

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 340 UK cardiothoracic donors after brain death (DBD) and circulatory death (DCD) retrieved by UK teams in 2013/14. Equivalent data on 292 UK cardiothoracic donors retrieved by UK teams in 2012/13 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 84% of all DBD heart donors had an echocardiogram performed, with adult retrieval centres ranging from 74% to 91%.
 - b. **Monitoring of cardiac output, CVP, PAP, LAP/PCWP:** Almost all adult retrieval centres fall short of the 90% compliance standard for all cardiac output study and haemodynamic data, although in many cases the reporting rates are slightly higher than in 2012/13. Pulmonary artery pressure is particularly poorly reported. Mean cardiac output and mean pulmonary artery pressure were reported on the Core Donor data form for 113 (33%) donors for 2013/2014.
 - c. **Reporting of cardioactive drugs used:** For the six cardioactive drugs on the Core Donor Data form, data completeness for all fields reached the 90% standard for all retrieval centres except one. Dosages in the basic format were generally well reported. Dosages in the standard format and at time of donor transfer to the operating theatre were poorly reported, at 0% and 1% respectively.
 - 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. Almost 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.

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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 340 UK cardiothoracic donors after brain death (DBD) and circulatory death (DCD) retrieved by UK teams between 1 April 2013 and 31 March 2014 were obtained from the UK Transplant Registry.
3. For comparison purposes, data on 292 UK cardiothoracic donors retrieved by UK teams between 1 April 2012 and 31 March 2013 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. 84% of all DBD heart donors had an echocardiogram performed, with adult retrieval centres ranging from 74% to 91%.

Table 1 Percentage ECHO performed for all UK Heart DBD retrieved by UK teams, 1 April 2012 to 31 March 2014		
Retrieval unit	Number of donors 13/14 (12/13)	% ECHO performed 12/13 (11/12)
Newcastle	30 (29)	90 (83)
Papworth	53 (37)	74 (62)
Harefield	53 (24)	91 (63)
Birmingham	23 (24)	83 (83)
Manchester	30 (18)	83 (89)
Glasgow	12 (7)	83 (86)
GOSH	1 (2)	100 (0)
All	202 (141)	84 (74)

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**. Almost all adult retrieval centres fall short of the 90% compliance standard for all cardiac output study and haemodynamic data, although in many cases the reporting rates are slightly higher than in 2012/13. Pulmonary artery pressure again has particularly low levels of reporting. Papworth achieved 90% reporting rates for some haemodynamic data however mean cardiac output and mean pulmonary artery pressure were only reported on the Core Donor data form for 17 (6%) donors in 2012/13 which has increased to 113 (33%) donors for 2013/2014 (9 donors where the cardiothoracic organs were retrieved by Newcastle, 28 by Papworth, 31 by Harefield, 23 by Birmingham, 18 by Manchester and 4 by Glasgow).

Table 2a Percentage data completeness of haemodynamics on Cardiothoracic Donor Information form, 1 April 2012 to 31 March 2014

Retrieval unit	Number of DBD donors 13/14 (12/13)	% systemic blood pressure 13/14 (12/13)	% central venous pressure 13/14 (12/13)	% pulmonary artery pressure 13/14 (12/13)
Newcastle	43 (51)	44 (47)	42 (43)	19 (12)
Papworth	63 (57)	83 (77)	83 (77)	59 (51)
Harefield	81 (43)	74 (56)	70 (53)	46 (49)
Birmingham	39 (39)	54 (74)	56 (74)	41 (54)
Manchester	50 (43)	40 (67)	20 (49)	4 (16)
Glasgow	23 (19)	39 (16)	39 (5)	30 (5)
GOSH	1 (2)	100 (50)	100 (50)	0 (0)
All	300 (254)	61 (61)	56 (56)	36 (33)

Table 2b Percentage data completeness of haemodynamics on Cardiothoracic Donor Information form for all UK cardiothoracic DBD retrieved by UK teams, 1 April 2012 to 31 March 2014

