Toc269670589)

[5.17.1.2 DON-2 Donation Type (CNE) 17](#_Toc269670590)

[5.17.1.3 DON-3 Phlebotomy Date/Time (DTM) 18](#_Toc269670591)

[5.17.1.4 DON-4 Phlebotomy End Date/Time (DTM) 18](#_Toc269670592)

[5.17.1.5 DON-5 Donation Duration (NM) 18](#_Toc269670593)

[5.17.1.6 DON-6 Donation Duration Units (CNE) 18](#_Toc269670594)

[5.17.1.7 DON-7 Intended Procedure Type (CNE) 18](#_Toc269670595)

[5.17.1.8 DON-8 Actual Procedure Type (CNE) 18](#_Toc269670596)

[5.17.1.9 DON-9 Donor Eligibility Flag (ID) 18](#_Toc269670597)

[5.17.1.10 DON-10 Donor Eligibility Procedure Type (CNE) 18](#_Toc269670598)

[5.17.1.11 DON-11 Donor Eligibility Date (DTM) 19](#_Toc269670599)

[5.17.1.12 DON-12 Process Interruption (CNE) 19](#_Toc269670600)

[5.17.1.13 DON-13 Process Interruption Reason (CNE) 19](#_Toc269670601)

[5.17.1.14 DON-14 Plebotomy Issue 20](#_Toc269670602)

[5.17.1.15 DON-15 Intended Recipient Blood Relative (ID) 20](#_Toc269670603)

[5.17.1.16 DON-16 Intended Recipient Name (XPN) 20](#_Toc269670604)

[5.17.1.17 DON-17 Intended Recipient DOB (DTM) 20](#_Toc269670605)

[5.17.1.18 DON-18 Intended Recipient Facility (XON) 20](#_Toc269670606)

[5.17.1.19 DON-19 Intended Recipient Procedure Date (DTM) 20](#_Toc269670607)

[5.17.1.20 DON-20 intended recipient ordering provider (XPN) 20](#_Toc269670608)

[5.17.1.21 DON-21 Phlebotomy Status (CNE) 21](#_Toc269670609)

[5.17.1.22 DON-22 Arm Stick (CNE) 21](#_Toc269670611)

[5.17.1.23 DON-23 Bleed Start Phlebotomist (XPN) 21](#_Toc269670612)

[5.17.1.24 DON-24 Bleed End Phlebotomist (XPN) 21](#_Toc269670613)

[5.17.1.25 DON-25 Aphaeresis Type Machine (ST) 21](#_Toc269670614)

[5.17.1.26 DON-26 Aphaeresis Machine Serial Number (ST) 21](#_Toc269670615)

[5.17.1.27 DON-27 Donor Reaction (ID) 21](#_Toc269670616)

[5.17.1.28 DON-28 Final Review Staff ID (XPN) 21](#_Toc269670617)

[5.17.1.29 DON-29 Final Review Date/Time (DTM) 21](#_Toc269670618)

[5.17.1.30 DON-30 Number of Tubes Collected (NM) 22](#_Toc269670619)

[5.17.1.31 DON-31 Donation Sample Identifier (EI) 22](#_Toc269670620)

[5.18 Blood UNIT Segment 22](#_Toc269670621)

[5.18.1 BUI – Blood Unit information Segment 22](#_Toc269670622)

[5.18.1.1 BUI-1 Set ID (SI) 22](#_Toc269670623)

[5.18.1.2 BUI-2 Blood Unit Identifier (EI) 22](#_Toc269670624)

[5.18.1.3 BUI-3 Blood Unit Type (CNE) 22](#_Toc269670625)

[5.18.1.4 BUI-4 Blood Unit Weight (NM) 23](#_Toc269670626)

[5.18.1.5 BUI-5 Weight Units (CNE) 23](#_Toc269670627)

[5.18.1.6 BUI-6 Blood Unit Volume (NM) 23](#_Toc269670628)

[5.18.1.7 BUI-7 Volume Units (CNE) 23](#_Toc269670629)

[5.18.1.8 BUI-8 Container Catalog Number (ST) 23](#_Toc269670630)

[5.18.1.9 BUI-9 Container Lot Number (ST) 23](#_Toc269670631)

[5.18.1.10 BUI-10 Container Manufacturer (XON) 23](#_Toc269670632)

[5.18.1.11 BUI-11 Transport Temperature (NR) 23](#_Toc269670633)

[5.18.1.12 BUI-12 Transport Temperature Units (CNE) 23](#_Toc269670634)

# How To Read This Proposal

## Assumptions

* Use the HL7 Standard where possible
* Create New Segments and Fields where necessary

## Message Types And Segments FAQs

**What is a Message type and what is a Segment?**

Let’s start from the bottom and work up. The smallest piece of data is a single component of a data type. Note that some data type components are themselves composite data types so the smallest pieces of data are sometimes subcomponents of components. An example would be a person’s last name (not their whole name).

