Chapter 25: Standards for electronic data interchange within the UK Blood Transfusion Services

25.1: Introduction

UK Blood Establishments and hospital blood bank computer systems have developed to provide sophisticated control of information on donors, blood components and patients, with secure methods of information transfer utilising barcodes and electronic data capture. However, secure information transfer between Blood Establishments and their customer hospitals has been limited to the barcoded information incorporated on the blood packs, and is of restricted scope.

In the future it is hoped that international electronic data interchange standards such as HL7 (not for profit organisation setting standards for healthcare IT communication in UK – www.hl7.org.uk) will be developed and adopted by Blood Establishments. The Joint UKBTS/HPA Professional Advisory Committee (JPAC) Standing Advisory Committee on Information Technology (SACIT) will continue to monitor developments by special interest groups in this area. Currently the International Society of Blood Transfusion (ISBT) Working Party on Information Technology has established an Interface Task Force to look at setting standards between laboratory instruments and Blood Establishment computer systems based on HL7 and LIS2 (EC programme promoting the information society in Latin America). The development and implementation of these international standards will take many years and SACIT has long recognised the desirability of developing UK standards for data transfer. The messages defined in this document are well established in the UK and should continue to be used.

This document describes a standard for messages used in communication between Blood Services and their customers. Each message comprises a standard envelope and a message content. The envelope specifies the overall structure of UKBTS messages and identifies the specific message content included inside the envelope. The message content will comply with one of the message protocols defined in this document. Each message protocol defines the content and format of a specific type of data transaction.

The standard does not address the delivery mechanism, or any surrounding envelopes. Thus, it provides a standard which is relevant to delivery mechanisms as diverse as e-mail messages, web page downloads, ftp transfers, or ASCII text files.

At the same time it retains a standard presentation of messages which readily identifies them as belonging to the UKBTS set, and allows a general process to identify the type of message received, the source and the destination.

25.2: Control of message structures
The standard is controlled by SACIT. All messages utilising the UKBTS envelope must comply with an approved message structure.

Proposals for new messages, or amendment to existing messages, should be submitted in the first instance to the Chair of SACIT. These will be reviewed by SACIT and if approved will be incorporated into the standard. While the objective is to obtain standards applied throughout the UK, the two-level structure does allow the flexibility of defining different structures at the message protocol level where essential.

25.3: General protocol

The general protocol defines the general character of the overall message, and elements which are common to both the envelope and the message content. The message uses standard ASCII characters throughout, and lines are terminated with the carriage return (ASCII 13) character. Fields are all fixed width and left-justified. Leading zeros for numeric fields are used only where explicitly indicated.

Please note that this standard does not necessarily conform to any particular operating system standard for specifying a text file. For example, Unix-based operating systems (including Apple Mac OS X) use line feed (ASCII 10) to terminate text lines and Microsoft Windows uses a combination of carriage return and line feed (ASCII 13 and ASCII 10). Apple Mac operating systems prior to OS X used a single carriage return to terminate text lines. Due to these inconsistencies files containing electronic data interchange messages must always be processed character by character and not rely on specific text processing functions.

The following are standard components of every line transmitted:

- The line number: A sequential number defining the line in the file, which is located in character positions 1 to 5 of every line. The header line will always have a line number of 00001.

- The checksum: The checksum immediately precedes the carriage return terminator of each line. The checksum is calculated by taking the sum of the ASCII value of all characters in the line, and then determining the modulus 97 remainder which becomes the checksum.

25.4: Envelope definition

The envelope definition defines the content of the first and last lines of the file/transmission (see Table 25.1).

The first or header line contains an identifier specifying that this is a message complying with a UKBTS specification, the date and time generated, the source and destination of the message, and the protocol number which identifies the relevant protocol to which the message conforms.

Source and destination identifiers for the Blood Establishments will be the ISBT 128 collection facility identification code. It is anticipated that hospital blood banks will use the identifier assigned by their local Blood Establishment.

The terminator line contains a record count indicating the total number of message lines excluding the header and terminator lines, and a standard terminator message.