Retrieval unit	Number of DBD donors		% all haemo-dynamics		% date		% heart rate		% mean AP		% CVP RA		% mean CO		% mean PA		% PCWP LAP	
	13/14 (12/13)		13/14 (12/13)		13/14 (12/13)		13/14 (12/13)		13/14 (12/13)		13/14 (12/13)		13/14 (12/13)		13/14 (12/13)		13/14 (12/13)	
Newcastle	43	(51)	53	(37)	63	(61)	60	(59)	60	(51)	60	(57)	60	(41)	58	(51)	63	(53)
Papworth	63	(57)	86	(68)	90	(72)	90	(72)	90	(72)	87	(72)	87	(70)	86	(72)	87	(70)
Harefield	81	(43)	60	(51)	80	(58)	74	(56)	79	(58)	80	(58)	70	(58)	72	(56)	72	(56)
Birmingham	39	(39)	69	(64)	72	(64)	72	(64)	72	(64)	72	(64)	72	(64)	69	(64)	72	(64)
Manchester	50	(43)	80	(49)	80	(56)	80	(56)	80	(53)	80	(56)	80	(51)	80	(56)	80	(53)
Glasgow	23	(19)	26	(0)	35	(0)	39	(0)	39	(0)	39	(0)	39	(0)	30	(0)	35	(0)
GOSH	1	(2)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)	0	(0)
All	300	(254)	66	(50)	75	(57)	73	(57)	75	(55)	74	(57)	72	(52)	70	(55)	72	(55)

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 reached the 90% standard for all retrieval centres and all fields with the exception of Harefield which reached 88% for T3 reporting. 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)**.

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 2013 to 31 March 2014							
Retrieval unit	Number of donors	% dopamine	% dobutamine	% adrenaline	% noradrenaline	% vasopressin	% T3
Newcastle	54	96	96	96	100	100	93
Papworth	69	99	97	91	100	94	91
Harefield	90	98	96	98	99	98	88
Birmingham	45	98	98	98	100	93	96
Manchester	58	95	95	93	100	97	91
Glasgow	23	96	96	96	100	96	100
GOSH	1	100	100	100	100	100	100
All	340	97	96	95	100	96	92

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 were well reported (although Glasgow fell short of the 90% standard in some cases). Dosages in the standard format and at time of donor transfer to the operating theatre were poorly reported, at 0% and 1% respectively. 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 2013 to 31 March 2014

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	46	98	98	100	100	93	0	35	2
Papworth	52	100	100	100	100	98	0	52	0
Harefield	62	100	98	100	100	100	0	39	0
Birmingham	38	100	97	100	100	100	0	42	0
Manchester	42	98	95	98	98	95	0	21	0
Glasgow	12	100	92	83	83	92	8	33	8
GOSH	1	100	100	100	100	100	0	0	0
All	253	99	98	99	99	97	0	38	1

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 2013 to 31 March 2014

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	2	100	100	100	100	1	100
Papworth	8	100	100	100	25	3	100
Harefield	15	100	100	100	47	6	83
Birmingham	3	100	100	100	67	1	100
Manchester	6	100	100	100	33	0	
Glasgow	11	91	100	100	27	4	100
GOSH							
All	45	98	100	100	40	15	93

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 2013 to 31 March 2014 (continued)				
Retrieval unit	Number of donors infusion adm	% Dosage basic fmt	% Diluent basic fmt	% Max inf rate basic fmt
Newcastle	2	100	100	100
Papworth	8	100	88	100
Harefield	14	86	86	86
Birmingham	3	100	100	100
Manchester	6	100	100	100
Glasgow	11	91	91	100
GOSH				
All	44	93	91	95

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. All centres met the 90% standard for reporting key donor event times (**Table 5a**). All centres with the exception of Glasgow 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 PO₂s 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 2013 to 31 March 2014