The data pieces are arranged together logically in fields or elements which are meant to represent a data point. Even though this data point is compositional, it’s frequently thought of as the smallest piece used to build messaging. (e.g., a person’s name – the whole name with all the component parts from the data type)

Fields or elements are grouped together logically according to business function in Segments. For example, all the pieces of data about a ‘Donor’ at the Donor-level are captured in the PID segment and other associated segments at the PID (or Donor) Level.

Message types are built using appropriate Segments and a meta-language showing how the included segments are associated with each other (hierarchy, repetitions, etc).

Note: In a segment definition. {} and [] are used to group segments together. {} means a segment can repeat. [] means a segment is optional.

Standard Message Type – The HL7 Standard has a number of design constraints on the development of new Message Types. The reason for these rules is to foster a consistent set of standards which interoperate. One rule which affects this proposal is the addition of SFT and UAC segments. These are standard and common and must be part of each relevant message type in the standard; but implementation and conformance profiles derived from these standards may choose not to use those segments (as they’re optional).

**What Should I Review?**

1. Ensure we’ve included the right segments in each message type. Note that a few of the segments are there because this is a standard – SFT, UAC. We would expect to constrain use of those segments out of the Blood Bank Donation Services Implementation Guide (they are optional).
2. Are there any data elements missing (check the updated Mapping Document as well as this proposal)?
3. Are the data element definitions clear, concise, and most of all – accurate?
4. For each segment, look at the repeat column and conformance column. Should this element repeat?
5. Is this element:
	1. mandatory – must be there
	2. required – must be supported, and receiver can’t throw away the data
	3. Optional – can be ignored safely.
6. We have just gotten started on developing the terminologies in this proposal. We expect to use ISBT wherever possible. Let us know if you know of a standard set of values for a particular coded element where we’ve not already produced a set (or if your list disagrees with a set in this proposal).
	1. HL7-Table is indicated: means we think we can come up with a definitive list
	2. User-Defined Table is indicated when the list will change over time, by implementation, and so forth. In order words, there is no consistent, complete set of values supported by the industry and maintained by a coding authority.
7. We need to work on a specific, defined, set of query request parameters in the upcoming meetings. Review only briefly and think about those parameters (feel free to include relevant parameters in your responses).
8. The following are temporary numbering to provide consistency in this proposal document itself. Any and all of these numbering sequences will be re-evaluated and updated by the editor of the HL7 Standard after all HL7 v2.8 proposals are implemented in the standard.
* Section Numbering in this Proposal (i.e. 5.16.1)
* Event Numbers in Trigger Events and Messages (i.e. O43, Q44, K44)
* HL7 Table Numbers (HL7 Table 0563)
* Item Numbers (which have been left blank in this proposal)
* Chapter Numbers in the Trigger Events and Messages (which are blank)

# Justification Detail

The ABC (America’s Blood Centers) has identified a need for standardizing the communications between systems in the blood donation setting. A group of interested parties approached HL7, Orders and Observations Work Group and OO is now sponsoring a project (approved Jan 2010) which developed the proposal below.

As part of this proposal, two new segments and a set of message types are being proposed for communications between blood bank systems components.

# Issues

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Reported By** | **Date** | **Description** | **Status** |
| 1 | P. Loyd | 4/19/2010 | Verify use of XCN over XPN. For donors we use XPN. Need to decide the right identifier for donors vs. provider. We do not currently have a need in the scope of this project to query a registry of any kind. Because of this, the correct use should be XPN. | Closed |
| 2 | P. Loyd | 4/19/2010 | Where to put degree? Use OBX segments. This should go in the imp guide for the four donor level elements (for example: ABORH.)  | Closed |
| 3 | P. Loyd | 4/19/2010 | Determine Query Parameters7/7/2010 PEL> The query parameters belong in the implementation guide. The only definitions in this proposal are for the Query Name and Query event for the request, and, for the response, the same elements along with the response segment definition.  | Closed |
| 4 | P. Loyd | 4/19/2010 | Message types may have ‘new’ names as I didn’t have access to the documentation we reviewed in Ft. Lauderdale. I’ll get that doc and rename the message types.7/7/2010 PEL> Mapped all messages from the ‘Donor Registration EHQ Trigger Events’ document into this proposal. | Closed |
| 5 | P. Loyd | 4/19/2010 | Update mapping document to ensure we didn’t miss any data points. | Closed |
| 6 | P. Loyd | 4/19/2010 | Communication diagram indicates mini-reg between registration system and collection system; I believe that should be a full reg record.7/7/2010 PEL> Also, the two mini-regs are not that, they are requests for eligibility observations. Document and diagram changed. | Closed |
| 7 | P. Loyd | 4/19/2010 | Terminology is barely touched in this proposal. We need to do a little more work on those.7/7/2010 PEL> There has been substantial work since this original issue was opened. We are getting close to finalizing in the coming months. | Closed |
| 8 | P. Loyd | 4/26/2010 | Does the query response for donor book of record include donations (is at Donor level or a donation level)?7/7/2010 PEL> Need both. Added Donor Record Candidates query and response and added to diagram | Closed |
| 9 | J Harber | 7/8/10 | Is there any information passed, and what is the information we need to pass when the event Validate Donor occurs? There is no use case or event that defines passing of data to perform this that team could define. | Closed |
| 10 | P. Loyd | 1/4/2011 | Work on IG caused refinement of the message structures around PV1 and DON, Naming of Donor Record interactions,  | Closed |