25.5: Message protocols

Table 25.2 indicates the protocols defined to date.
Table 25.1 Envelope definition

<table>
<thead>
<tr>
<th>No.</th>
<th>Envelope definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Description of the envelope format and its purpose.</td>
</tr>
<tr>
<td>2</td>
<td>Details on the encoding and decoding process.</td>
</tr>
<tr>
<td>3</td>
<td>Guidelines for the secure handling of the envelope.</td>
</tr>
<tr>
<td>4</td>
<td>Examples of different envelope types and their applications.</td>
</tr>
<tr>
<td>Field</td>
<td>Length</td>
</tr>
<tr>
<td>-------</td>
<td>--------</td>
</tr>
<tr>
<td><strong>Header line</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
</tr>
<tr>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td><strong>Footer line</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>9</td>
</tr>
<tr>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>
Table 25.2 Message protocol numbers

<table>
<thead>
<tr>
<th>Protocol number</th>
<th>Title</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>000001</td>
<td>Blood component dispatch information</td>
<td>Defines the message used to transfer information on blood component issues</td>
</tr>
<tr>
<td>000002</td>
<td>Blood derivative dispatch information</td>
<td>Defines the message used to transfer information on blood derivative issues</td>
</tr>
<tr>
<td>000003</td>
<td>Reagent dispatch information</td>
<td>Defines the message used to transfer information on reagent issues</td>
</tr>
<tr>
<td>000004</td>
<td>Blood component dispatch acknowledgement</td>
<td>Defines the message used to transfer information on blood components received</td>
</tr>
<tr>
<td>000005</td>
<td>Blood component fate information</td>
<td>Defines the message used to transfer information on the fate of blood components received</td>
</tr>
</tbody>
</table>

The message protocols contain a range of data defined as either mandatory or optional. The mandatory fields give essential information and must contain valid data. The optional fields give the flexibility to build in a wide range of additional information, but if not required are left as blank (space character) fields.

25.6: Protocol 000001 – blood component dispatch information

Update Notice: Chapter 25 - Tables 25.5 has been updated following the issue of Change Notification 29 - 2015

Two data line structures are defined within this protocol. The first is a single line containing administrative information (order no., dispatch no.), and the second is a multiple occurrence line with an entry for each item on the dispatch. To distinguish between the two line types, a line type indicator is included as the first field following the line number (see Tables 25.3 to 25.6).

Table 25.3 Message protocol 000001: blood component dispatch information: administration line
<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
<th>Description</th>
<th>Format</th>
<th>Mandatory?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Line number</td>
<td>NNNNN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Line type</td>
<td>N</td>
<td>Y</td>
<td>'='1'</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>Order no.</td>
<td>C(12)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>Dispatch no.</td>
<td>C(12)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>Date</td>
<td>YYYYMMDD</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Time</td>
<td>HHMM</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>Checksum</td>
<td>NN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Terminator</td>
<td>Carriage return</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

Table 25.4 Message protocol 000001: blood component dispatch information: dispatch line

