

## Introduction to the ISBT 128 Labelling Standard for Blood Components

## **Hospital IT Perspective**



## What is ISBT 128?

"An international standard for the transfer of information associated with tissue transplantation, cellular therapy and blood transfusion.

It provides for a globally unique donation numbering system, internationally standardized product definitions and standard data structures for bar coding and electronic data interchange."



## **ISBT 128 Technology Standard**

- · Much more than a new label layout
- Provides standard information and layout for blood component labels
- Defines data structure for information appearing on labels
- Defines data identifiers for bar codes used in blood component labelling & data transfer
- Defines technical details for the bar code
- Technical Specifications document available on ICCBBA website





# ISBT 128 Implementation



### **ISBT 128 Implementation**

- Canadian Blood Services plans to implement ISBT 128 by May 2009
- Will require changes to Canadian Blood Services blood management system (PROGESA)
- Many hospitals may also be required to update their systems
- Will require changes to SOPs, forms and labels
- Implementation timelines announced April 9, 2008 to allow hospitals adequate notice for successful implementation





# ISBT 128 Data Structures and Identifiers



### **ISBT 128 Data Structures**

- Data structures define the way information is presented in ISBT 128.
- Data structure can be incorporated into many information delivery systems e.g. bar codes, electronic messages, RFID tags
- Donation Number and Product Code are just two of many ISBT 128 data structures
- When ISBT 128 data structure appears in bar code format the data characters are printed in eye readable format immediately beneath the bar code



#### **ISBT 128 Data Structures**

- The data structures and identifiers for the ISBT 128 Donation Number, Product Codes and Blood Groups are summarized in this presentation
- Refer to the current version of the ISBT 128 Standard Technical Specification at ICCBBA.org for a complete description of all the ISBT 128 data structures.

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## **Data Identifiers**



### **ISBT 128 Data Identifiers**

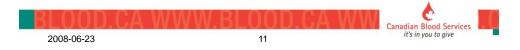
- Data identifiers define the type of information the bar code contains (e.g. Product Code, ABO/Rh Blood Group)
- Each bar code on a blood product will begin with 2 data identifier characters (except Donation Number)
- The first character will always be "=" or "&". By international agreement, these characters specify an ISBT 128 data structure
- Reduces error since data cannot be entered into an incorrect field





## **Data Identifiers for Major Bar Codes**

- = Donation Number
- =% Blood Group (ABO/Rh)
- =< Product Code</p>
- =\* Collection Date
- => Expiration Date
- &> Expiration Date & Time
- =\ Special Testing: Red Cell Antigen
- & (Special Testing: General



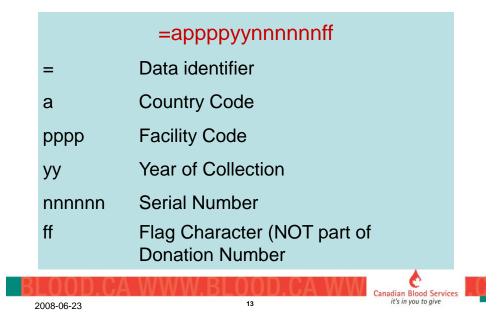


## **Donation Number**

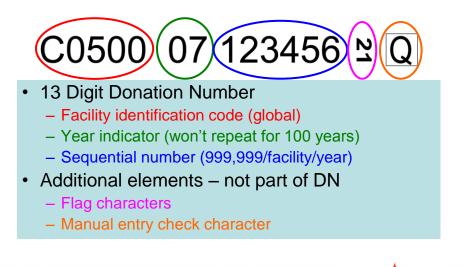
## ISBT 128 Data Structure 001



## **Donation Number Data Structure**



### **ISBT 128 Donation Number**



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## **ISBT 128 Donation Number**

- Donation Number data structure provides unique identification of donation world wide for 100 years.
- Comprised of 13 data characters.
- Included in the data structure are 2 flag characters and a Keyboard Entry Check Character. These are NOT part of the Donation Number

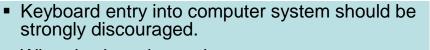


### **Donation Number – Flag Characters**

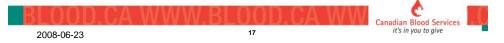
- Flag characters are NOT part of the Donation Number
- Are used for process control
- Will NOT be the same on component label as on label applied at collection or what is printed on packing slips
- Are encoded in the bar code and printed on labels and reports