# Change Request Impact

New message types and new segments. No impact to existing standards.

# Documentation Changes

**HL7 V2.8 Standard – Chapter 4**

## Donation Service (Blood Bank) Trigger Events and Messages

Blood product donation messages present the need for additional information that is not included in current standard HL7 messages.

### Usage Notes for Donation Service (Blood Bank)

The Donation Service (BLOOD BANK) was developed using a different methodology than the similar Transfusion Service (BLOOD BANK) already present in this standard. Each of the segments defined for the Transfusion Service groups together all the ‘transfusion’ information in one segment, each. The Donation Service was developed breaking out the blood product ‘donated’ from the donation event itself. This is a more sustainable and interoperable approach. Future changes to the Transfusion Service should uptake this style.

### Activity Diagram

The donation service messages have been developed to facilitate communications between typical system components in a blood bank donation service facility. Frequently different components of blood banking systems (e.g. registration, questionnaire) are bundled together in one system produced by one vendor. However since there is no standard for that bundling, in any particular implementation any of the named system components can be implemented on another system and therefore communications to that component is necessary. The typical components are illustrated in the graphic on the next page.

Additionally, the graphic also depicts a flow of information through those systems during a donation process.



### Actors

As mentioned previously, many of the existing systems used in the collection process conduct all these actions in a single bundled system. Extension of the systems on this page is presented in this format because there is no standard for that bundling, in any particular implementation any of the named system components can be implemented on another system and therefore communications to that component is necessary.

#### Ordering Provider

For Directed and Autologous Donations, this is the Healthcare Provider requesting a blood donation.

#### Registration System

All donors are registered in this system.

#### Donor book of record System

This is the source-of-truth for every donor, whether evaluated and deferred, rejected, or not deferred.

#### Mini-physical System

The mini-physical examination conducted on all potential donors is documented using this system.

#### Questionnaire System

Each potential donor must fill out a questionnaire which asks about previous medical history and risk factors using this documentation system.

#### Donation System

The phlebotomists and other healthcare professionals use this system to document the blood donation procedure.

#### Device Interfaces

Interface to devices used during the mini-physical, donation, and shipping systems.

#### Provider Master

This system keeps the master list of providers.

#### Shipping System

This system is used to document the shipping manifest from information received from the actual donations.

### DBC - Create Donor Record Message (Event O41)

The Create Donor Record messages contain information to create a new donor book of record.

|  | **Create Donor Record****DBC^O41** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
|  [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  [ PD1 ] | Additional Demographics  |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [{ AL1 }] | Allergy Information  |  |
| ] | ***--- Donor end*** |  |

### DBU - Update Donor Record Message (Event O42)

The Update Donor Record messages contain information to update an existing donor book of record.

|  | **Update Donor Record****DBU^O42** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
|  [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  [ PD1 ] | Additional Demographics |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [{ AL1 }] | Allergy Information |  |
| ] | ***--- Donor end*** |  |

### QBP - Get Donor Record Candidates (Event Q33)

This query/response is designed for interaction between a registration system and the system which contains the Donor Book of Record. The query consists of query parameters which assist in determining if the Donor already has a record in the Donor Book or Record system. The query parameters are minimal and number of elements returned in the query response for each candidate is minimal.

| Query Statement ID: | Q33 |
| --- | --- |
| Query Type: | Query by Parameter |
| Query Name: | Get Donor Record Candidates |
| Query Trigger: | QBP^Q33^QBP\_Q33 |
| Query Mode: | Immediate |
| Response Trigger: | RSP^K33^RSP\_K33 |
| Query Characteristics | Query is used to find if a donor record exists on the Donor Book of Record system. A few, basic, demographic paramters are provided. The return are a set of records which meet the parameter criteria. The intent is to ‘select’ one of the returned candidate records, then run the Get Donor Record query to return the detail for that specific donor. |
| Purpose: | Returns minimal information for set of donor records |

|  | **Get Donor Record Candidates****QBP^Q33** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
| QPD | Query Parameter Definition Segment |  |
| RCP | Response Control Parameters |  |