<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
<th>Description</th>
<th>Format</th>
<th>Mandatory?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Line number</td>
<td>NNNNN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Line type</td>
<td>N</td>
<td>Y</td>
<td>'='2'</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>Unit identifier</td>
<td>C(15)</td>
<td>Y</td>
<td>ISBT 128 donation identification number (data characters with check character, e.g. 'G151797123456L')</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>Product code</td>
<td>C(9)</td>
<td>Y</td>
<td>Component code (either a full 9-character Codabar code (including start and stop characters), or an 8-character ISBT 128 product code excluding the data identifier characters)</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Group ABO</td>
<td>C(2)</td>
<td>Y</td>
<td>'A', 'B', 'O' or 'AB'</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Group RhD</td>
<td>C(1)</td>
<td>Y</td>
<td>‘+’ or ‘−’</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>Date bled</td>
<td>YYYYMMDD</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>Date of expiry</td>
<td>YYYYMMDD</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>4</td>
<td>Time of expiry</td>
<td>HHMM</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>30</td>
<td>Red cell characteristics</td>
<td>C(30)</td>
<td>N</td>
<td>Position indicates antigen content (see Table 25.5), ‘+’ or ‘−’ for confirmed results, ‘P’ or ‘N’ for unconfirmed results</td>
</tr>
</tbody>
</table>
| 11 | 1 | HLA flag | C(1) | N | ‘Y’: indicates that HLA information is included either in the comment field or on separate documentation  
  Space: no information |
| 12 | 1 | CMV | C(1) | N | ‘+’: positive  
  ‘−’: negative  
  Space: unknown |
| 13 | 1 | Irradiated | C(1) | N | ‘Y’: yes  
  ‘N’ or space: no  
  ‘P’: info in product code |
| 14 | 10 | Platelet-specific phenotype | C(10) | N | Position indicates antigen, content (see Table 25.6)  
  ‘+’: positive result  
  ‘−’: negative result |
| 15 | 1 | IgA | C(1) | N | ‘Y’: indicates that IgA information is included either in the comment field or on separate documentation  
  Space: no information |
| 16 | 1 | High-titre haemolysin | C(1) | N | ‘Y’: present  
  ‘N’: not present  
  Space: untested |
<table>
<thead>
<tr>
<th>Field</th>
<th>Code</th>
<th>Description</th>
<th>Value</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>1</td>
<td>Neonatal</td>
<td>C(1)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘Y’: suitable for neonatal use</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘N’: unsuitable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Space: untested</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘P’: info in product code</td>
</tr>
<tr>
<td>18</td>
<td>1</td>
<td>Filtered</td>
<td>C(1)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No longer used</td>
</tr>
<tr>
<td>19</td>
<td>3</td>
<td>Volume</td>
<td>NNN</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>mL</td>
</tr>
<tr>
<td>20</td>
<td>10</td>
<td>Pack lot no.</td>
<td>C(10)</td>
<td>N</td>
</tr>
<tr>
<td>21</td>
<td>1</td>
<td>Methylene blue</td>
<td>C(1)</td>
<td>N</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No longer used</td>
</tr>
<tr>
<td>22</td>
<td>1</td>
<td>Clinical use</td>
<td>C(1)</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘Y’: suitable for clinical use</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘N’: unsuitable for clinical use</td>
</tr>
<tr>
<td>23</td>
<td>1</td>
<td>Issue type</td>
<td>C(1)</td>
<td>Y</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘R’: routine issue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘S’: selected, unmatched</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘X’: crossmatched</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>‘G’: autologous</td>
</tr>
<tr>
<td>24</td>
<td>10</td>
<td>Cost code/price</td>
<td>C(10)</td>
<td>N</td>
</tr>
<tr>
<td>25</td>
<td>2</td>
<td>Added value code</td>
<td>C(2)</td>
<td>N</td>
</tr>
<tr>
<td>26</td>
<td>30</td>
<td>Comment</td>
<td>Free text</td>
<td>N</td>
</tr>
<tr>
<td>27</td>
<td>2</td>
<td>Checksum</td>
<td>NN</td>
<td>Y</td>
</tr>
<tr>
<td>28</td>
<td>1</td>
<td>Terminator</td>
<td>Carriage return</td>
<td>Y</td>
</tr>
</tbody>
</table>

Table 25.5 Message protocol 000001: blood component dispatch information. Field 10: further characteristic codes
<table>
<thead>
<tr>
<th>Character position in field</th>
<th>Characteristic</th>
<th>Character position in field</th>
<th>Characteristic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>C</td>
<td>16</td>
<td>Jk&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>2</td>
<td>c</td>
<td>17</td>
<td>Jk&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>3</td>
<td>E</td>
<td>18</td>
<td>P&lt;sub&gt;f&lt;/sub&gt;</td>
</tr>
<tr>
<td>4</td>
<td>e</td>
<td>19</td>
<td>A&lt;sub&gt;f&lt;/sub&gt;</td>
</tr>
<tr>
<td>5</td>
<td>C&lt;sup&gt;W&lt;/sup&gt;</td>
<td>20</td>
<td>Lu&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>6</td>
<td>M</td>
<td>21</td>
<td>Lu&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>7</td>
<td>N</td>
<td>22</td>
<td>Kp&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>8</td>
<td>S</td>
<td>23</td>
<td>Kp&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>9</td>
<td>s</td>
<td>24</td>
<td>HbS</td>
</tr>
<tr>
<td>10</td>
<td>K</td>
<td>25</td>
<td>HEV</td>
</tr>
<tr>
<td>11</td>
<td>k</td>
<td>26</td>
<td>Unassigned</td>
</tr>
<tr>
<td>12</td>
<td>Le&lt;sup&gt;a&lt;/sup&gt;</td>
<td>27</td>
<td>Unassigned</td>
</tr>
<tr>
<td>13</td>
<td>Le&lt;sup&gt;b&lt;/sup&gt;</td>
<td>28</td>
<td>Unassigned</td>
</tr>
<tr>
<td>14</td>
<td>Fy&lt;sup&gt;a&lt;/sup&gt;</td>
<td>29</td>
<td>Unassigned</td>
</tr>
<tr>
<td>15</td>
<td>Fy&lt;sup&gt;b&lt;/sup&gt;</td>
<td>30</td>
<td>Unassigned</td>
</tr>
</tbody>
</table>

**25.7: Protocol 000002 – blood derivative dispatch information**
Two data line structures are defined within this protocol. The first is a single line containing administrative information (order no., dispatch no.), and the second is a multiple occurrence line with an entry for each item on the dispatch. To distinguish between the two line types, a line type indicator is included as the first field following the line number (see Tables 25.7 and 25.8).