## **Keyboard Entry Check Character**



- When keyboard entry is necessary, computer software should be designed to recognize manual entry and require entry of Check Character for verification of data entered.
- Check character required for manual entry of long numbers (e.g., donation number and red cell antigen testing)
- Not in the bar code because it's meant to check KEYBOARD entry
- May want to record in manually written records





## ISBT 128 Product Codes and Definitions

### ISBT 128 Data Structure 003



### **ISBT 128 Product Codes & Definitions**

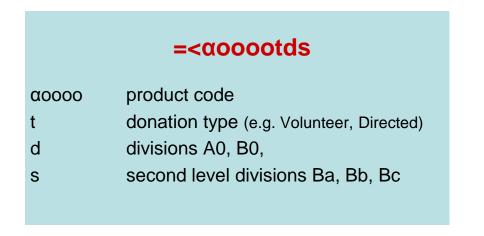
8 digit product code data structure includes donation type and allows for definition of additional information

- 5 digit product code which defines
  - Core conditions e.g. anticoagulant, volume, storage conditions
  - Component Class e.g. Red Blood Cells, Platelets
  - Modifiers e.g. washed, thawed
  - Attributes e.g. irradiated, residual white count, low platelet count
- 3 digits define donation type and divisions/splits

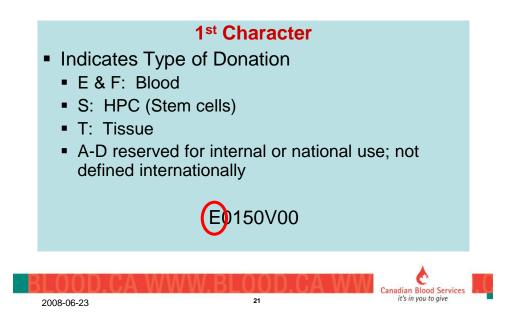
Product Code Database maintained by ICCBBA. All products distributed nationally/internationally must have a standard ISBT 128 product code.



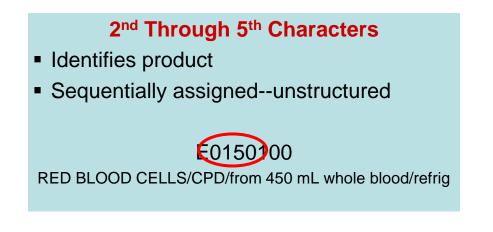
#### **Product Code Data Structure**



## **Product Code Structure**

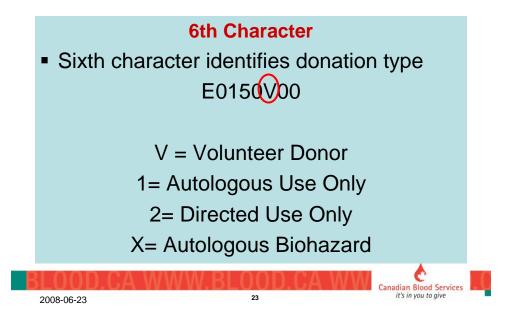


### **Product Code Structure**

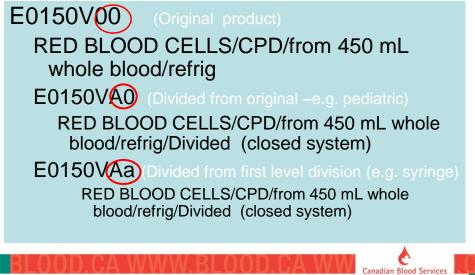




## **Type of Donation**



## **Divisions/Splits**



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### **Product Codes – Codabar vs ISBT 128**

 No one to one relationship between Codabar & ISBT 128. Example - CPD Whole Blood:

Codabar Product Code		00150
ISBI 128 Pro	duct Codes include:	
Whole Blood	CPD/450mL/refg	E0009
Whole Blood	CPD/450mL/refg/Open	E0013
Whole Blood	CPD/500mL/refg	E0023
Whole Blood	CPD/500mL/refg/Open	E0027
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## **Example of ISBT 128 Product Code**

- Component Class: Red Blood Cells
- Modifier: None
- Core Conditions
  - Anticoagulant CPDA-1
  - original volume
    450 ml
  - storage conditions refrigerated
- Attribute: Irradiated
  ISBT PRODUCT CODE = E0206



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## **ISBT 128 Blood Groups**