Retrieval unit	Number of donors	% COD	% height	% weight	% ventilation date	% diastolic blood pressure	% systolic blood pressure	% hypotension	% heart rate	% temperature
Newcastle	54	100	100	100	98	100	100	98	100	100
Papworth	69	100	100	100	93	100	100	100	99	99
Harefield	90	100	100	100	91	100	100	100	100	99
Birmingham	45	100	100	100	89	100	100	100	100	100
Manchester	58	100	100	100	91	100	100	100	98	98
Glasgow	23	100	100	100	100	100	100	100	100	96
GOSH	1	100	100	100	100	100	100	100	100	100
All	340	100	100	100	93	100	100	100	99	99

Table 4b Percentage data completeness of Core Donor Data form for all UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2013 to 31 March 2014 (continued)

Retrieval unit	Number of donors	% haemoglobin	% chest infection	% cardiac arrest	% hypertension history	% cardiothoracic disease history	% diabetes history	% smoking history
Newcastle	54	100	100	100	100	98	100	100
Papworth	69	99	99	99	100	100	100	100
Harefield	90	100	100	100	100	100	100	100
Birmingham	45	98	100	100	100	98	100	100
Manchester	58	98	100	100	100	98	100	100
Glasgow	23	100	100	100	100	100	100	100
GOSH	1	100	100	100	100	100	100	100
All	340	99	100	100	100	99	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 2013 to 31 March 2014 (continued)

Retrieval unit	Number of donors	Number of DBD	% time of coning identifiable*	Cardiac arrest N	% cardiac arrest duration**
Newcastle	54	43	98	20	100
Papworth	69	63	95	14	93
Harefield	90	81	98	27	100
Birmingham	45	39	95	12	92
Manchester	58	50	96	12	92
Glasgow	23	23	100	2	100
GOSH	1	1	100	1	100
All	340	300	97	88	97

*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 2013 to 31 March 2014 (continued)

Retrieval unit	Number of lung donors	% purulent sputum present	Number of donors with donor sputum culture done	% donor sputum culture result*
Newcastle	40	95	6	100
Papworth	35	94	0	
Harefield	65	97	1	100
Birmingham	32	97	2	100
Manchester	41	100	4	100
Glasgow	16	100	0	
GOSH				
All	229	97	13	100

*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 2013 to 31 March 2014

Retrieval unit	Number of donors	% aorta xclamp time	% perfusion commenced time	% perfusion completed time	% on ice time
Newcastle	54	94	94	94	96
Papworth	69	99	99	99	97
Harefield	90	99	99	99	98
Birmingham	45	100	100	100	100
Manchester	58	91	100	100	100
Glasgow	23	96	96	96	96
GOSH	1	100	100	100	100
All	340	97	98	98	98

Table 5b Percentage data completeness of Cardiothoracic Donor Data form for all UK heart donors retrieved by UK teams, 1 April 2013 to 31 March 2014

Heart retrieval unit	Number of heart donors	% heart perfusion fluid	% heart perfusion volume	% heart perfusion method
Newcastle	30	97	97	97
Papworth	53	98	98	98
Harefield	53	100	98	100
Birmingham	23	100	100	100
Manchester	30	100	100	100
Glasgow	12	92	92	92
GOSH	1	100	100	100
All	202	99	98	99

Table 5c Percentage data completeness of Cardiothoracic Donor Data form for all UK lung DBD and DCD retrieved by UK teams, 1 April 2013 to 31 March 2014

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 ₂ S
Newcastle	40	95	95	95	30	3	65
Papworth	35	97	97	97	80	57	77
Harefield	65	95	95	95	72	62	82
Birmingham	32	97	97	97	56	41	78
Manchester	41	100	100	100	44	10	76
Glasgow	16	81	81	75	0	0	75
GOSH							
All	229	96	96	95	54	34	76