Table 25.6 Message protocol 000001: blood component dispatch information. Field 14: platelet-specific phenotype

<table>
<thead>
<tr>
<th>Character position in field</th>
<th>Antigen</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>HPA-1a</td>
</tr>
<tr>
<td>2</td>
<td>HPA-1b</td>
</tr>
<tr>
<td>3</td>
<td>HPA-3a</td>
</tr>
<tr>
<td>4</td>
<td>HPA-3b</td>
</tr>
<tr>
<td>5</td>
<td>HPA-5a</td>
</tr>
<tr>
<td>6</td>
<td>HPA-5b</td>
</tr>
<tr>
<td>7</td>
<td>Unassigned</td>
</tr>
<tr>
<td>8</td>
<td>Unassigned</td>
</tr>
<tr>
<td>9</td>
<td>Unassigned</td>
</tr>
<tr>
<td>10</td>
<td>Unassigned</td>
</tr>
</tbody>
</table>

Table 25.7 Message protocol 000002: blood derivative dispatch information: administration line
### 25.8: Protocol 000003 – reagent dispatch information

Two data line structures are defined within this protocol. The first is a single line containing administrative information (order no., dispatch no.), and the second is a multiple occurrence line with an entry for each item on the dispatch. To distinguish between the two line types, a line type indicator is included as the first field following the line number (see Tables 25.9 and 25.10).

Table 25.8 Message protocol 000002: blood derivative dispatch information: dispatch line
<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
<th>Description</th>
<th>Format</th>
<th>Mandatory?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Line number</td>
<td>NNNNN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Line type</td>
<td>N</td>
<td>Y</td>
<td>=’2’</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>Batch number</td>
<td>C(15)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>Product code</td>
<td>C(15)</td>
<td>Y</td>
<td>Unique pharmaceutical product identification code</td>
</tr>
<tr>
<td>5</td>
<td>40</td>
<td>Product description</td>
<td>C(40)</td>
<td>N</td>
<td>Free-format text</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>Manufacturer’s name</td>
<td>C(30)</td>
<td>N</td>
<td>Free-format text</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>Expiry date</td>
<td>YYYYMMDD</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>No. of vials /bottles</td>
<td>N(4)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>Cost code/price</td>
<td>C(10)</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>5</td>
<td>Actual dosage value</td>
<td>N(5)</td>
<td>N</td>
<td>Decimal values permitted</td>
</tr>
<tr>
<td>11</td>
<td>5</td>
<td>Actual dosage units</td>
<td>C(5)</td>
<td>N</td>
<td>Free-format text</td>
</tr>
<tr>
<td>12</td>
<td>30</td>
<td>Comment</td>
<td>C(30)</td>
<td>N</td>
<td>Free-format text</td>
</tr>
<tr>
<td>13</td>
<td>2</td>
<td>Checksum</td>
<td>NN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>Terminator</td>
<td>Carriage return</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

Table 25.9 Message protocol 000003: reagent dispatch information: administration line
<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
<th>Description</th>
<th>Format</th>
<th>Mandatory?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Line number</td>
<td>NNNNN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Line type</td>
<td>N</td>
<td>Y</td>
<td>=‘1’</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>Order no.</td>
<td>C(12)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>Dispatch no.</td>
<td>C(12)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>Date</td>
<td>YYYYMMDD</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Time</td>
<td>HHMM</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>Checksum</td>
<td>NN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Terminator</td>
<td>Carriage return</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

Table 25.10 Message protocol 000003: reagent dispatch information: dispatch line
<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
<th>Description</th>
<th>Format</th>
<th>Mandatory?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Line number</td>
<td>NNNNN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Line type</td>
<td>N</td>
<td>Y</td>
<td>'='2'</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>Batch number</td>
<td>C(15)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>15</td>
<td>Product code</td>
<td>C(15)</td>
<td>Y</td>
<td>Unique reagent identification code</td>
</tr>
<tr>
<td>5</td>
<td>40</td>
<td>Product description</td>
<td>C(40)</td>
<td>N</td>
<td>Free-format text</td>
</tr>
<tr>
<td>6</td>
<td>30</td>
<td>Manufacturer's name</td>
<td>C(30)</td>
<td>N</td>
<td>Free-format text</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>Expiry date</td>
<td>YYYYMMDD</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>4</td>
<td>No. of vials/bottles</td>
<td>N(4)</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>10</td>
<td>Cost code/price</td>
<td>C(10)</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>30</td>
<td>Comment</td>
<td>C(30)</td>
<td>N</td>
<td>Free-format text</td>
</tr>
<tr>
<td>11</td>
<td>2</td>
<td>Checksum</td>
<td>NN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>Terminator</td>
<td>Carriage return</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

