

**NHS BLOOD AND TRANSPLANT**  
**CARDIOTHORACIC ADVISORY GROUP**

**NATIONAL STANDARDS FOR DONOR IDENTIFICATION,  
CARE AND MANAGEMENT**

**SUMMARY**

**BACKGROUND**

1. At the September 2008 CTAG meeting, additional standards regarding donor identification, care and management were proposed and agreed. This report summarises levels of compliance by retrieval centre for each of the standards that can be assessed by NHS Blood and Transplant for the most recent financial year.

**ANALYSIS AND RESULTS**

2. The data analysis uses data on the 292 UK cardiothoracic donors after brain death (DBD) and circulatory death (DCD) retrieved by UK teams in 2012/13. Equivalent data on 248 UK cardiothoracic donors retrieved by UK teams in 2011/12 were also obtained.
3. Levels of data completeness were summarised by retrieval centre for each of four standards (listed below), for which CTAG agreed that retrieval centres should achieve  $\geq 90\%$  compliance.
  - a. **Request for echocardiogram:** Data on whether an echocardiogram was requested are not collected. However, data on echocardiograms performed showed that 74% of all DBD heart donors had an echocardiogram performed, with adult retrieval centres ranging from 62% to 89%.
  - b. **Monitoring of cardiac output, CVP, PAP, LAP/PCWP:** All adult retrieval centres fall short of the 90% compliance standard for all cardiac output study and haemodynamic data and the reporting rates were generally slightly lower than in 2011/2012. Pulmonary artery pressure is particularly poorly reported. Mean cardiac output and mean pulmonary artery pressure were only reported on the Core Donor data form for 17 (6%) donors in 2012/2013.
  - c. **Reporting of cardioactive drugs used:** For the six cardioactive drugs on the Core Donor Data form, data completeness was  $>80\%$  for all centres and all fields, but some retrieval centres fell short of the 90% standard for some fields. Dosages in the basic format were well reported, but dosages in the standard format and at time of donor transfer to the operating theatre were poorly reported, both at 0% nationally.
  - d. **Comprehensive completion of NHSBT donor forms:** Key data fields on the Core Donor Data form were generally very well completed. However, data completeness on the Cardiothoracic Donor Information form was more variable. All centres met the 90% standard for perfusion data, but completion of arterial blood gases was generally poor.

**RECOMMENDATIONS**

4. The 90% standard for data completeness for key donor data fields is proving challenging for many centres. Key event times, organ perfusion data, drug dosages in the basic format, donor medical condition and past history are well reported. However, haemodynamic data, arterial blood gases and drug dosages in the standard format are poorly reported and need to be addressed by all retrieval centres.

## NHS BLOOD AND TRANSPLANT

### CARDIOTHORACIC ADVISORY GROUP

#### NATIONAL STANDARDS FOR DONOR IDENTIFICATION, CARE AND MANAGEMENT

#### BACKGROUND

1. At the September 2008 CTAG meeting, additional standards regarding donor identification, care and management were proposed and agreed. This report summarises levels of compliance by retrieval centre for each of the standards that can be assessed by NHS Blood and Transplant for the most recent financial year.

#### DATA AND METHODS

2. Data on 292 UK cardiothoracic donors after brain death (DBD) and circulatory death (DCD) retrieved by UK teams between 1 April 2012 and 31 March 2013 were obtained from the UK Transplant Registry.
3. For comparison purposes, data on 248 UK cardiothoracic donors retrieved by UK teams between 1 April 2011 and 31 March 2012 were also obtained.
4. Levels of data completeness were summarised by retrieval centre for each of the four standards as outlined below:
  - 1. Request for echocardiogram**  
No accurate monitoring can be performed by NHSBT as data regarding the request for an echocardiogram are not collected. Data on whether an echocardiogram was performed are presented as an indication.
  - 2. Monitoring of cardiac output, CVP, PAP, LAP/PCWP**  
Completeness of each of these fields on the Cardiothoracic Donor Information form is monitored, along with completeness of mean PA and mean CO on the Core Donor Data form.
  - 3. Reporting of cardioactive drugs used**  
Completeness of the Yes/No question for each drug is monitored. For one drug administered per donor, completeness of all relevant additional data fields is also monitored.
  - 4. Comprehensive completion of NHSBT donor forms**  
Completeness of a range of relevant fields on Core Donor Data form and Cardiothoracic Donor Information form is monitored.

