NHS
Blood and Transplant

ANNUAL REPORT ON
THE NATIONAL ORGAN RETRIEVAL SERVICE (NORS)

REPORT FOR 2015/2016
(1 APRIL 2015 – 31 MARCH 2016)

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CONTENTS

CONTENTS

EXECUTIVE SUMMARY

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The National Organ Retrieval Service (NORS) was introduced on 1 April 2010. At any given time there are 7 abdominal organ retrieval teams and 6 cardiothoracic organ retrieval teams available to perform retrievals. This report presents organ retrieval data from the last full financial year, 1 April 2015 to 31 March 2016. Data were extracted from the UK Transplant Registry on 31 May 2016.

Between 1 April 2015 and 31 March 2016, 1,709 potential donors were attended by a retrieval team. 1,357 (79%) of these proceeded to abdominal organ donation and 322 (57% of the 568 attended by a cardiothoracic team) proceeded to cardiothoracic organ donation.

Key findings

- Activity has increased slightly for most teams in this financial year compared with last financial year; the average change in the number of abdominal team attendances was 6% and the average change in the number of cardiothoracic team attendances was 6% also.

- On average, 4.7 potential donors were attended by a retrieval team per day, which has increased slightly from last year (4.6 last year).

- On average abdominal teams attended at least one donor 55% of days in the year, while cardiothoracic teams attended at least one donor 24% of days.

- The proportion of out of zone attendances ranged from 13% (Scotland) to 45% (Royal Free) for abdominal teams and from 4% (Scotland) to 29% (Harefield) for cardiothoracic teams.

- There were statistically significant differences in the mean number of cardiothoracic organs retrieved and transplanted per DBD donor across retrieval teams but this was not the case for abdominal organs.

- A very high proportion of abdominal organs accepted for transplantation were retrieved; 100% for DBD and DCD kidneys across all teams. The proportion was lower for cardiothoracic organs accepted (69% to 93% for DBD cardiothoracic donors across the six teams). The transplantation rates for retrieved organs were variable across organs, from 51% for DBD pancreases, up to 97% for DBD hearts. Additionally, 21 DCD hearts were retrieved, 19 of which were transplanted in the time period.

INTRODUCTION

INTRODUCTION

The National Organ Retrieval Service (NORS) was introduced on 1 April 2010 and is made up of a number of specialist surgical teams dedicated to organ retrieval from UK deceased organ donors.

This report presents organ retrieval activity from the last full financial year, 1 April 2015 to 31 March 2016. Data were provided by retrieval teams and Specialist Nurses for Organ Donation (SN-ODs) via the Retrieval Team Information (RTI) and Organ Retrieval Information (ORI) forms. Only a very small proportion (2%) of forms were missing at time of data extraction, which was 31 May 2016.

During this time there were 7 abdominal and 6 cardiothoracic NORS teams available at any given time to perform retrievals, although practice has since changed. Each team had a designated area for which they were first on-call, based on the proximity of their base to each donor hospital. If a team were first on-call for a particular donor hospital, they were required to attend potential donors at that hospital if at least one organ had been accepted for transplantation. If the team were already retrieving when they were called to attend, then a second team were called in to retrieve, and so on.

Some potential donors are attended by both an abdominal retrieval team and a cardiothoracic retrieval team but many are only attended by an abdominal retrieval team. Statistics in this report are often presented separately for abdominal and cardiothoracic organ retrieval teams and also for donors after brain death (DBD) and donors after circulatory death (DCD).

Some potential donors are attended by a retrieval team but do not proceed to donation, i.e. no organs are retrieved. Non-proceeding donors are more common in the pool of potential DCD donors as prolonged time to death after treatment withdrawal can cause unsuitability of organs for transplantation. Note that a donor may be a non-proceeding cardiothoracic donor but an actual abdominal donor or vice-versa. Some of the information presented in this report is not relevant for non-proceeding donors and relates only to actual donors. We cannot be sure that we have full reporting on all non-proceeding donors attended by retrieval teams as it is only possible to identify these through receipt of a RTI or ORI form.

RESULTS

RESULTS

DONOR ATTENDANCES

The number of DBD and DCD donors that were attended by each retrieval team between 1 April 2015 and 31 March 2016 is shown in **Table 1a**. The number of donors attended varies due to the geographical distribution of donors and the on-call arrangements.

Table 1a **Number of donor attendances (proceeding and non-proceeding)per retrieval team, 1 April 2015 - 31 March 2016,by donor type (DBD/DCD)**

	DBD		DCD			
Attending retrieval team	N	%	N	%	**Total**	**% of all donors attended**
Abdominal						
Birmingham[1]	101	50.8	98	49.2	**199**	**11.7**
Cambridge	96	37.5	160	62.5	**256**	**15.0**
Cardiff[1]	46	54.1	39	45.9	**85**	**5.0**
King's College	153	51.9	142	48.1	**295**	**17.3**
Leeds / Manchester	116	43.1	153	56.9	**269**	**15.8**
Newcastle	95	48.2	102	51.8	**197**	**11.6**
Oxford[2]	69	51.9	64	48.1	**133**	**7.8**
Royal Free[2]	73	54.1	62	45.9	**135**	**7.9**
Scotland	57	43.2	75	56.8	**132**	**7.8**
Local/overseas teams						
Belfast	0	0.0	1	100.0	**1**	**0.1**
Abdominal total	**806**	**47.4**	**896**	**52.6**	**1702**	**100.0**
Cardiothoracic						
Birmingham	77	76.2	24	23.8	**101**	**17.8**
Harefield	102	71.3	41	28.7	**143**	**25.2**
Manchester	62	67.4	30	32.6	**92**	**16.2**
Newcastle	47	64.4	26	35.6	**73**	**12.9**
Papworth	92	68.1	43	31.9	**135**	**23.8**
Scotland	24	100.0	0	0.0	**24**	**4.2**
Cardiothoracic total	**404**	**71.1**	**164**	**28.9**	**568**	**100.0**
Total no. attendances	**1210**	**53.3**	**1060**	**46.7**	**2270**	**-**
Total no. donors attended	**808**	**47.3**	**901**	**52.7**	**1709**	**-**

[1, 2] Share on call responsibilities.
Note: there were 2 potential donors attended by more than one abdominal NORS team (Scotland and Oxford); these have been allocated to Scotland in this table. There were also 2 potential donors attended by an overseas cardiothoracic team as well as a cardiothoracic NORS team (Papworth and Manchester); these have been allocated to the NORS team in this table.

The figures are broken down by whether the donor proceeded to organ donation (actual donors) or not in **Table 1b**. In total, in the last financial year, there were 1,709 potential donors attended by a retrieval team. Of these, 808 (47%) were potential DBD donors and 901 (53%) were potential DCD donors. 782 (97%) of potential DBD donors attended by an abdominal team proceeded to abdominal organ donation while 264 (65%) of potential DBD donors attended by a cardiothoracic team proceeded to cardiothoracic organ donation. For potential DCD donors, 575 (64%) of those attended by an abdominal team proceeded to abdominal organ donation while 58 (35%) of those attended by a cardiothoracic team proceeded to cardiothoracic organ donation. A small number of UK donors were attended by local or overseas retrieval teams and there were a few instances where more than one abdominal or cardiothoracic team attended, as detailed in the footnotes of the tables.