### 25.9: Protocol 000004 – blood component dispatch acknowledgement

Two data line structures are defined within this protocol. The first is a single line containing administrative information (order no., dispatch no.), and the second is a multiple occurrence line with an entry for each item on the dispatch. To distinguish between the two line types, a line type indicator is included as the first field following the line number (see Tables 25.11 and 25.12).

Table 25.11 Message protocol 000004: blood component dispatch acknowledgement: administration line
<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
<th>Description</th>
<th>Format</th>
<th>Mandatory?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Line number</td>
<td>NNNNN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Line type</td>
<td>N</td>
<td>Y</td>
<td>=‘1’</td>
</tr>
<tr>
<td>3</td>
<td>12</td>
<td>Order no.</td>
<td>C(12)</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>12</td>
<td>Dispatch no.</td>
<td>C(12)</td>
<td>Y</td>
<td>From associated dispatch information message</td>
</tr>
<tr>
<td>5</td>
<td>8</td>
<td>Date of acknowledgement</td>
<td>YYYYMMDD</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>Time of acknowledgement</td>
<td>HHMM</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>Checksum</td>
<td>NN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>Terminator</td>
<td>Carriage return</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

Table 25.12 Message protocol 000004: blood component dispatch acknowledgement: dispatch line
25.10: Protocol 000005 – blood component fate information

One data line structure is currently defined within this protocol (see Tables 25.13 and 25.14). The data line is a multiple occurrence line with an entry for each item in the message. The data line has a line type indicator in common with the previous protocols to allow for additional line types to be created if required. It is expected that this message will be generated daily and will include information on all units that are:

- free for use
- allocated to a patient (either directly or notionally)
- marked as transfused or wasted in the period from the date the report was last gathered (minus 5 days) up until the present date.

This message will be used for all products with the exception of certain batched products (such as anti-D). Some batched products are excluded as each dose may not be allocated a unique unit number (platelet pools are not excluded).

Table 25.13 Message protocol 000005: blood component fate information: data line
<table>
<thead>
<tr>
<th>Field</th>
<th>Length</th>
<th>Description</th>
<th>Format</th>
<th>Mandatory?</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5</td>
<td>Line number</td>
<td>NNNNN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>Line type</td>
<td>N</td>
<td>Y</td>
<td>=’1’</td>
</tr>
<tr>
<td>3</td>
<td>15</td>
<td>Unit number</td>
<td>C(15)</td>
<td>Y</td>
<td>ISBT 128 donation identification number (data characters with check character, e.g. ‘G151797123456L’)</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>Product code</td>
<td>C(9)</td>
<td>Y</td>
<td>Component code (either a full 9- character Codabar code (including start and stop characters), or an 8- character ISBT 128 product code excluding the data identifier characters)</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>Group ABO</td>
<td>C(2)</td>
<td>Y</td>
<td>’A’, ‘B’, ‘O’ or ‘AB’</td>
</tr>
<tr>
<td>6</td>
<td>1</td>
<td>Group RhD</td>
<td>C(1)</td>
<td>Y</td>
<td>’+’ or ‘–’</td>
</tr>
</tbody>
</table>
| 7     | 1      | Status                       | C(1)     | Y          | F = free
A = allocated
T = transfused
W = wasted
C = Confirmed transfusion