For all standards, retrieval centres should achieve  $\geq 90\%$  compliance. In the tables, compliance is indicated by a shaded box.

## RESULTS

### Request for echocardiogram

5. Data on whether an echocardiogram was requested are not collected, so **Table 1** presents the proportion of DBD heart donors who had an echocardiogram performed, as an indication. 74% of all DBD heart donors had an echocardiogram performed, with adult retrieval centres ranging from 62% to 89%.

<b>Table 1      Percentage ECHO performed for all UK Heart DBD retrieved by UK teams, 1 April 2011 to 31 March 2013</b>		
Retrieval unit	Number of donors 12/13 (11/12)	% ECHO performed 12/13 (11/12)
Newcastle	29 (18)	83 (83)
Papworth	37 (42)	62 (45)
Harefield	24 (16)	63 (75)
Birmingham	24 (26)	83 (85)
Manchester	18 (25)	89 (72)
Glasgow	7 (5)	86 (100)
GOSH	2 (2)	0 (100)
<b>All</b>	<b>141 (134)</b>	<b>74 (69)</b>

### Monitoring of cardiac output, CVP, PAP, LAP/PCWP

6. The completeness of flow and pressure measurements on the Cardiothoracic Donor Information form is summarised in **Tables 2a** and **2b**. All adult retrieval centres fall short of the 90% compliance standard for all cardiac output study and haemodynamic data and the reporting rates are generally slightly lower than in 2011/2012. Pulmonary artery pressure has particularly low levels of reporting. Glasgow has not completed any haemodynamic data in 2012/13, whereas the year before the completeness was in a range of 18% to 27%. Mean cardiac output and mean pulmonary artery pressure were only reported on the Core Donor data form for 17 (6%) donors in 2012/2013 (8 donors where the cardiothoracic organs were retrieved by Newcastle, 7 by Manchester and 2 by Glasgow).

**Table 2a Percentage data completeness of haemodynamics on Cardiothoracic Donor Information form, 1 April 2011 to 31 March 2013**

Retrieval unit	Number of DBD donors 12/13 (11/12)	% systemic blood pressure 12/13 (11/12)	% central venous pressure 12/13 (11/12)	% pulmonary artery pressure 12/13 (11/12)
Newcastle	51 (37)	47 (78)	43 (61)	12 (11)
Papworth	57 (55)	74 (58)	74 (69)	51 (42)
Harefield	43 (32)	56 (53)	53 (47)	49 (28)
Birmingham	39 (41)	74 (76)	74 (71)	54 (37)
Manchester	43 (48)	67 (46)	49 (40)	16 (15)
Glasgow	19 (11)	16 (18)	5 (45)	5 (36)
GOSH	2 (2)	50 (100)	50 (50)	0 (0)
<b>All</b>	<b>254 (226)</b>	<b>60 (60)</b>	<b>55 (57)</b>	<b>33 (28)</b>

**Table 2b Percentage data completeness of haemodynamics on Cardiothoracic Donor Information form for all UK cardiothoracic DBD retrieved by UK teams, 1 April 2011 to 31 March 2013**