Table 1b **Number of donor attendances per retrieval team,1 April 2015 - 31 March 2016, by donor type (DBD/DCD) and proceeding/non-proceeding**

	Donors after brain death			Donors after circulatory death		
Attending retrieval team	Actual	Non-proceeding	% non-proc	Actual	Non-proceeding	% non-proc
Abdominal						
Birmingham[1]	99	2	2.0	65	33	33.7
Cambridge	94	2	2.1	119	41	25.6
Cardiff[1]	46	0	0.0	23	16	41.0
King's College	148	5	3.3	87	55	38.7
Leeds / Manchester	110	6	5.2	88	65	42.5
Newcastle	89	6	6.3	62	40	39.2
Oxford[2]	68	1	1.4	36	28	43.8
Royal Free[2]	72	1	1.4	45	17	27.4
Scotland	56	1	1.8	49	26	34.7
Local/overseas teams						
Belfast	0	0	-	1	0	0.0
Abdominal total	**782**	**24**	**3.0**	**575**	**321**	**35.8**
Cardiothoracic						
Birmingham	45	32	41.6	8	16	66.7
Harefield	60	42	41.2	16	25	61.0
Manchester	50	12	19.4	7	23	76.7
Newcastle	34	13	27.7	8	18	69.2
Papworth	61	31	33.7	19	24	55.8
Scotland	14	10	41.7	0	0	-
Cardiothoracic total	**264**	**140**	**34.7**	**58**	**106**	**64.6**
Total donors (abdominal and/or cardiothoracic)	**785**	**23**	**2.8**	**579**	**322**	**35.7**

[1, 2] Share on call responsibilities.

Note: there were 2 potential donors attended by more than one abdominal NORS team (Scotland and Oxford); these have been allocated to Scotland in this table. There were also 2 potential donors attended by an overseas cardiothoracic team as well as a cardiothoracic NORS team (Papworth and Manchester); these have been allocated to the NORS team in this table.

Table 1c provides a breakdown of potential donors attended by a cardiothoracic team, by initial accepting cardiothoracic transplant centre.

Table 1c Number of potential donors attended by a cardiothoracic team, 1 April 2015 - 31 March 2016, by accepting cardiothoracic transplant centre

Initial accepting transplant team	DBD Actual	DBD Non-proceeding	DBD %non-proc	DCD Actual	DCD Non-proceeding	DCD %non-proc
Birmingham	31	11	26.2	4	2	33.3
Harefield	54	16	22.9	16	15	48.4
Manchester	38	8	17.4	2	7	77.8
Newcastle	60	11	15.5	12	5	29.4
Papworth	53	21	28.4	19	11	36.7
Scotland	10	1	9.1	0	0	-
Other	17	2	10.5	2	0	0.0
Unknown	1	70	98.6	3	66	95.7
Total	**264**	**140**	**34.7**	**58**	**106**	**64.6**

Figure 1a shows the proportion of donors attended by any abdominal team, by the first on call geographic area that they arose in. For example, 18% of potential donors in 2015/16 arose in Birmingham/Cardiff's first on call retrieval zone (but this does not mean that Birmingham or Cardiff were the attending team). This graph shows that Leeds/Manchester had the highest percentage share of potential abdominal donors and Scotland and Newcastle had the lowest.

Figure 1b shows the proportion of donors attended by any cardiothoracic team, by first on call cardiothoracic retrieval zone. Papworth and Harefield had the highest percentage share of potential cardiothoracic donors in the last financial year, while Scotland and Newcastle had the lowest.

Figure 1a Percentage share of donors attended by an abdominal team between 1 April 2015 and 31 March 2016, by first on call abdominal retrieval zone

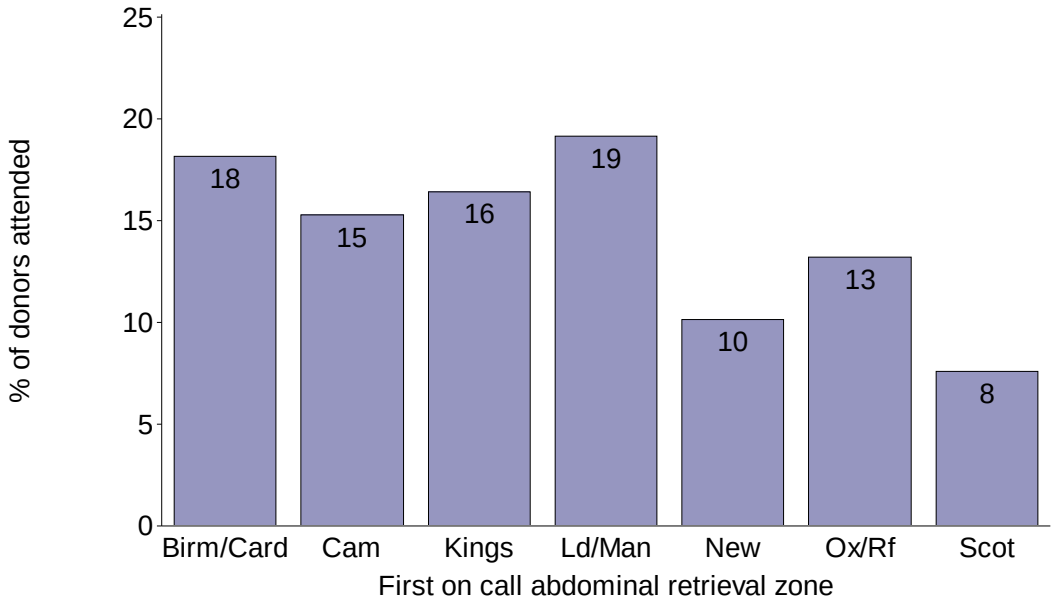

Figure 1b Percentage share of donors attended by an cardiothoracic team between 1 April 2015 and 31 March 2016, by first on call cardiothoracic retrieval zone

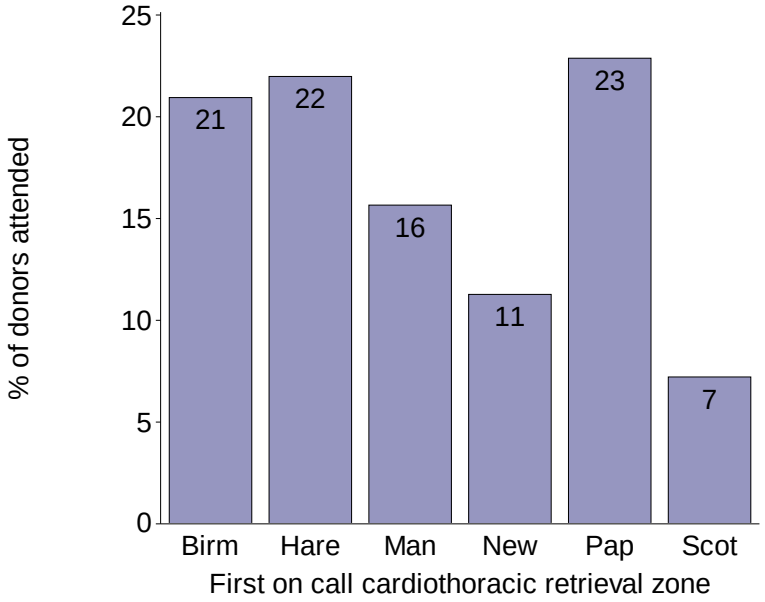

Figure 2 shows the distribution of the number of donors (actual and non-proceeding) attended by at least one retrieval team, per day in 2015/16. The number of donors per day ranged from zero (5 days) to 11 (3 days). The mean number of donors per day was 4.7.