### RSP - Get Donor Record Candidates Response (K33)

|  | **Segment Pattern Response****RSP^K33** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
|  MSA | Message Acknowledgement |  |
|  [ERR] | Error |  |
|  QAK | Query Acknowledgement |  |
|  QPD | Query Parameter Definition |  |
|  [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
| ] | ***--- Donor end*** |  |

### QBP - Get Donor Record (Event Q34)

This query/response is designed for interaction between a viewing system and the system which contains the Donor Book of Record. The query consists of query parameters, and the response of the demographics for that donor.

| Query Statement ID: | Q34 |
| --- | --- |
| Query Type: | Query by Parameter |
| Query Name: | Get Donor Record |
| Query Trigger: | QBP^Q34^QBP\_Q34 |
| Query Mode: | Immediate |
| Response Trigger: | RSP^K34^RSP\_K34 |
| Query Characteristics | Uses donor id to find a specific donor record and return it. |
| Purpose: | Returns demographic information and donations for a donor |

|  | **Get Donor Record****QBP^Q34** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
| QPD | Query Parameter Definition Segment |  |
| RCP | Response Control Parameters |  |

### RSP - Get Donor Record Response (K34)

|  | **Segment Pattern Response****RSP^K34** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
|  MSA | Message Acknowledgement |  |
|  [ERR] | Error |  |
|  QAK | Query Acknowledgement |  |
|  QPD | Query Parameter Definition |  |
|  [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  [ PD1 ] | Additional Demographics |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [{ AL1 }] | Allergy Information |  |
|  [ | ***--- Donor Registration begin*** |  |
|  [ PV1 ]  | Patient Visit (Donor Registration) |  |
|  [{ NTE }] | Notes and Comments (for Donor Registration) |  |
| ] | ***--- Donor Registration end*** |  |
| ] | ***--- Donor end*** |  |
|  [ | ***--- Donation begin*** |  |
| DON | Donation |  |
|  [{OBX}] | Adverse Reaction Observations |  |
|  [{ NTE }] | Notes and Comments (For Donation) |  |
| ] | ***--- Donation end*** |  |

### DRG - Donor Registration (Event O43)

The Donor Registration messages contain information to register a donor for a donation.

|  | **Donor Registration****DRG^O43** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
|  [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  [ PD1 ] | Additional Demographics |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [{ AL1 }] | Allergy Information |  |
|  [ | ***--- Donor Registration begin*** |  |
|  [ PV1 ]  | Patient Visit (Donor Registration) |  |
|  [{ NTE }] | Notes and Comments (for Donor Registration) |  |
| ] | ***--- Donor Registration end*** |  |
|  |  |  |
|  |  |  |
| ] | ***--- Donor end*** |  |

### DER - Donor Eligibility Request (Event O44)

The Donor Registration messages contain minimal information about a donor registration.

|  | **Donor Registration - Minimal****DRM^O44** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
|  [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  [ PD1 ] | Additional Demographics |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [{ AL1 }] | Allergy Information |  |
|  [ | ***--- Donor Registration begin*** |  |
|  [ PV1 ]  | Patient Visit (Donor Registration) |  |
|  [{ NTE }] | Notes and Comments (for Donor Registration) |  |
| ] | ***--- Donor Registration end*** |  |
|  |  |  |
|  |  |  |
| ] | ***--- Donor end*** |  |
| {  | ***--- Donation Order begin*** |  |
|  OBR | Observation |  |
|  [{NTE}] | Notes and Comments (for Detail)  |  |
| } | ***--- Donation Order end*** |  |

### DEO - Donor Eligibility Observations (Event O45)

Communicate both mini-physical observations and questions and answers from a donor questionnaire.

|  | **Donor Eligibility Observations****DEO^O45** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
|  [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  |  |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [ | ***--- Donor Registration begin*** |  |
|  [ PV1 ]  | Patient Visit (Donor Registration) |  |
|  [{ NTE }] | Notes and Comments (for Donor Registration) |  |
| ] | ***--- Donor Registration end*** |  |
| ] | ***--- Donor end*** |  |
|  { | ***--- Donation Order begin*** |  |
|  [OBR](#OBR) | Observations Request |  |
|  {[NTE]} | Notes and comments |  |
|  [{ | ***--- Donation Observation begin*** |  |
|  [OBX](#OBX) | Observation related to OBR |  |
|  {[NTE]} | Notes and comments |  |
|  }]  | ***--- Donation Observation end*** |  |
|  }  | ***--- Donation Order end*** |  |