Retrieval unit	Number of DBD donors 12/13 (11/12)	% all haemo- dynamics 12/13 (11/12)	% date 12/13 (11/12)	% heart rate 12/13 (11/12)	% mean AP 12/13 (11/12)	% CVP RA 12/13 (11/12)	% mean CO 12/13 (11/12)	% mean PA 12/13 (11/12)	% PCWP LAP 12/13 (11/12)
Newcastle	51 (37)	37 (30)	61 (59)	59 (59)	51 (54)	57 (57)	41 (38)	51 (38)	53 (35)
Papworth	57 (55)	67 (80)	70 (80)	70 (80)	70 (80)	70 (80)	68 (80)	70 (80)	68 (80)
Harefield	43 (32)	51 (31)	58 (56)	56 (53)	58 (53)	58 (53)	58 (34)	56 (47)	56 (47)
Birmingham	39 (41)	64 (63)	64 (71)	64 (71)	64 (71)	64 (71)	64 (71)	64 (66)	64 (66)
Manchester	43 (48)	49 (52)	56 (63)	56 (63)	53 (60)	56 (63)	51 (58)	56 (60)	53 (56)
Glasgow	19 (11)	0 (18)	0 (27)	0 (27)	0 (27)	0 (27)	0 (18)	0 (27)	0 (27)
GOSH	2 (2)	0 (0)	0 (50)	0 (50)	0 (0)	0 (0)	0 (0)	0 (50)	0 (0)
<b>All</b>	<b>254 (226)</b>	<b>49 (52)</b>	<b>57 (65)</b>	<b>56 (65)</b>	<b>55 (63)</b>	<b>56 (64)</b>	<b>52 (57)</b>	<b>55 (59)</b>	<b>54 (57)</b>

## Reporting of cardioactive drugs used

7. **Table 3a** presents data completeness for the Yes/No question for each of six cardioactive drugs on the Core Donor Data form. Data completeness was >80% for all centres and all fields, but some retrieval centres fell short of the 90% standard for some fields. Further information regarding the responses and completeness of all relevant additional data fields for each of the six drugs is provided in **Appendix I (Tables A1-A7)** .

<b>Table 3a    Percentage data completeness of cardioactive drug administration on Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013</b>							
Retrieval unit	Number of donors	% dopamine	% dobutamine	% adrenaline	% noradrenaline	% vasopressin	% T3
Newcastle	63	98	98	98	100	97	92
Papworth	64	95	97	95	97	97	95
Harefield	51	94	92	94	96	94	84
Birmingham	47	98	94	98	96	100	91
Manchester	46	87	89	89	96	91	85
Glasgow	19	100	100	95	100	100	100
GOSH	2	100	100	100	100	100	100
<b>All</b>	<b>292</b>	<b>95</b>	<b>95</b>	<b>95</b>	<b>97</b>	<b>96</b>	<b>91</b>

8. **Table 3b** presents data completeness for the drug administration details for four inotropes. Data completeness is only presented for the first drug reported for each donor. The donor standards state that dosages should be quoted in both a basic format and a standard format to allow secondary validation. Dosages in the basic format are well reported, but dosages in the standard format are poorly reported, at 0% nationally. The dosage provided in standard format at time of donor transfer to the operating theatre is also poorly reported at 0%. There has been a drop in the standard dosage format reporting since 2010/11, where rates in both 2010/11 and 2011/12 were both 1% but in 2009/10 rates were around 20%.
9. **Tables 3c** and **3d** present similar data completeness information for vasopressin and T3, for those donors who didn't receive any of the four inotropes. Data reporting is generally good but individual centres fall short of the 90% standard for some items.