Figure 2 Distribution of the number of actual and non-proceeding donors attended by at, least one retrieval team on any one day during 1 April 2015 - 31 March 2016

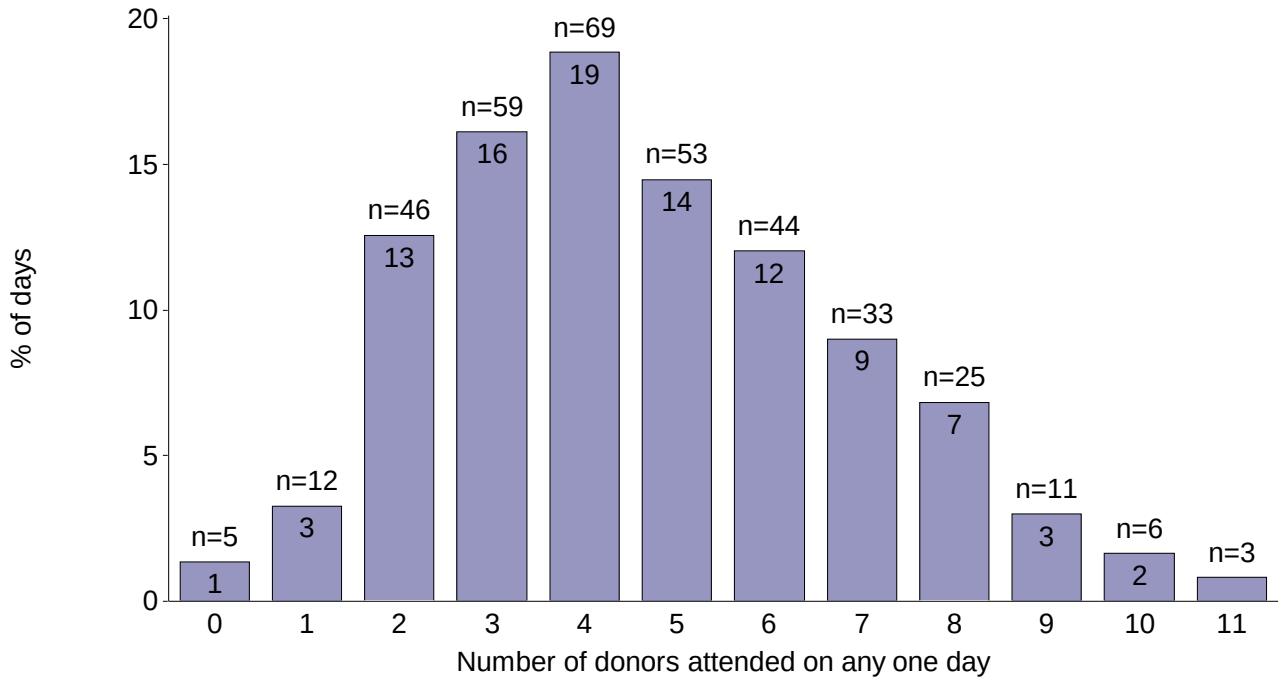

Figure 3a shows the distribution of the number of abdominal teams out on any one day during 2015/16. For example, there were 95 days in the 12 month period (26% of days) where four abdominal teams were out attending donors.

Figure 3a Distribution of the number of abdominal retrieval teams out on any one day, between 1 April 2015 and 31 March 2016

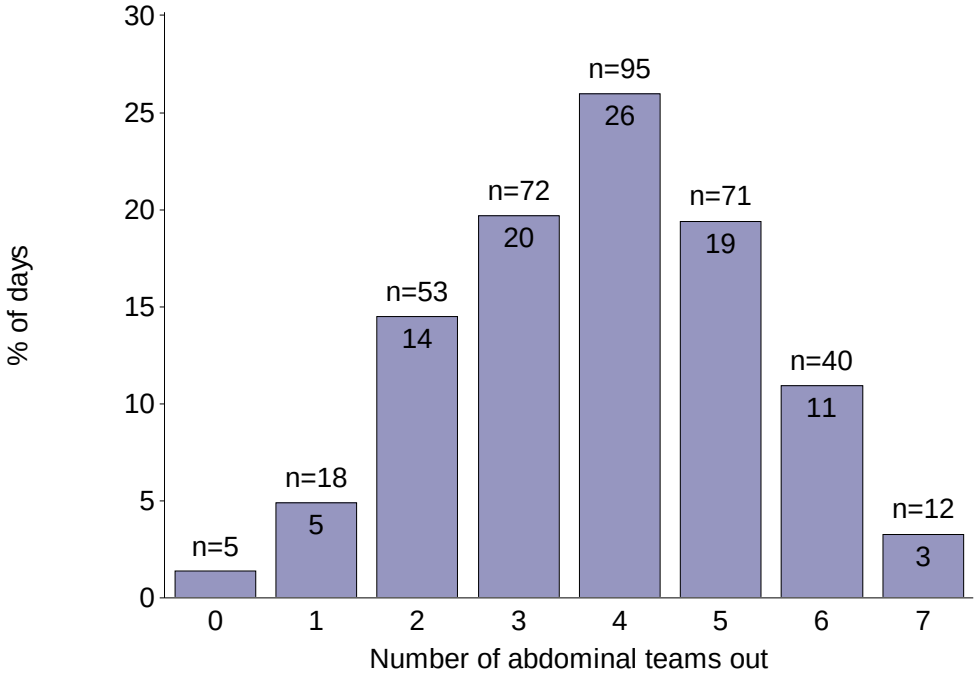

Figure 3b shows the distribution of the number of donors (actual and non-proceeding) attended by each abdominal team on any one day during the year (that they were on call). On average abdominal teams attended no donors 45% of days in the year, one donor 43% of days, two donors 11% of days and three donors 1% of days. The "busiest" team in 2015/16 in terms of days active was Cardiff (when on call).