#### ISBT 128 Data Structure 002

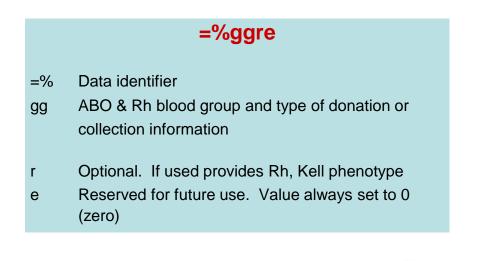


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## **Blood Groups**

- Indicates the blood groups (ABO and Rh) or a product
- Optionally, may display information indicating
  - Donation type (e.g. Autologous, Directed)
  - Status of donation or collection (e.g. Biohazard, Research Use)
- Optionally, may encode information for C, c, E, e, K or Miltenberger phenotypes

#### **Blood Groups Data Structure**







## ISBT 128 Standard Label

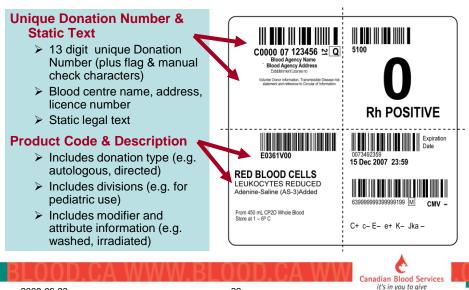


### **ISBT 128 Standard Label**

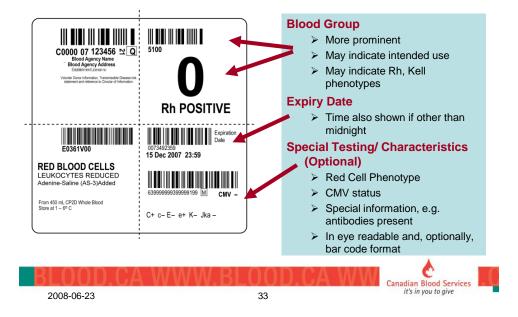
- ISBT 128 blood product label is divided into four quadrants
- Regardless of site of collection globally, the bar codes should be placed in same relative positions on product label
- The ISBT 128 Standard defines the placement of the following bar codes:
  - Donation Identification Number
  - ABO/Rh Blood Group
  - Product Code
  - Collection Date
  - Special Testing
- The Canadian Blood Services label design is not finalized and the label will not be exactly as shown in the following diagrams



#### Standard ISBT 128 End Label Format



## Standard ISBT 128 End Label Format



#### Extended ISBT 128 Label

- Canadian Blood Services plans to use an extended ISBT 128 label for a transition period to allow hospital systems time to become ISBT 128 compliant
- Duration of transition period has not yet been determined
- Extended portion of label has critical information (Donation Number, Product Code, Blood Group, Facility Code, Expiration) in Codabar format
- Similar format to that implemented by Héma-Québec (refer to CL #2007-24)

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## ISBT 128 Impact on Hospitals



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### **Impact on Hospitals**

#### Things to consider:

- Project planning and communication
- Work instruction and form revision
- Training of Transfusion Service and Clinical Staff
  - Anyone who handles blood components need training to the changes to the label
- Software preparation & validation
  - Version upgrade may be required
- Hardware requirements bar code scanners, printers
- Impact on other systems
  - · Medical Records, report generating systems
- Registration with ICCBBA
  - Information available at <u>www.iccbba.org</u>

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## **Communication is Key!**

- Communication is key to a successful ISBT 128 Implementation
- Anyone who handles blood components or enters/ records donation information is potentially impacted
  - Lab staff
  - Systems administrators
  - Logistics staff
  - Nursing staff
  - Physicians
  - Patient records office
  - Hospital education office
  - Senior management
  - Outside agencies



### Canadian Blood Services Communications Tools

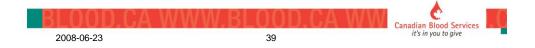
- Customer Letters
  - CL #2008-06 issued to provide Canadian Blood Services planned implementation date
  - Additional letters will be issued when significant events are planned
- Consultation with Hospital Liaison Specialists
- Presentations



## Canadian Blood Services Communications Tools

#### Internet

- Information and links to be posted on transfusionmedicine.ca
- Sample Implementation Readiness Checklist
- Information Powerpoint presentations
- Timelines
- Sample labels
- Feedback tool for questions isbt128@blood.ca
- Database of frequently asked questions



#### Canadian Blood Services Implementation Support

Support will be provided including:

- Adequate and timely information and updates on implementation timelines/plans
- Detailed information on label configuration
- Sample labels
- Product codes
- Facility codes
- Other information required for successful implementation

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## For more information on ISBT 128 implementation at Canadian Blood Services: www.transfusionmedicine.ca