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	40	98	39	92
Papworth	35	100	34	91
Harefield	65	98	64	100
Birmingham	32	100	31	94
Manchester	41	100	39	97
Glasgow	16	94	12	83
GOSH				
All	229	99	219	95

* 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 2013 to 31 March 2014

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	54	2	(4)	50	(93)	2	(4)	52	(96)	1	(2)	51	(94)	2	(4)	52	(96)	8	(15)	44	(81)	2	(4)	52	(96)
Papworth	69	2	(3)	66	(96)	1	(1)	68	(99)	0		67	(97)	2	(3)	67	(97)	3	(4)	60	(87)	6	(9)	63	(91)
Harefield	90	7	(8)	81	(90)	2	(2)	88	(98)	7	(8)	79	(88)	4	(4)	86	(96)	1	(1)	87	(97)	2	(2)	88	(98)
Birmingham	45	1	(2)	43	(96)	1	(2)	44	(98)	3	(7)	41	(91)	1	(2)	44	(98)	3	(7)	41	(91)	1	(2)	44	(98)
Manchester	58	1	(2)	54	(93)	3	(5)	55	(95)	0		55	(95)	3	(5)	55	(95)	4	(7)	50	(86)	4	(7)	54	(93)
Glasgow	23	0	(0)	22	(96)	1	(4)	22	(96)	0		22	(96)	1	(4)	22	(96)	1	(4)	21	(91)	1	(4)	22	(96)
GOSH	1	0		1	(100)	0		1	(100)	1	(100)	0		0		1	(100)	1	(100)	0		0		1	(100)
All	340	13	(4)	317	(93)	10	(3)	330	(97)	12	(4)	315	(93)	13	(4)	327	(96)	21	(6)	303	(89)	16	(5)	324	(95)

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 2013 to 31 March 2014

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	54	42	(78)	12	(22)	0		54	(100)	34	(63)	20	(37)	0		54	(100)	5	(9)	45	(83)	4	(7)	50	(93)
Papworth	69	50	(72)	19	(28)	0		69	(100)	46	(67)	19	(28)	4	(6)	65	(94)	30	(43)	33	(48)	6	(9)	63	(91)
Harefield	90	58	(64)	31	(34)	1	(1)	89	(99)	57	(63)	31	(34)	2	(2)	88	(98)	21	(23)	58	(64)	11	(12)	79	(88)
Birmingham	45	38	(84)	7	(16)	0		45	(100)	25	(56)	17	(38)	3	(7)	42	(93)	6	(13)	37	(82)	2	(4)	43	(96)
Manchester	58	41	(71)	17	(29)	0		58	(100)	38	(66)	18	(31)	2	(3)	56	(97)	20	(34)	33	(57)	5	(9)	53	(91)
Glasgow	23	11	(48)	12	(52)	0		23	(100)	15	(65)	7	(30)	1	(4)	22	(96)	15	(65)	8	(35)	0		23	(100)
GOSH	1	1	(100)	0		0		1	(100)	1	(100)	0		0		1	(100)	0		1	(100)	0		1	(100)
All	340	241	(71)	98	(29)	1	(0)	339	(100)	216	(64)	112	(33)	12	(4)	328	(96)	97	(29)	215	(63)	28	(8)	312	(92)

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 2013 to 31 March 2014, 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	2	1	50	1	50	2	100	2	100	1	50	0	0	0	0	0	0
Papworth	2	2	100	2	100	2	100	2	100	2	100	0	0	1	50	0	0
Harefield	7	7	100	7	100	7	100	7	100	7	100	0	0	1	14	0	0
Birmingham	1	1	100	1	100	1	100	1	100	1	100	0	0	0	0	0	0
Manchester	1	1	100	1	100	1	100	1	100	1	100	0	0	0	0	0	0
Glasgow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GOSH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All	13	12	92	12	92	13	100	13	100	12	92	0	0	2	15	0	0