Figure 3b Distribution of the number of actual and non-proceeding donors attended by each abdominal team on any one day during 1 April 2015 - 31 March 2016

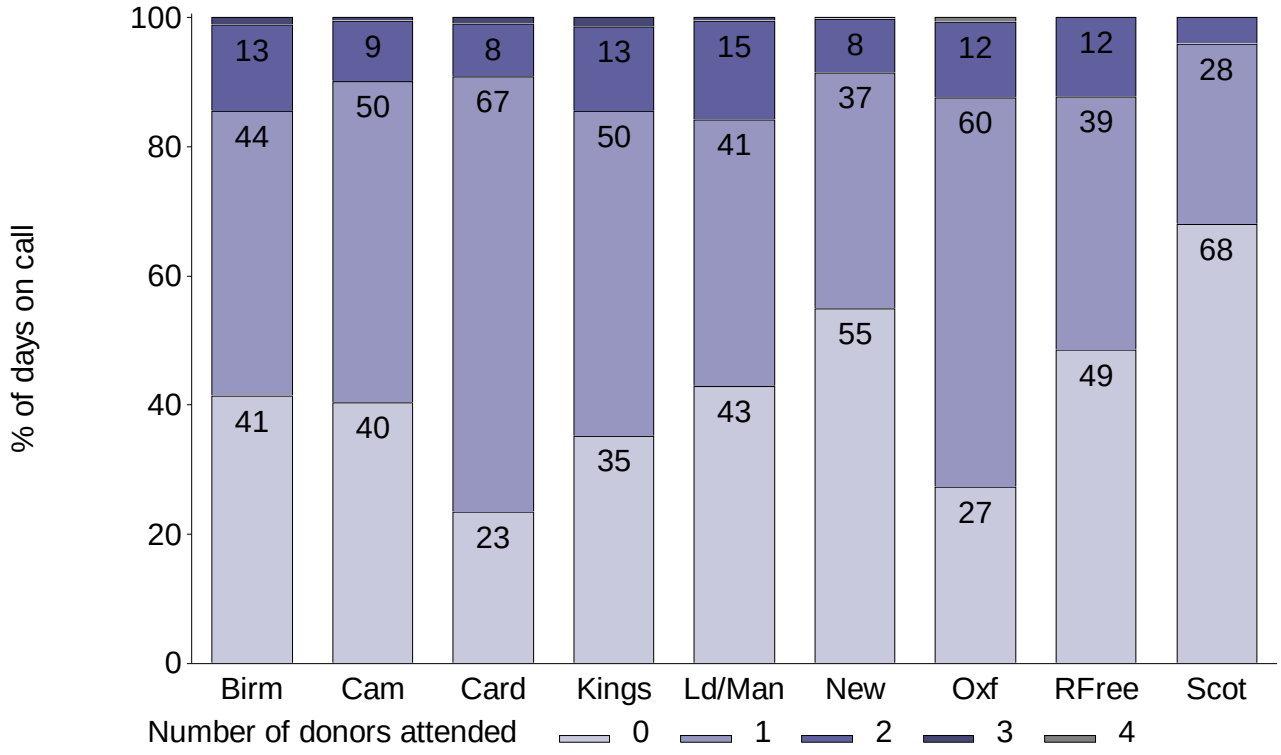

Figure 4a shows the distribution of the number of cardiothoracic teams out on any one day during 2015/16. It is most common for only one cardiothoracic team to be out at once (four is most common for abdominal teams).

Figure 4a Distribution of the number of cardiothoracic retrieval teams out on any one day, between 1 April 2015 and 31 March 2016

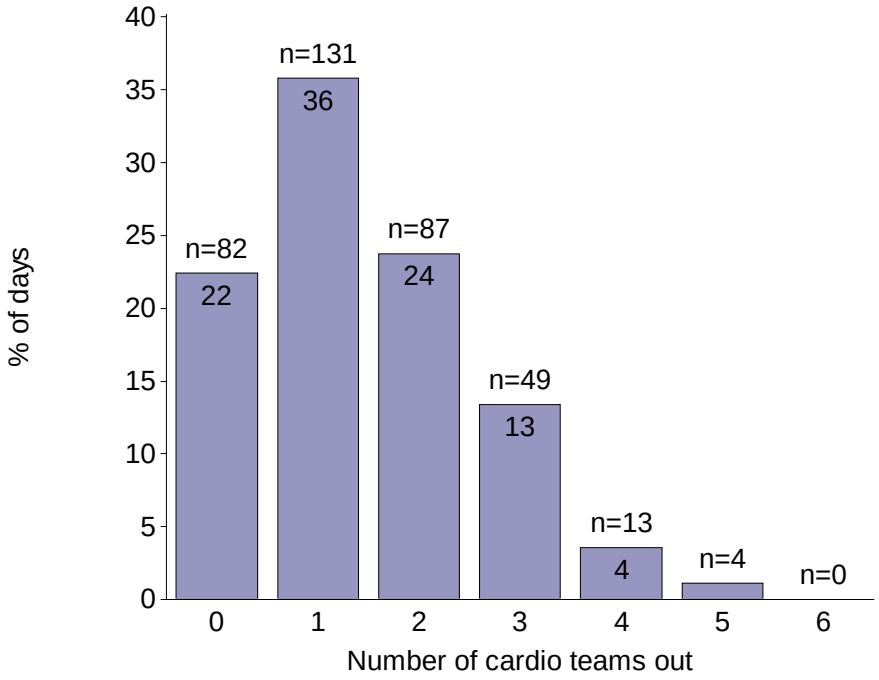

Figure 4b shows the distribution of the number of donors (actual and non-proceeding) attended by each cardiothoracic team on any one day during the year. On average cardiothoracic teams attended no donors 76% of days in the year, one donor 22% of days, two donors 2% of day and three donors <1% of days. The “busiest” team in 2015/16 in terms of days active was Harefield.

Figure 4b Distribution of the number of actual and non-proceeding donors attended by each cardiothoracic team on any one day during 1 April 2015 - 31 March 2016