### DEL - Donor Eligibility (Event O46)

Use this segment to communicate a donor’s eligibility to donate.

|  | **Donor Eligibility****DEL^O46** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
| [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  [ PD1 ] | Additional Demographics |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [{ AL1 }] | Allergy Information |  |
|  |  |  |
|  [ | ***--- Donor Registration begin*** |  |
|  [ PV1 ]  | Patient Visit (Donor Registration) |  |
|  [{ NTE }] | Notes and Comments (for Donor Registration) |  |
| ] | ***--- Donor Registration end*** |  |
| ] | ***--- Donor end*** |  |
| DON | Donation  |  |
|  [{ NTE }] | Notes and Comments (for Donation) |  |

### DRC - Donor Request to Collect (Event O47)

Used to communicate to a collection system that the donor is eligible and collection can begin.

|  | **Donor Request to Collect****DRC^O47** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
| [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  [ PD1 ] | Additional Demographics |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [{ AL1 }] | Allergy Information |  |
|  |  |  |
|  [ | ***--- Donor Registration begin*** |  |
|  [ PV1 ]  | Patient Visit (Donor Registration) |  |
|  [{ NTE }] | Notes and Comments (for Donor Registration) |  |
| ] | ***--- Donor Registration end*** |  |
| ] | ***--- Donor end*** |  |
| {  | ***--- Donation Order begin*** |  |
|  OBR | Observation |  |
|  [{NTE}] | Notes and Comments (for Detail)  |  |
| } | ***--- Donation Order end*** |  |

### DPR - Donation Procedure (Event O48)

This segment contains information from the blood unit collection procedure from the donor.

|  | **Donation Procedure****DPR^O48** | Chapter |
| --- | --- | --- |
| **Segment** | **Description** |  |
| MSH | Message Header |  |
|  [{SFT}] | Software Segment |  |
|  [ UAC ] | User Authentication Credential |  |
| [ | ***--- Donor begin*** |  |
|  PID | Patient Identification Segment |  |
|  [ PD1 ] | Additional Demographics |  |
|  [{ OBX }] | Donor Observations |  |
|  [{ NTE }] | Notes and Comments (for Donor) |  |
|  [{ AL1 }] | Allergy Information |  |
|  |  |  |
|  [ | ***--- Donor Registration begin*** |  |
|  [ PV1 ]  | Patient Visit (Donor Registration) |  |
|  [{ NTE }] | Notes and Comments (for Donor Registration) |  |
| ] | ***--- Donor Registration end*** |  |
| ] | ***--- Donor end*** |  |
| {  | ***--- Donation Order begin*** |  |
|  OBR | Observation |  |
|  [{NTE}] | Notes and Comments  |  |
| } | ***--- Donation Order end*** |  |
| [ | ***--- Donation begin*** |  |
|  DON | Donation |  |
|  [{OBX}] | Donation Observation (Adverse Reactions, Associations, etc.) |  |
|  [{ NTE }] | Notes and Comments (for Donation) |  |
|  [ | ***--- Blood Unit begin*** |  |
|  [{BUI}] | Blood Unit Information |  |
|  [{NTE}] | Notes and Comments (for Blood Unit) |  |
|  ] | ***--- Blood Unit end*** |  |
| ] | ***--- Donation end*** |  |

## Donation Service (blood bank) segment

### DON – DONATION Segment

The intent of this segment is to describe the actual donation procedure.