**Table 3b Percentage data completeness of inotrope drug details on Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013**

Retrieval unit	Number of donors	% Start date time	% Max dosage date time	% Dosage basic fmt	% Diluent basic fmt	% Max inf rate basic fmt	% Max dosage std fmt	% Inf rate transf theatre	% Dosage transf theatre
Newcastle	52	100	98	100	100	100	0	33	0
Papworth	45	100	100	100	100	100	0	71	0
Harefield	40	100	98	100	100	100	0	38	0
Birmingham	28	100	96	100	100	96	0	68	0
Manchester	33	100	91	100	100	100	0	67	0
Glasgow	10	100	100	100	100	100	0	50	0
GOSH	2	100	100	100	100	100	0	50	0
<b>All</b>	<b>210</b>	<b>100</b>	<b>97</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>0</b>	<b>53</b>	<b>0</b>

**Table 3c Percentage data completeness of vasopressin and T3 details on Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013**

Retrieval unit	Number of donors	% Start date time	% Loading dose admin	% Infusion admin	% Inf rate transf theatre	No of donors loading dose admin	% Loading dose
Newcastle	4	100	100	100	50	1	100
Papworth	8	100	100	100	50	3	100
Harefield	5	100	100	100	60	1	100
Birmingham	7	86	100	100	14	2	100
Manchester	6	100	100	100	50	1	100
Glasgow	7	100	86	86	29	2	100
GOSH							
<b>All</b>	<b>37</b>	<b>97</b>	<b>97</b>	<b>97</b>	<b>41</b>	<b>10</b>	<b>100</b>

<b>Table 3d    Percentage data completeness of vasopressin and T3 details on Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013 (continued)</b>				
Retrieval unit	Number of donors infusion adm	% Dosage basic fmt	% Diluent basic fmt	% Max inf rate basic fmt
Newcastle	4	75	75	75
Papworth	7	100	100	100
Harefield	4	100	100	100
Birmingham	6	100	100	100
Manchester	6	100	100	100
Glasgow	6	100	100	100
GOSH				
<b>All</b>	<b>33</b>	<b>97</b>	<b>97</b>	<b>97</b>

### Comprehensive completion of NHSBT donor forms

10. Data completeness of key data fields on the Core Donor Data form is presented in **Tables 4a to 4d**, and data fields are generally very well completed.

11. Data completion on the Cardiothoracic Donor Information form is presented in **Tables 5a to 5d**, and is more variable. Only one adult centre fell below the 90% standard for reporting key donor event times (**Table 5a**). All centres met the 90% standard for heart and lung perfusion data (**Table 5b and Table 5c**). For lung donors, completion of arterial blood gases is generally poor (**Table 5c**).

### CONCLUSION

12. The 90% standard for data completeness for key donor data fields is proving challenging for many centres. Key event times, organ perfusion data, drug dosages in the basic format, donor medical condition and past history are well reported. However, haemodynamic data, arterial blood gases, pulmonary vein PO<sub>2</sub>s and drug dosages in the standard format are poorly reported and need to be addressed by all retrieval centres.



**Table 4a Percentage data completeness of Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013**

Retrieval unit	Number of donors	% COD	% height	% weight	% ventilation date	% diastolic blood pressure	% systolic blood pressure	% hypotension	% heart rate	% temperature
Newcastle	63	100	100	100	90	100	100	98	100	100
Papworth	64	100	100	100	91	100	100	100	98	98
Harefield	51	100	100	100	92	100	100	100	100	98
Birmingham	47	100	100	100	94	100	100	100	98	98
Manchester	46	100	100	100	89	100	100	100	98	98
Glasgow	19	100	100	100	100	100	100	100	100	100
GOSH	2	100	100	100	100	100	100	100	100	100
<b>All</b>	<b>292</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>92</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>99</b>	<b>99</b>

**Table 4b Percentage data completeness of Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013 (continued)**

Retrieval unit	Number of donors	% haemoglobin	% chest infection	% cardiac arrest	% hypertension history	% cardiothoracic disease history	% diabetes history	% smoking history
Newcastle	63	100	100	100	100	100	100	100
Papworth	64	100	100	100	100	100	100	100
Harefield	51	100	98	100	100	100	100	100
Birmingham	47	100	100	100	100	100	100	100
Manchester	46	100	100	98	100	100	100	100
Glasgow	19	100	100	100	100	100	100	100
GOSH	2	100	100	100	100	100	100	100
All	292	100	100	100	100	100	100	100