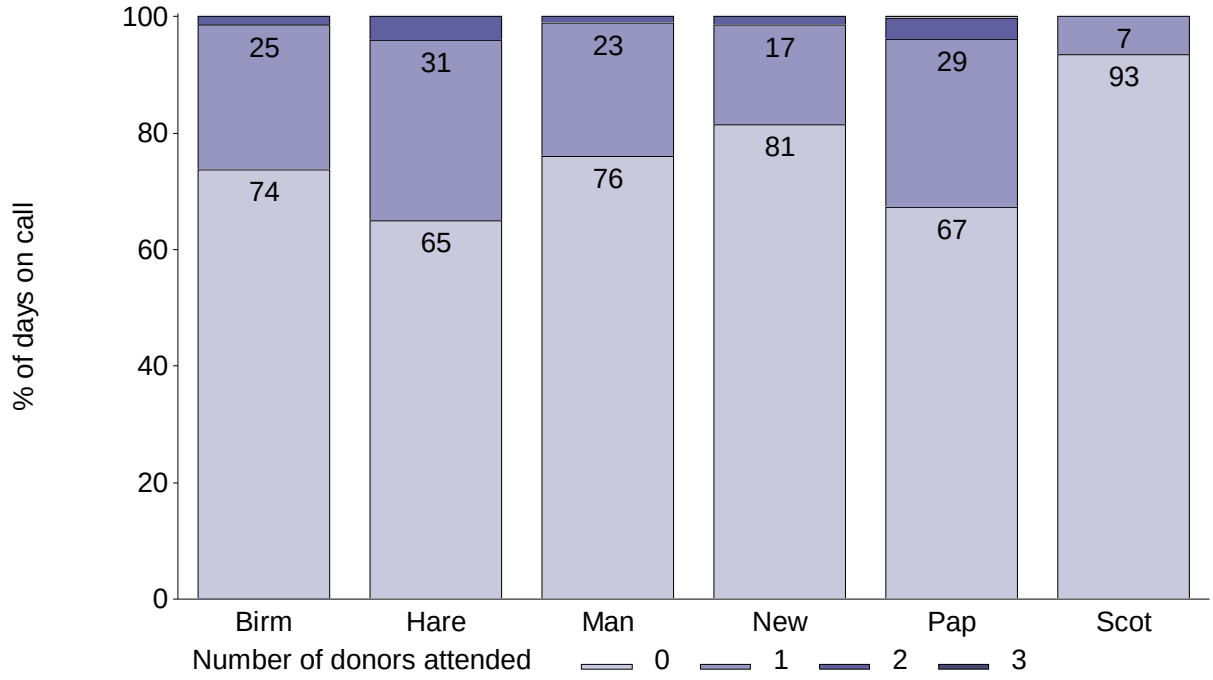

Table 2 shows the position of the retrieval team in the retrieval team attendance sequence for each of the actual and non-proceeding donors that were attended during the financial year. The data show that teams went out of zone a variable proportion of times; 45.2% of Royal Free attendances were out of their first on call zone, compared with 13% for Scotland and for cardiothoracic teams, out of zone activity ranged from 4.2% for Scotland to 28.7% for Harefield.

Table 2 **Number of actual and non-proceeding donors attended by each retrieval team, 1 April 2015 - 31 March 2016, by the position of the donor hospital in the on-call attendance sequence**

Attending retrieval team	1st on call N	2nd on call N	3rd on call N	4th on call N	5th on call N	6th on call N	7th on call N	Total	% not 1st on call
Abdominal									
Birmingham	144	40	1	12	0	0	0	**197**	26.9
Cambridge	192	2	38	19	4	0	0	**255**	24.7
Cardiff	58	19	3	5	0	0	0	**85**	31.8
King's College	212	51	22	2	3	1	0	**291**	27.1
Leeds / Manchester	229	23	8	1	6	0	0	**267**	14.2
Newcastle	141	26	20	0	1	6	0	**194**	27.3
Oxford	82	40	6	5	0	0	0	**133**	38.3
Royal Free	74	51	6	4	0	0	0	**135**	45.2
Scotland	114	10	4	0	0	0	3	**131**	13.0
Abdominal Total	**1246**	**262**	**108**	**48**	**14**	**7**	**3**	**1688**	**26.2**
Cardiothoracic									
Birmingham	94	4	3	0	0	0	0	**101**	6.9
Harefield	102	25	0	5	6	5	0	**143**	28.7
Manchester	77	10	4	0	0	0	0	**91**	15.4
Newcastle	53	14	1	0	2	0	0	**70**	24.3
Papworth	114	16	2	0	1	0	0	**133**	14.3
Scotland	23	1	0	0	0	0	0	**24**	4.2
Cardiothoracic Total	**463**	**70**	**10**	**5**	**9**	**5**	**0**	**562**	**17.6**
Total no. attendances	**1709**	**332**	**118**	**53**	**23**	**12**	**3**	**2250**	**24.0**

Note that 5 paediatric (< 30 kg) cardiothoracic retrievals and 13 paediatric (< 5 years) abdominal retrievals have been excluded from this table due to the special arrangements for paediatric retrieval.

The proportion of out of zone attendances per team is shown in **Figure 5a** and **Figure 5b,** for abdominal and cardiothoracic teams, respectively. In **Figure 5b** the data are broken down by whether the retrieval team came from the same centre as the accepting transplant team or not, showing that Harefield were the accepting team in a relatively high proportion of their out of zone attendances.

Figure 5a Proportion of out of zone donor attendances (actual and non-proceeding) for each abdominal team, 1 April 2015 - 31 March 2016

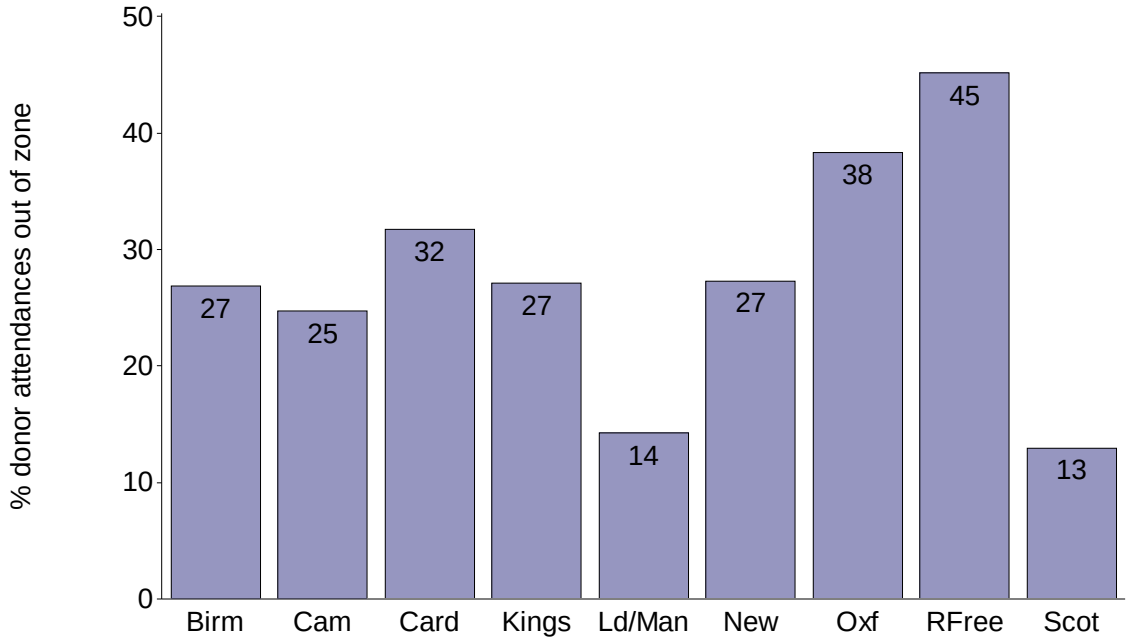

Figure 5b Proportion of out of zone donor attendances (actual and non-proceeding) for each cardiothoracic team, 1 April 2015 - 31 March 2016