Note: Confirmed transfusion refers to transfusions that have been positively confirmed by electronic means |
<p>| 8     | 5      | Wasted classification code   | C(5)     | N          | Only used if ‘Status’ (Field 7) is marked as wasted (W). The wasted classification codes are maintained by the Blood Stocks Management Scheme (see Table 25.14) |
| 9     | 8      | Date used /wasted            | YYYYMMDD | N          | Only if marked as wasted (W) or transfused (T or C). Presumptive YYYYMMDD should be included if exact date not known                     |
| 10    | 4      | Time used /wasted            | HHMM     | N          | Only if marked as wasted (W) or transfused (T or C). Optional                                                                         |</p>
<table>
<thead>
<tr>
<th>No.</th>
<th>Length</th>
<th>Field Name</th>
<th>Code Length</th>
<th>Case Sensitivity</th>
<th>Case Sensitivity Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>3</td>
<td>Patient age</td>
<td>NNN</td>
<td>N</td>
<td>Only if marked as transfused (T or C). Optional. Age in number of full years</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>Patient gender</td>
<td>C(1)</td>
<td>N</td>
<td>Only if marked as transfused (T or C). Optional. M = male, F = female</td>
</tr>
<tr>
<td>13</td>
<td>10</td>
<td>Blank field</td>
<td>C(10)</td>
<td>N</td>
<td>Area reserved for future use</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>Checksum</td>
<td>NN</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>Terminator</td>
<td>Carriage return</td>
<td>Y</td>
<td></td>
</tr>
</tbody>
</table>

Table 25.14 Message protocol 000005: blood component fate information. Field 8: wasted classification code

<table>
<thead>
<tr>
<th>Product super-group</th>
<th>Code</th>
<th>Full name</th>
<th>Code usage</th>
<th>Date started</th>
<th>Date stopped</th>
</tr>
</thead>
<tbody>
<tr>
<td>RED CELL</td>
<td>TIMEX</td>
<td>Time expiry</td>
<td>The expiry date on the unit has passed</td>
<td>01 Apr 2001</td>
<td>N/A</td>
</tr>
<tr>
<td>RED CELL</td>
<td>OTCOL</td>
<td>Out of temperature control outside laboratory</td>
<td>Unit has been left out of temperature range for longer than 30 minutes on the wards, in theatres or in any other non-laboratory location</td>
<td>01 Apr 2001</td>
<td>N/A</td>
</tr>
<tr>
<td>RED CELL</td>
<td>OTCIL</td>
<td>Out of temperature control inside laboratory</td>
<td>Unit has been left out of temperature range for longer than 30 minutes in the laboratory</td>
<td>01 Apr 2001</td>
<td>31 Mar 2003</td>
</tr>
<tr>
<td>RED CELL</td>
<td>FFAIL</td>
<td>Fridge failure</td>
<td>The unit has been discarded as a direct result of a fridge failure</td>
<td>01 Apr 2003</td>
<td>N/A</td>
</tr>
<tr>
<td>RED CELL</td>
<td>MISCN</td>
<td>Miscellaneous</td>
<td>Any other reason the unit is wasted that is not covered by other codes</td>
<td>01 Apr 2001</td>
<td>N/A</td>
</tr>
<tr>
<td>PLATELET</td>
<td>MORNU</td>
<td>Medically ordered not used</td>
<td>Platelets ordered for medical procedure but not used</td>
<td>01 Apr 2003</td>
<td>N/A</td>
</tr>
<tr>
<td>----------</td>
<td>-------</td>
<td>---------------------------</td>
<td>----------------------------------------------------</td>
<td>------------</td>
<td>-----</td>
</tr>
<tr>
<td>PLATELET</td>
<td>SORNU</td>
<td>Surgically ordered not used</td>
<td>Platelets ordered for surgical procedure but not used</td>
<td>01 Apr 2003</td>
<td>N/A</td>
</tr>
<tr>
<td>PLATELET</td>
<td>STMEX</td>
<td>Stock time expired</td>
<td>If a stock of platelets is held, the expiry date on the unit has passed</td>
<td>01 Apr 2003</td>
<td>N/A</td>
</tr>
<tr>
<td>PLATELET</td>
<td>WOSOL</td>
<td>Wasted outside of laboratory</td>
<td>Unit has been left out of temperature range for longer than 30 minutes outside the laboratory</td>
<td>01 Apr 2003</td>
<td>N/A</td>
</tr>
<tr>
<td>PLATELET</td>
<td>WIMPT</td>
<td>Wasted import</td>
<td>Unit imported with patient but not used</td>
<td>01 Apr 2003</td>
<td>N/A</td>
</tr>
<tr>
<td>PLATELET</td>
<td>MISCN</td>
<td>Miscellaneous</td>
<td>Any other reason the unit is wasted that is not covered by other codes</td>
<td>01 Apr 2003</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Note: These codes are managed by the Blood Stocks Management Scheme. For further information visit [www.bloodstocks.co.uk](http://www.bloodstocks.co.uk)