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 2013 to 31 March 2014, 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	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Papworth	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Harefield	7	7	100	7	100	7	100	7	100	7	100	0	0	6	86	0	0
Birmingham	3	3	100	3	100	3	100	3	100	3	100	0	0	3	100	0	0
Manchester	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Glasgow	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GOSH	1	1	100	1	100	1	100	1	100	1	100	0	0	0	0	0	0
All	12	11	92	11	92	11	92	11	92	11	92	0	0	9	75	0	0

Table A4 Data completeness of ADRENALINE details on Core Donor Data form for the 21 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2013 to 31 March 2014, 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	8	7	88	7	88	8	100	8	100	7	88	0	0	1	13	0	0
Papworth	3	3	100	3	100	3	100	3	100	3	100	0	0	3	100	0	0
Harefield	1	1	100	1	100	1	100	1	100	1	100	0	0	1	100	0	0
Birmingham	3	3	100	3	100	3	100	3	100	3	100	0	0	1	33	0	0
Manchester	4	4	100	4	100	4	100	4	100	4	100	0	0	0	0	0	0
Glasgow	1	1	100	1	100	0	0	0	0	0	0	0	0	0	0	0	0
GOSH	1	1	100	0	0	1	100	1	100	1	100	0	0	0	0	0	0
All	21	20	95	19	90	20	95	20	95	19	90	0	0	6	29	0	0

Table A5 Data completeness of NORADRENALINE details on Core Donor Data form for the 241 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2013 to 31 March 2014, 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	42	41	98	41	98	39	93	41	98	39	93	0	0	16	38	1	2
Papworth	50	50	100	50	100	50	100	50	100	49	98	0	0	25	50	0	0
Harefield	58	58	100	57	98	58	100	58	100	58	100	0	0	22	38	0	0
Birmingham	38	38	100	37	97	38	100	38	100	38	100	0	0	15	39	0	0
Manchester	41	40	98	39	95	40	98	40	98	39	95	0	0	9	22	0	0
Glasgow	11	11	100	10	91	10	91	10	91	10	91	1	9	4	36	1	9
GOSH	1	1	100	1	100	1	100	1	100	1	100	0	0	0	0	0	0
All	241	239	99	235	98	236	98	238	99	234	97	1	0	91	38	2	1

Table A6 Data completeness of VASOPRESSIN details on Core Donor Data form for the 216 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2013 to 31 March 2014, 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	34	33	97	33	97	32	94	10	29	2	1	50	32	31	97	31	97
Papworth	46	46	100	46	100	45	98	18	39	8	8	100	45	45	100	44	98
Harefield	57	56	98	56	98	55	96	16	28	12	10	83	55	52	95	53	96
Birmingham	25	25	100	25	100	25	100	10	40	2	2	100	24	23	96	23	96
Manchester	38	38	100	38	100	36	95	7	18	2	2	100	36	35	97	35	97
Glasgow	15	14	93	15	100	15	100	4	27	-	-	-	15	13	87	13	87
GOSH	1	1	100	1	100	1	100	0	0	-	-	-	1	1	100	1	100
All	216	213	99	214	99	209	97	65	30	26	23	88	208	200	96	200	96

Table A7 Data completeness of T3 details on Core Donor Data form for the 97 UK cardiothoracic DBD and DCD retrieved by UK teams, 1 April 2013 to 31 March 2014, 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	5	5	100	5	100	5	100	3	60	4	4	100	4	4	100	4	100
Papworth	30	29	97	29	97	28	93	12	40	18	17	94	27	25	93	25	93
Harefield	21	21	100	20	95	20	95	6	29	15	15	100	20	20	100	20	100
Birmingham	6	6	100	6	100	6	100	1	17	3	2	67	6	5	83	5	83
Manchester	20	20	100	19	95	18	90	0	0	6	6	100	18	17	94	17	94
Glasgow	15	15	100	15	100	15	100	5	33	14	13	93	15	14	93	14	93
GOSH	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
All	97	96	99	94	97	92	95	27	28	60	57	95	90	85	94	85	94