| SEQ |  | LEN | DT | OPT | RP/# | TBL# | ITEM # | ELEMENT NAME |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1 |  |  | EI | C | N |  |  | Donation Identification Number |
| 2 |  |  | CNE | C | N |  |  | Donation Type |
| 3 |  |  | DTM | R | N |  |  | Phlebotomy Start Date/Time |
| 4 |  |  | DTM | R | N |  |  | Phlebotomy End Date/Time |
| 5 |  |  | NM | R | N |  |  | Donation Duration |
| 6 |  |  | CNE | R | N | 0559 |  | Donation Duration Units |
| 7 |  |  | CNE | R | Y | 0560 |  | Intended Procedure Type |
| 8 |  |  | CNE | R | Y | 0560 |  | Actual Procedure Type |
| 9 |  |  | ID | R | N | 0136 |  | Donor Eligibility Flag |
| 10 |  |  | CNE | R | Y | 0560 |  | Donor Eligibility Procedure Type |
| 11 |  |  | DTM | R | N |  |  | Donor Eligibility Date |
| 12 |  |  | CNE | R | N | 0561 |  | Process Interruption |
| 13 |  |  | CNE | R | N | 0562 |  | Process Interruption Reason |
| 14 |  |  | CNE | R | Y | 0564 |  | Phlebotomy Issue |
| 15 |  |  | ID | R | N | 0136 |  | Intended Recipient Blood Relative |
| 16 |  |  | XPN | R | N |  |  | Intended Recipient Name |
| 17 |  |  | DTM | R | N |  |  | Intended Recipient DOB  |
| 18 |  |  | XON | R | N |  |  | Intended Recipient Facility  |
| 19 |  |  | DTM | R | N |  |  | Intended Recipient Procedure Date  |
| 20 |  |  | XPN | R | N |  |  | Intended Recipient Ordering Provider |
| 21 |  |  | CNE | R | N | 0563 |  | Phlebotomy Status |
| 22 |  |  | CNE | R | N | 0565 |  | Arm Stick |
| 23 |  |  | XPN | R | N |  |  | Bleed Start Phlebotomist |
| 24 |  |  | XPN | R | N |  |  | Bleed End Phlebotomist |
| 25 |  | 75# | ST | R | N |  |  | Aphaeresis Type Machine |
| 26 |  | 25# | ST | R | N |  |  | Aphaeresis Machine Serial Number |
| 27 |  |  | ID | R | N | 0136 |  | Donor Reaction |
| 28 |  |  | XPN | R | N |  |  | Final Review Staff ID |
| 29 |  |  | DTM | R | N |  |  | Final Review Date/Time |
| 30 |  |  | NM | R | N |  |  | Number of Tubes Collected |
| 31 |  |  | EI | R | Y |  |  | Donation Sample Identifier |
| 32 |  |  | XCN | R | N |  |  | Donation Accept Staff |
| 33 |  |  | XCN | R | Y |  |  | Donation Material Review Staff |

#### DON-1 Donation Identification Number - DIN (EI)

Definition: This field contains a unique identifier, Donation Identification Number (DIN) for the specific donation and is therefore mandatory except when using an eligibility message type in which only DON 9, 10, and 11 are populated.

#### DON-2 Donation Type (CNE)

Definition: The type of donation. Element is mandatory except when using an eligibility message type in which only DON 9, 10, and 11 are populated. The values for this field are defined in Table RT008 - Type of Donation or Collection in 6th Position of Product Code in the ISBT 128 Standard Technical Specification, which is maintained by ICCBBA. Link: <http://iccbba.org/technicalspecification.pdf>. Table 5 Data Structure 002.

#### DON-3 Phlebotomy Date/Time (DTM)

Definition: The start date and time of the phlebotomy.

#### DON-4 Phlebotomy End Date/Time (DTM)

Definition: The end date and time of the phlebotomy.

#### DON-5 Donation Duration (NM)

Definition: The duration of the phlebotomy or the length of time that elapsed between the phlebotomy start date and time and the phlebotomy end date and time.

#### DON-6 Donation Duration Units (CNE)

Definition: The duration units. The duration units and duration are restricted to minutes and seconds. Concepts are pulled from the UCUM code system (www.unitsofmeasure.org).

HL7-defined Table 0559 – Duration Units

| Value | Description | Comment |
| --- | --- | --- |
| min | Minutes |  |
| s | Seconds |  |

#### DON-7 Intended Procedure Type (CNE)

Definition: The procedure(s) intended to be performed on the donor.

HL7 Table 0560 – Intended Procedure Type

| Value | Description | Comment |
| --- | --- | --- |
| WBL | Whole Blood |  |
| 2RC | Double Red Cells |  |
| PLS | Plasma |  |
| PLT | Platelets |  |
| PNP | Platelets and Plasma |  |
| PNR | Platelets and Red Cells |  |
| PPR | Platelets, Plasma, and Red Cells |  |
| GRN | Granulocytes |  |
| HEM | Hemachromatosis  |  |
| HPC | Hematopoietic Progenitor Cells | Stem Cells and other cells classified as Hematopoietic |
| LYM | Lymphocytes |  |
| THA | Therapeutic Apheresis |  |
| THW | Therapeutic Whole Blood |  |

#### DON-8 Actual Procedure Type (CNE)

Definition: The actual procedure(s) performed on the donor. Values can be found in HL7 Table 0560 – Blood Procedure Type.

#### DON-9 Donor Eligibility Flag (ID)

Definition: Is the Donor eligible for donation? Yes or No.

#### DON-10 Donor Eligibility Procedure Type (CNE)

Definition: The procedure(s) for which the donor is eligible. . Values can be found in HL7 Table 0560 – Blood Procedure Type.

#### DON-11 Donor Eligibility Date (DTM)

Definition: The date and time on which the donor is eligible to donate.

#### DON-12 Process Interruption (CNE)

Definition: Was the donation process interrupted after it began? Values are pulled from Table 0561.