**Table 4c Percentage data completeness of Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013 (continued)**

Retrieval unit	Number of donors	Number of DBD	% time of coning identifiable*	Cardiac arrest N	% cardiac arrest duration**
Newcastle	63	51	94	18	100
Papworth	64	57	93	19	95
Harefield	51	43	95	13	100
Birmingham	47	39	97	13	100
Manchester	46	43	98	8	88
Glasgow	19	19	100	5	100
GOSH	2	2	100	1	100
<b>All</b>	<b>292</b>	<b>254</b>	<b>96</b>	<b>77</b>	<b>97</b>

\*Donors after brain death only

\*\*If cardiac arrest occurred

**Table 4d Percentage data completeness of Core Donor Data form for all UK lung DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013 (continued)**

Retrieval unit	Number of lung donors	% purulent sputum present	Number of donors with donor sputum culture done	% donor sputum culture result*
Newcastle	44	95	6	100
Papworth	47	100	0	
Harefield	38	95	1	100
Birmingham	26	100	2	100
Manchester	35	91	3	100
Glasgow	14	93	1	100
GOSH				
<b>All</b>	<b>204</b>	<b>96</b>	<b>13</b>	<b>100</b>

\*If donor sputum culture done

**Table 5a Percentage data completeness of Cardiothoracic Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013**

Retrieval unit	Number of donors	% aorta xclamp time	% perfusion commenced time	% perfusion completed time	% on ice time
Newcastle	63	90	95	97	100
Papworth	64	89	94	94	95
Harefield	51	100	98	100	100
Birmingham	47	94	98	98	98
Manchester	46	100	100	100	100
Glasgow	19	100	100	100	100
GOSH	2	100	100	100	100
<b>All</b>	<b>292</b>	<b>95</b>	<b>97</b>	<b>98</b>	<b>99</b>

**Table 5b Percentage data completeness of Cardiothoracic Donor Data form for all UK heart donors retrieved by UK teams, 1 April 2012 to 31 March 2013**

Heart retrieval unit	Number of heart donors	% heart perfusion fluid	% heart perfusion volume	% heart perfusion method
Newcastle	29	100	100	100
Papworth	37	100	100	100
Harefield	24	100	100	100
Birmingham	24	96	96	96
Manchester	18	100	100	100
Glasgow	7	100	100	100
GOSH	2	100	100	100
<b>All</b>	<b>141</b>	<b>99</b>	<b>99</b>	<b>99</b>

**Table 5c Percentage data completeness of Cardiothoracic Donor Data form for all UK lung DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013**

Retrieval unit	Number of lung donors	% lung perfusion fluid	% lung perfusion volume	% lung perfusion method	% arterial blood gases at retrieval	% arterial blood gases just prior to removal	% pulmonary vein PO <sub>2</sub> S
Newcastle	44	100	100	100	25	2	68
Papworth	47	91	91	91	77	43	74
Harefield	38	100	100	100	79	13	66
Birmingham	26	92	88	92	62	23	65
Manchester	35	100	100	100	63	9	83
Glasgow	14	100	93	100	14	7	79
GOSH							
<b>All</b>	<b>204</b>	<b>97</b>	<b>96</b>	<b>97</b>	<b>57</b>	<b>18</b>	<b>72</b>

**Table 5d Percentage data completeness of Cardiothoracic Donor Data form for all UK lung DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013**

Retrieval unit	Number of lung donors	% bronchoscopy	Number who had bronchoscopy	% bronchoscopy text*
Newcastle	44	100	44	98
Papworth	47	94	43	98
Harefield	38	100	37	100
Birmingham	26	96	24	100
Manchester	35	100	35	100
Glasgow	14	100	11	73
GOSH				
<b>All</b>	<b>204</b>	<b>98</b>	<b>194</b>	<b>97</b>