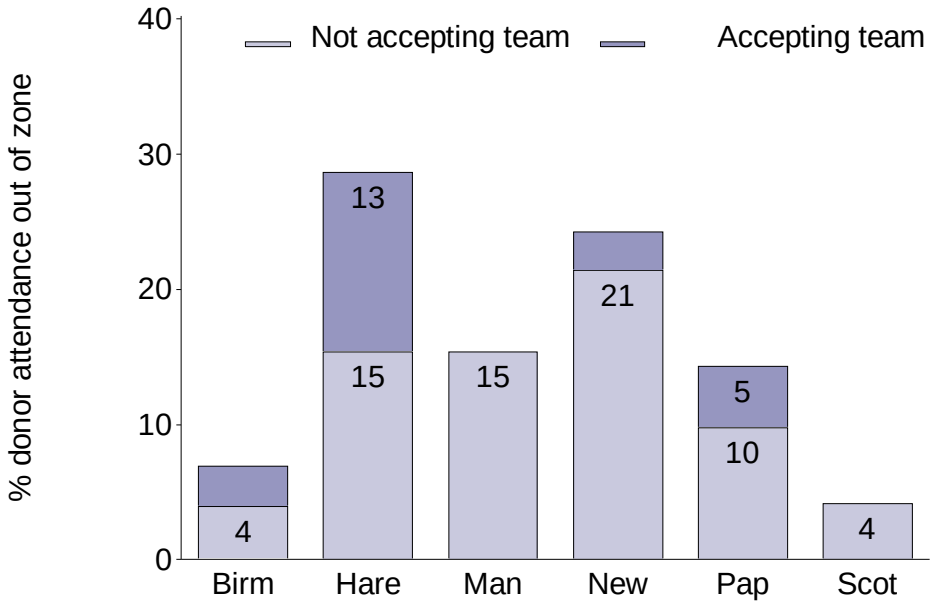

Table 3a and **3b** show the number of donor attendances by each team, against the team that was actually first on call for that donor. For example, Birmingham abdominal team was first on call for 220 donors (when on call) and attended 65.5% of these. The remainder of Birmingham abdominal team's attendances were mainly in Leeds/Manchester's first on call zone.

Table 3a **Number of actual and non-proceeding donors attended by each abdominal retrieval team, 1 April 2015 - 31 March 2016, by the team that was first on call**

Retrieval team that retrieved	Retrieval team first on call: Birmingham N	Cambridge N	Cardiff N	King's College N	Leeds / Manchester N	Newcastle N	Oxford N	Royal Free N	Scotland N
Birmingham	144	12	0	3	27	1	2	6	2
Cambridge	10	192	4	16	11	1	7	14	0
Cardiff	0	5	58	3	13	1	1	4	0
King's College	21	14	9	212	2	0	11	22	0
Leeds / Manchester	14	7	5	1	229	10	0	1	0
Newcastle	1	2	1	1	35	141	1	0	12
Other	0	0	0	0	0	1	0	0	0
Oxford	13	13	2	19	4	0	82	0	0
Royal Free	15	13	8	23	2	0	0	74	0
Scotland	2	0	0	0	1	14	0	0	114
Total	**220**	**258**	**87**	**278**	**324**	**169**	**104**	**121**	**128**
No. retrieved by 1st team	144	192	58	212	229	141	82	74	114
% retrieved by 1st team	65.5	74.4	66.7	76.3	70.7	83.4	78.8	61.2	89.1

Note that 5 paediatric (< 30 kg) cardiothoracic retrievals and 13 paediatric (< 5 years) abdominal retrievals have been excluded from this table due to the special arrangements for paediatric retrieval.

Table 3b **Number of actual and non-proceeding donors attended by each cardiothoracic retrieval team, 1 April 2015 - 31 March 2016, by the team that was first on call**

Retrieval team that retrieved	Retrieval team first on call: Birmingham N	Harefield N	Manchester N	Newcastle N	Papworth N	Scotland N
Birmingham	94	3	3	0	1	0
Harefield	14	102	7	3	15	2
Manchester	7	0	78	6	0	1
Newcastle	0	2	1	53	0	14
Papworth	2	16	0	1	114	0
Scotland	0	0	0	1	0	23
Total	**117**	**123**	**89**	**64**	**130**	**40**
No. retrieved by 1st team	94	102	78	53	114	23
% retrieved by 1st team	80.3	82.9	87.6	82.8	87.7	57.5

Note that 5 paediatric (< 30 kg) cardiothoracic retrievals and 13 paediatric (< 5 years) abdominal retrievals have been excluded from this table due to the special arrangements for paediatric retrieval.

ORGANS RETRIEVED

Table 4a shows the percentage of actual abdominal donors donating their kidneys, livers, pancreases and bowels by the team that attended and the donor type. Overall, 94.1% of actual (donating at least one abdominal organ) DBD donors donated their kidney(s), 91.4% donated their liver, 43.9% donated their pancreas and 2.0% donated their bowel. The overall donation rates for actual DCD donors are lower for livers and pancreases but slightly higher for kidneys.

Table 4a Organs retrieved from actual abdominal donors, 1 April 2015 - 31 March 2016, by attending retrieval team

	No. of donors		% donors donating							
			Kidney(s)		Liver		Pancreas		Bowel	
Attending retrieval team	DBD	DCD	DBD	DCD	DBD	DCD	DBD	DCD	DBD	DCD
Birmingham	99	65	91.9	93.8	90.9	60.0	42.4	21.5	2.0	-
Cambridge	94	119	94.7	96.6	92.6	52.1	47.9	27.7	10.6	-
Cardiff	46	23	93.5	100.0	95.7	52.2	41.3	17.4	0.0	-
King's College	148	87	95.3	98.9	90.5	58.6	47.3	20.7	0.7	-
Leeds / Manchester	110	88	94.5	95.5	93.6	48.9	49.1	15.9	0.0	-
Newcastle	89	62	98.9	96.8	88.8	40.3	42.7	24.2	0.0	-
Oxford	68	36	89.7	97.2	91.2	47.2	42.6	19.4	1.5	-
Royal Free	72	45	91.7	97.8	90.3	48.9	30.6	13.3	0.0	-
Scotland	56	49	94.6	98.0	91.1	51.0	42.9	28.6	3.6	-
Total	**782**	**574**	**94.1**	**96.9**	**91.4**	**51.6**	**43.9**	**21.8**	**2.0**	-

Table 4b shows the number of actual abdominal donors where each organ was accepted and the proportion of these where each organ was retrieved. The proportion of donors where each organ was transplanted, out of those where the organ was retrieved is also shown. The figures are broken down by donor type and attending retrieval team. For example, there were 736 actual DBD abdominal donors overall where at least one kidney was accepted, and of these 100.0% had at least one kidney retrieved, and of these 94.8% had at least one kidney transplanted.