HL7-defined Table 0561 – Process Interruption

| Value | Description | Comment |
| --- | --- | --- |
| NIN | Process was not interrupted |  |
| WOT | Walk Out: Process interrupted before the Phlebotomist inserts the needle in the Donor’s arm |  |
| ABR | Aborted Run: Process interrupted after the Phlebotomist inserts the needle in the Donor’s arm |  |

#### DON-13 - Process Interruption Reason (CNE)

Definition: Reason that the donation process was interrupted. Values are from Table 0562.

HL7-defined Table 0562 – Process Interruption Reason

| Value | Description | Comment |
| --- | --- | --- |
| NRG | No reason given, donor decided to stop without giving a reason |  |
| PCD | Phone Call-Donor |  |
| DCW | Couldn’t wait |  |
| CFT | Couldn’t follow through with donation (scared) |  |
| DBB | Bathroom |  |
| DNI | Phlebotomy Issue |  |
| ASC | Apheresis Software Crash |  |
| BSC | Manufacturing Software Crash |  |
| GFE | General Facility Emergency | Power outage, natural disaster (tornado, flood, hurricane, etc.), air conditioning failure, etc. |

#### DON-14 Phlebotomy Issue (CNE)

Definition: If there is a problem or issue with the phlebotomy itself. This may be due to an incorrect needle procedure, needle defect, tube blockage, problem with the apheresis machine, or improper action by the phlebotomist

HL7-defined Table 0564 – Phlebotomy Issue

| Value | Description | Comment |
| --- | --- | --- |
| INF | Infiltration |  |
| VSM | Vein Spasm |  |
| COL | Collapse |  |
| MIS | Missed / in tissue |  |
| NAD | Needle adjustment (this may not end a procedure, if successful will impact component production) |  |
| PFL | Poor flow |  |
| CLT | Clotted |  |
| DND | Defective Needle |  |
| DBG | Defective Bag |  |
| DAK | Defective Apheresis Kit |  |
| DMT | Defective Instrument |  |
| IPF | Instrument Power Failure |  |
| ACN | Air Contamination |  |

#### DON-15 Intended Recipient Blood Relative (ID)

Definition: If this donation has an intended recipient (directed, dedicated, designated), is the intended recipient a blood relative of the donor? Yes or No.

#### DON-16 Intended Recipient Name (XPN)

Definition: If this is donation has an intended recipient (autologous, directed, dedicated, designated), the intended recipient’s name.

#### DON-17 Intended Recipient DOB (DTM)

Definition: If this donation has an intended recipient (autologous, directed, dedicated, designated), the intended recipient’s date of birth.

#### DON-18 Intended Recipient Facility (XON)

Definition: If this donation has an intended recipient (autologous, directed, dedicated, designated), the facility where the intended recipient is expected to receive the transfusion.

#### DON-19 Intended Recipient Procedure Date (DTM)

Definition: If this donation has an intended recipient (autologous, directed, dedicated, designated), the date the intended recipient is expected to receive the transfusion.

#### DON-20 Intended Recipient Ordering Provider (XPN)

Definition: If this is donation has an intended recipient (autologous, directed, dedicated, designated), the provider who ordered the directed donation for the intended recipient.

#### DON-21 Phlebotomy Status (CNE)

Definition: Whether the phlebotomy was successful, not drawn, or unsuccessful, and if unsuccessful, the extent to which it was unsuccessful.

HL7-defined Table 0563 – Phlebotomy Status

| Value | Description | Comment |
| --- | --- | --- |
| SUC | Successful | Successful means a complete component was drawn |
| NDR | Not Drawn |  |
| UL5 | Unsuccessful Less than 50 ml drawn |  |

#### DON-22 Arm Stick (CNE)

Definition: The arm(s) stuck for the donation.

HL7-defined Table 0565 – Arm Stuck

| Value | Description | Comment |
| --- | --- | --- |
| L | Left Arm |  |
| R | Right Arm |  |
| B | Both Arms |  |

#### DON-23 Bleed Start Phlebotomist (XPN)

Definition: The Phlebotomist who starts the blood flow into the container.

#### DON-24 Bleed End Phlebotomist (XPN)

Definition: The Phlebotomist who ends the blood flow into the container.

#### DON-25 Aphaeresis Type Machine (ST)

Definition: The type of aphaeresis machine if used for the donation. It will be the specific product name of the machine (e.g. Trima, Amicus, Alyx, Symal, etc.)

#### DON-26 Aphaeresis Machine Serial Number (ST)

Definition: The serial number of the aphaeresis machine if used for the donation.

#### DON-27 Donor Reaction (ID)

Definition: Did the donor have any adverse reaction during the donation procedure? Yes or No. If this element is valued “Y”es, there should be OBX segments following the Donation segment which details the adverse reactions.