\* If donor bronchoscopy done

## APPENDIX I

**Table A1 Details of cardioactive drug administration recorded on Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013**

Retrieval unit	No. of donors	Dopamine								Dobutamine								Adrenaline							
		Yes		No		NR		Overall complete.		Yes		No		NR		Overall complete.		Yes		No		NR		Overall complete.	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Newcastle	63	3	(5)	59	(94)	1	(2)	62	(98)	1	(2)	61	(97)	1	(2)	62	(98)	5	(8)	57	(90)	1	(2)	62	(98)
Papworth	64	0	(0)	61	(95)	3	(5)	61	(95)	3	(5)	59	(92)	2	(3)	62	(97)	0	(0)	61	(95)	3	(5)	61	(95)
Harefield	51	1	(2)	47	(92)	3	(6)	48	(94)	0	(0)	47	(92)	4	(8)	47	(92)	2	(4)	46	(90)	3	(6)	48	(94)
Birmingham	47	0	(0)	46	(98)	1	(2)	46	(98)	4	(9)	40	(85)	3	(6)	44	(94)	3	(6)	43	(91)	1	(2)	46	(98)
Manchester	46	0	(0)	40	(87)	6	(13)	40	(87)	1	(2)	40	(87)	5	(11)	41	(89)	1	(2)	40	(87)	5	(11)	41	(89)
Glasgow	19	0	(0)	19	(100)	0	(0)	19	(100)	1	(5)	18	(95)	0	(0)	19	(100)	2	(11)	16	(84)	1	(5)	18	(95)
GOSH	2	0	(0)	2	(100)	0	(0)	2	(100)	0	(0)	2	(100)	0	(0)	2	(100)	0	(0)	2	(100)	0	(0)	2	(100)
<b>All</b>	<b>292</b>	<b>4</b>	<b>(1)</b>	<b>274</b>	<b>(94)</b>	<b>14</b>	<b>(5)</b>	<b>278</b>	<b>(95)</b>	<b>10</b>	<b>(3)</b>	<b>267</b>	<b>(91)</b>	<b>15</b>	<b>(5)</b>	<b>277</b>	<b>(95)</b>	<b>13</b>	<b>(4)</b>	<b>265</b>	<b>(91)</b>	<b>14</b>	<b>(5)</b>	<b>278</b>	<b>(95)</b>

**Table A1 (ctd) Details of cardioactive drug administration recorded on Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013**

Retrieval unit	No. of donors	Noradrenaline								Vasopressin								T3							
		Yes		No		NR		Overall complete.		Yes		No		NR		Overall complete.		Yes		No		NR		Overall complete.	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Newcastle	63	49	(78)	14	(22)	0	(0)	63	100	42	(67)	19	(30)	2	(3)	61	97	8	(13)	50	(79)	5	(8)	58	92
Papworth	64	45	(70)	17	(27)	2	(3)	62	97	36	(56)	26	(41)	2	(3)	62	97	18	(28)	43	(67)	3	(5)	61	95
Harefield	51	38	(75)	11	(22)	2	(4)	49	96	34	(67)	14	(27)	3	(6)	48	94	17	(33)	26	(51)	8	(16)	43	84
Birmingham	47	28	(60)	17	(36)	2	(4)	45	96	27	(57)	20	(43)	0	(0)	47	100	4	(9)	39	(83)	4	(9)	43	91
Manchester	46	33	(72)	11	(24)	2	(4)	44	96	26	(57)	16	(35)	4	(9)	42	91	15	(33)	24	(52)	7	(15)	39	85
Glasgow	19	8	(42)	11	(58)	0	(0)	19	100	13	(68)	6	(32)	0	(0)	19	100	16	(84)	3	(16)	0	(0)	19	100
GOSH	2	2	(100)	0	(0)	0	(0)	2	100	1	(50)	1	(50)	0	(0)	2	100	0	(0)	2	(100)	0	(0)	2	100
<b>All</b>	<b>292</b>	<b>203</b>	<b>(70)</b>	<b>81</b>	<b>(28)</b>	<b>8</b>	<b>(3)</b>	<b>284</b>	<b>97</b>	<b>179</b>	<b>(61)</b>	<b>102</b>	<b>(35)</b>	<b>11</b>	<b>(4)</b>	<b>281</b>	<b>96</b>	<b>78</b>	<b>(27)</b>	<b>187</b>	<b>(64)</b>	<b>27</b>	<b>(9)</b>	<b>265</b>	<b>91</b>