Table 4b **Organs accepted, retrieved and transplanted from actual abdominal donors, 1 April 2015 - 31 March 2016, by attending retrieval team**

	Kidney			Liver			Pancreas			Bowel		
Attending retrieval team	No. actual donors where organ acctd	% where organ retd	% where organ txd (of retd)	No. actual donors where organ acctd	% where organ retd	% where organ txd (of retd)	No. actual donors where organ acctd	% where organ retd	% where organ txd (of retd)	No. actual donors where organ acctd	% where organ retd	% where organ txd (of retd)
DBD												
Birmingham	91	100.0	98.9	92	97.8	87.8	43	97.7	57.1	2	100.0	100.0
Cambridge	89	100.0	94.4	88	98.9	88.5	46	97.8	60.0	10	100.0	90.0
Cardiff	43	100.0	97.7	45	97.8	88.6	19	100.0	36.8	0	-	-
King's College	141	100.0	92.9	137	97.8	83.6	72	97.2	57.1	1	100.0	100.0
Leeds / Manchester	104	100.0	100.0	104	99.0	96.1	59	91.5	57.4	0	-	-
Newcastle	88	100.0	93.2	81	97.5	94.9	43	88.4	31.6	0	-	-
Oxford	61	100.0	85.2	65	95.4	90.3	29	100.0	48.3	2	50.0	100.0
Royal Free	66	100.0	97.0	65	100.0	87.7	23	95.7	40.9	0	-	-
Scotland	53	100.0	92.5	52	98.1	84.3	28	85.7	41.7	2	100.0	100.0
Total	**736**	**100.0**	**94.8**	**729**	**98.1**	**89.1**	**362**	**94.8**	**50.7**	**17**	**94.1**	**93.8**
DCD												
Birmingham	61	100.0	86.9	41	95.1	69.2	15	93.3	57.1	0	-	-
Cambridge	115	100.0	84.3	68	91.2	69.4	34	97.1	45.5	0	-	-
Cardiff	23	100.0	95.7	14	85.7	75.0	5	80.0	25.0	0	-	-
King's College	86	100.0	82.6	56	91.1	51.0	18	100.0	38.9	0	-	-
Leeds / Manchester	84	100.0	94.0	47	91.5	88.4	15	93.3	64.3	0	-	-
Newcastle	60	100.0	86.7	29	86.2	68.0	16	93.8	6.7	0	-	-
Oxford	35	100.0	94.3	20	85.0	70.6	7	100.0	71.4	0	-	-
Royal Free	44	100.0	93.2	24	91.7	68.2	7	85.7	33.3	0	-	-
Scotland	48	100.0	91.7	31	80.6	76.0	14	100.0	50.0	0	-	-
Total	**556**	**100.0**	**88.5**	**330**	**89.7**	**69.6**	**131**	**95.4**	**44.0**	**0**	**-**	**-**
Total	**1292**	**100.0**	**92.1**	**1059**	**95.5**	**83.4**	**493**	**94.9**	**48.9**	**17**	**94.1**	**93.8**

Figures 6a and **6b** show the number of organs retrieved, by attending retrieval team, from DBD and DCD donors, respectively.

Figure 6a DBD abdominal organs retrieved, 1 April 2015 - 31 March 2016, by attending retrieval team

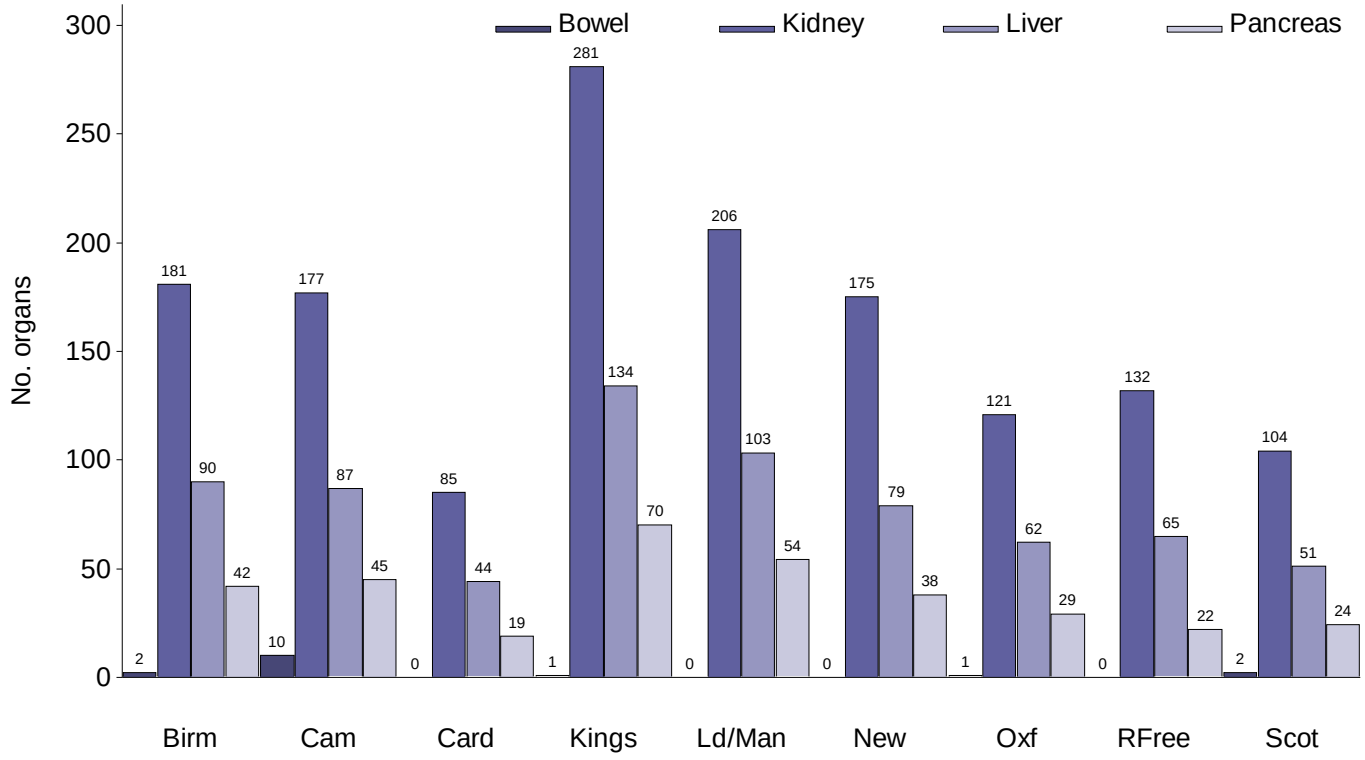

Figure 6b DCD abdominal organs retrieved, 1 April 2015 - 31 March 2016, by attending retrieval team