#### DON-28 Final Review Staff ID (XPN)

Definition: The Staff member conducting the final review and reconciliation of all documentation created during the collection process.

#### DON-29 Final Review Date/Time (DTM)

Definition: The date and time a final review of all documentation and labeling of the blood material is completed.

#### DON-30 Number of Tubes Collected (NM)

Definition: The number of samples collected during the donation which will be used for subsequent testing.

#### DON-31 Donation Sample Identifier (EI)

Definition: The sample identifier for the sample collected during a donation for the purpose of testing. This is a field for sample or specimen identifiers.

#### DON-32 Donation Accept Staff (XCN)

Definition: The staff member who reviewed all the intake materials, assessments and determined the donor can undergo a donation procedure at this time.

#### DON-32 Donation Material Review Staff (XCN)

Definition: The staff member who performs review on all documentation subsequent to donation procedure.

## Blood UNIT Segment

### BUI – Blood Unit information Segment

The intent of this segment is to describe the information associated with a blood unit, one example of which is one or more blood unit(s) resulting from a donation.

| SEQ | LEN | DT | OPT | RP/# | TBL# | ITEM # | ELEMENT NAME |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1 | 1..4 | SI | O | N |  |  | Set ID – BUI |
| 2 |  | EI | R | N |  |  | Blood Unit Identifier |
| 3 |  | CNE | R | N | 0566 |  | Blood Unit Type |
| 4 |  | NM | R | N |  |  | Blood Unit Weight |
| 5 |  | CNE | R | N | 0567 |  | Weight Units |
| 6 |  | NM | R | N |  |  | Blood Unit Volume |
| 7 |  | CNE | R | N | 0568 |  | Volume Units |
| 8 |  | ST | R | N |  |  | Container Catalog Number |
| 9 |  | ST | R | N |  |  | Container Lot Number |
| 10 |  | XON | R | N |  |  | Container Manufacturer |
| 11 |  | NR | R | N |  |  | Transport Temperature |
| 12 |  | CNE | R | R | 0569 |  | Transport Temperature Units |

#### BUI-1 Set ID (SI)

Definition: This field contains a sequence number. When multiple BUI segments are included in the same segment group, this number differentiates between them.

#### BUI-2 Blood Unit Identifier (EI)

Definition: The blood unit identifier is a unique identifier assigned to the particular blood unit in a container.

#### BUI-3 Blood Unit Type (CNE)

Definition: The type of blood unit. For donations, this is the type blood unit being described. This element defines which of the types from the table below are being described.

HL7 Table 0566 – Blood Unit Type

| Value | Description | Comment |
| --- | --- | --- |
| WBL | Whole Blood |  |
| RBC | Red Blood Cells |  |
| PLS | Plasma |  |
| PLT | Platelets |  |
| GRN | Granulocytes |  |
| PSC | Peripheral Stem Cells |  |
| LYM | Lymphocytes |  |

#### BUI-4 Blood Unit Weight (NM)

Definition: The weight of the blood unit collected not including the weight of the container.

#### BUI-5 Weight Units (CNE)

Definition: The unit of measure for the weight of the blood unit. Concepts are pulled from the UCUM code system (www.unitsofmeasure.org).

HL7-defined Table 0567 – Weight Units

| Value | Description | Comment |
| --- | --- | --- |
| [lb\_av] | Pound |  |
| [oz\_av] | Ounce |  |
| kg | Kilogram |  |
| g | Gram |  |

#### BUI-6 Blood Unit Volume (NM)

Definition: The volume of the blood unit collected.

#### BUI-7 Volume Units (CNE)

Definition: The unit of measure for the volume of the blood unit. Concepts are pulled from the UCUM code system (www.unitsofmeasure.org).

HL7-defined Table 0568 – Volume Units

| Value | Description | Comment |
| --- | --- | --- |
| l | Liter |  |
| [pt\_us] | Pint |  |
| ml | Milliliters |  |

#### BUI-8 Container Catalog Number (ST)

Definition: The string catalog number of the blood unit container, which includes a specific container code to identify a collection bag.

#### BUI-9 Container Lot Number (ST)

Definition: The lot number for the collection bag container as assigned by the container manufacturer.

#### BUI-10 Container Manufacturer (XON)

Definition: The organization which manufactured the collection bag container.

#### BUI-11 Transport Temperature (NR)

Definition: The temperature range between which the blood unit must be kept during transport.

#### BUI-12 Transport Temperature Units (CNE)

Definition: The unit of measure of the transport temperature range. Concepts are pulled from the UCUM code system (www.unitsofmeasure.org).

HL7-defined Table 0569 – Temperature Units

| Value | Description | Comment |
| --- | --- | --- |
| degF | Degrees Fahrenheit |  |
| Cel | Degrees Celsius |  |