**Table A2 Data completeness of DOPAMINE details on Core Donor Data form for the four UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013, recorded as receiving the drug**

Retrieval unit	Number of donors	Start date time		Max dosage date time		Dosage basic format		Diluent basic format		Max inf rate basic format		Max dosage std fmt		Inf rate transf theatre		Dosage transf theatre	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Newcastle	3	3	100	3	100	3	100	3	100	3	100	0	0	0	0	0	0
Papworth	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harefield	1	1	100	1	100	1	100	1	100	1	100	0	0	0	0	0	0
Birmingham	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Manchester	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glasgow	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GOSH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>All</b>	<b>4</b>	<b>4</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>4</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

**Table A3 Data completeness of DOBUTAMINE details on Core Donor Data form for the 10 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013, recorded as receiving the drug**

Retrieval unit	Number of donors	Start date time		Max dosage date time		Dosage basic format		Diluent basic format		Max inf rate basic format		Max dosage std fmt		Inf rate transf theatre		Dosage transf theatre	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Newcastle	1	1	100	1	100	1	100	1	100	1	100	0	0	1	100	0	0
Papworth	3	3	100	3	100	3	100	3	100	3	100	0	0	3	100	0	0
Harefield	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Birmingham	4	4	100	3	75	4	100	4	100	3	75	0	0	3	75	0	0
Manchester	1	1	100	1	100	1	100	1	100	1	100	0	0	1	100	0	0
Glasgow	1	1	100	1	100	1	100	1	100	1	100	0	0	0	0	0	0
GOSH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>All</b>	<b>10</b>	<b>10</b>	<b>100</b>	<b>9</b>	<b>90</b>	<b>10</b>	<b>100</b>	<b>10</b>	<b>100</b>	<b>9</b>	<b>90</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>80</b>	<b>0</b>	<b>0</b>

**Table A4 Data completeness of ADRENALINE details on Core Donor Data form for the 13 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013, recorded as receiving the drug**

Retrieval unit	Number of donors	Start date time		Max dosage date time		Dosage basic format		Diluent basic format		Max inf rate basic format		Max dosage std fmt		Inf rate transf theatre		Dosage transf theatre	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Newcastle	5	5	100	5	100	5	100	5	100	5	100	0	0	1	20	0	0
Papworth	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harefield	2	2	100	2	100	2	100	2	100	2	100	0	0	2	100	0	0
Birmingham	3	3	100	3	100	3	100	3	100	3	100	0	0	2	67	0	0
Manchester	1	1	100	1	100	1	100	1	100	1	100	0	0	1	100	0	0
Glasgow	2	2	100	2	100	2	100	2	100	2	100	0	0	0	0	0	0
GOSH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>All</b>	<b>13</b>	<b>13</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>13</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>6</b>	<b>46</b>	<b>0</b>	<b>0</b>

**Table A5 Data completeness of NORADRENALINE details on Core Donor Data form for the 203 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013, recorded as receiving the drug**

Retrieval unit	Number of donors	Start date time		Max dosage date time		Dosage basic format		Diluent basic format		Max inf rate basic format		Max dosage std fmt		Inf rate transf theatre		Dosage transf theatre	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Newcastle	49	49	100	47	96	48	98	48	98	48	98	0	0	17	35	0	0
Papworth	45	45	100	45	100	44	98	45	100	45	100	0	0	31	69	0	0
Harefield	38	38	100	37	97	37	97	38	100	37	97	0	0	13	34	0	0
Birmingham	28	28	100	28	100	27	96	28	100	27	96	0	0	20	71	0	0
Manchester	33	33	100	30	91	33	100	33	100	33	100	0	0	22	67	0	0
Glasgow	8	8	100	8	100	8	100	8	100	8	100	0	0	5	63	0	0
GOSH	2	2	100	2	100	2	100	2	100	2	100	0	0	1	50	0	0
<b>All</b>	<b>203</b>	<b>203</b>	<b>100</b>	<b>197</b>	<b>97</b>	<b>199</b>	<b>98</b>	<b>202</b>	<b>100</b>	<b>200</b>	<b>99</b>	<b>0</b>	<b>0</b>	<b>109</b>	<b>54</b>	<b>0</b>	<b>0</b>

**Table A6 Data completeness of VASOPRESSIN details on Core Donor Data form for the 179 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013, recorded as receiving the drug**

Retrieval unit	No. of donors	Start date time		Loading dose admin		Infusion admin		Inf rate transf theatre		No. of donors who received loading dose	Loading dose rec.		No. of donors who received infusion	Dosage basic format		Diluent basic format	
		N	%	N	%	N	%	N	%		N	%		N	%	N	%
Newcastle	42	42	100	42	100	39	93	14	33	1	1	100	38	37	97	37	97
Papworth	36	36	100	36	100	35	97	17	47	10	9	90	33	32	97	32	97
Harefield	34	34	100	34	100	33	97	12	35	6	5	83	33	33	100	33	100
Birmingham	27	27	100	27	100	27	100	15	56	4	3	75	24	24	100	24	100
Manchester	26	26	100	26	100	26	100	13	50	2	2	100	25	24	96	24	96
Glasgow	13	13	100	12	92	12	92	6	46	2	1	50	11	11	100	11	100
GOSH	1	1	100	1	100	1	100	0	0	-	-	-	1	1	100	1	100
<b>All</b>	<b>179</b>	<b>179</b>	<b>100</b>	<b>178</b>	<b>99</b>	<b>173</b>	<b>97</b>	<b>77</b>	<b>43</b>	<b>25</b>	<b>21</b>	<b>84</b>	<b>165</b>	<b>162</b>	<b>98</b>	<b>162</b>	<b>98</b>

**Table A7 Data completeness of T3 details on Core Donor Data form for the 78 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2012 to 31 March 2013, recorded as receiving the drug**

Retrieval unit	No. of donors	Start date time		Loading dose admin		Infusion admin		Inf rate transf theatre		No. of donors who received loading dose	Loading dose rec.		No. of donors who received infusion	Dosage basic format		Diluent basic format	
		N	%	N	%	N	%	N	%		N	%		N	%	N	%
Newcastle	8	8	100	7	88	8	100	2	25	5	5	100	8	7	88	7	88
Papworth	18	18	100	18	100	18	100	11	61	11	11	100	17	17	100	17	100
Harefield	17	17	100	17	100	15	88	5	29	9	7	78	14	14	100	14	100
Birmingham	4	4	100	3	75	3	75	1	25	2	1	50	3	3	100	3	100
Manchester	15	15	100	15	100	15	100	10	67	7	7	100	15	15	100	15	100
Glasgow	16	16	100	15	94	15	94	5	31	10	10	100	15	15	100	15	100
GOSH	0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>All</b>	<b>78</b>	<b>78</b>	<b>100</b>	<b>75</b>	<b>96</b>	<b>74</b>	<b>95</b>	<b>34</b>	<b>44</b>	<b>44</b>	<b>41</b>	<b>93</b>	<b>72</b>	<b>71</b>	<b>99</b>	<b>71</b>	<b>99</b>