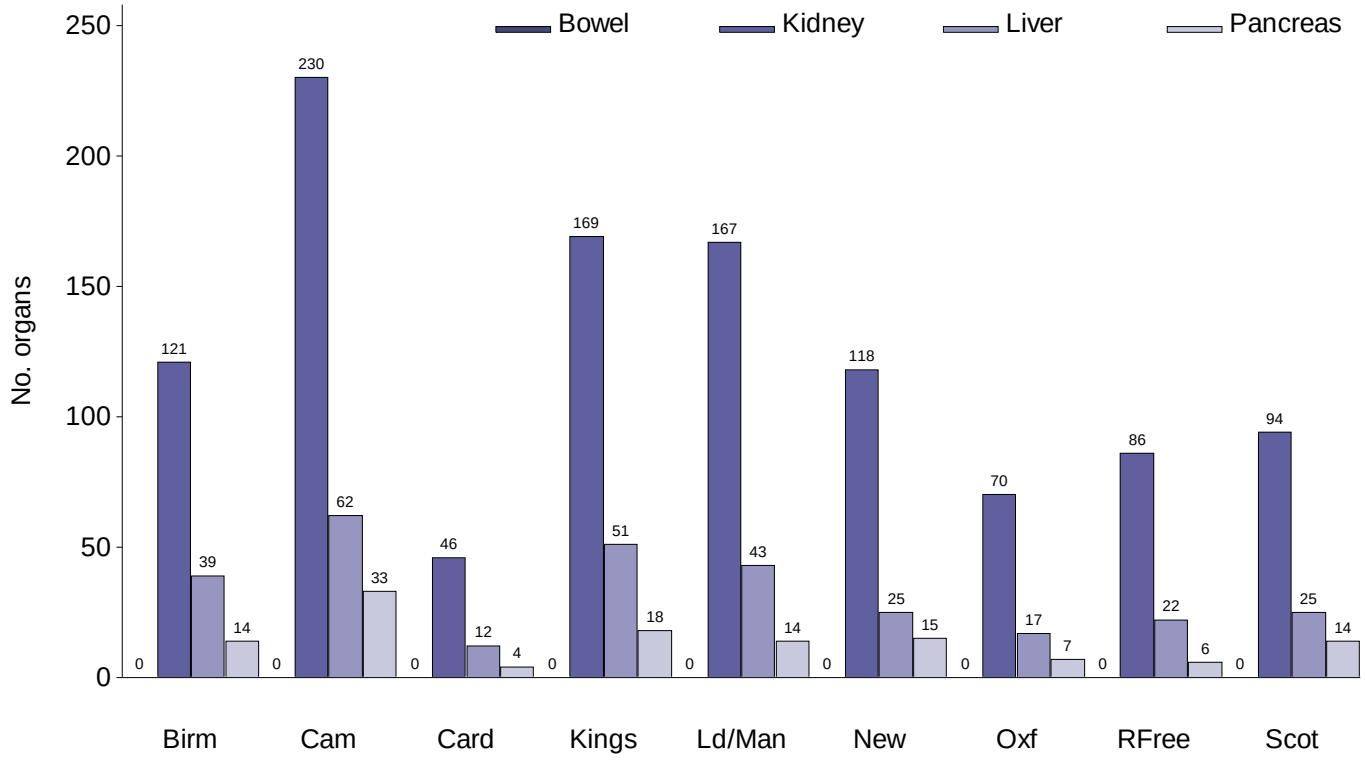

Table 4c shows the mean number of abdominal organs retrieved and transplanted per proceeding abdominal donor, for each attending abdominal team, by donor type. The mean number of organs retrieved per DBD donor ranged from 3.0 to 3.4 across teams. Analysis of Variance indicated that these differences were not statistically significant (p= 0.29). The mean number of organs

transplanted per DBD donor ranged from 2.5 to 3.0 across teams (borderline significant differences: p=0.06). The mean number of organs retrieved and transplanted per DCD donor is lower than per DBD donor, but there were no significant differences found between teams. Note that summary statistics for donor age are also shown in **Table 4c**, for reference, and no significant variation was found in the mean donor age across teams, for either DBD or DCD donors.

Table 4c **Mean number of abdominal organs retrieved and transplanted per proceeding abdominal donor and mean donor age, by attending team, 1 April 2015 - 31 March 2016**

	DBD							DCD						
	No. of actual donors	Donor age		Mean no. organs retrieved		Mean no. organs txd		No. of actual donors	Donor age		Mean no. organs retrieved		Mean no. organs txd	
Attending retrieval team		Mean	(Sd.)	Mean	(Sd.)	Mean	(Sd.)		Mean	(Sd.)	Mean	(Sd.)	Mean	(Sd.)
Birmingham	99	48.2	(19.5)	3.2	(0.9)	2.8	(1.0)	65	53.8	(15.2)	2.7	(0.9)	2.1	(1.2)
Cambridge	94	48.8	(17.9)	3.4	(0.9)	2.9	(1.1)	119	52.2	(16.0)	2.7	(0.9)	2.1	(1.1)
Cardiff	46	51.6	(17.8)	3.2	(0.8)	2.8	(0.8)	23	52.3	(12.8)	2.7	(0.8)	2.3	(0.8)
King's College	148	50.0	(17.0)	3.3	(0.8)	2.7	(1.1)	87	53.4	(18.6)	2.7	(0.8)	1.9	(1.1)
Leeds / Manchester	110	47.8	(16.5)	3.3	(0.8)	3.0	(0.8)	88	52.4	(18.4)	2.5	(0.8)	2.2	(1.0)
Newcastle	89	53.1	(15.8)	3.3	(0.7)	2.7	(0.9)	62	50.6	(16.6)	2.5	(0.9)	1.9	(0.9)
Oxford	68	54.1	(17.6)	3.1	(1.0)	2.5	(1.2)	36	51.7	(16.7)	2.6	(0.8)	2.3	(1.0)
Royal Free	72	54.1	(13.9)	3.0	(0.9)	2.7	(0.9)	45	55.3	(17.6)	2.5	(0.8)	2.1	(0.9)
Scotland	56	50.4	(15.8)	3.2	(0.9)	2.7	(1.1)	49	47.8	(16.3)	2.7	(0.9)	2.2	(1.0)
Total	**782**	**50.5**	**(17.1)**	**3.2**	**(0.9)**	**2.8**	**(1.0)**	**574**	**52.3**	**(16.9)**	**2.7**	**(0.8)**	**2.1**	**(1.0)**

Table 5a shows the percentage of actual cardiothoracic donors donating their heart only, their lung(s) only or both their heart and lung(s), by the retrieval team that attended and the donor type. Overall, 38.6% of actual (donating at least one cardiothoracic organ) DBD donors donated their heart only, 29.5% donated their lung(s) only and 31.8% donated their heart and lung(s). Additionally, 32.8% of actual DCD donors donated their heart only, 63.8% donated their lung(s) only and 3.4% donated their heart and lung(s).

Table 5b shows the number of potential donors where each cardiothoracic organ was accepted and the proportion of these where each organ was retrieved. The proportion of donors where each organ was transplanted, out of those where the organ was retrieved is also shown. The figures are broken down by donor type and attending retrieval team. For example, there were 236 DBD hearts accepted for transplantation and of these 78.8% were retrieved, and of these 96.8% were transplanted.

Figures 7a and **7b** show the number of organs retrieved, by attending retrieved team, from DBD and DCD donors, respectively.

Table 5a **Organs retrieved from actual cardiothoracic donors, 1 April 2015 - 31 March 2016, by attending retrieval team**

Attending retrieval team	DBD donors donating N	Heart only (%)	Lung only (%)	Heart & Lung (%)	DCD donors donating N	Heart only (%)	Lung only (%)	Heart & Lung (%)
Birmingham	45	42.2	35.6	22.2	8	0	100.0	0
Harefield	60	35.0	33.3	31.7	16	25.0	68.8	6.3
Manchester	50	44.0	20.0	36.0	7	0	100.0	0
Newcastle	34	23.5	38.2	38.2	8	0	100.0	0
Papworth	61	47.5	21.3	31.1	19	78.9	15.8	5.3
Scotland	14	21.4	42.9	35.7	0	0	0	0
Total	**264**	**38.6**	**29.5**	**31.8**	**58**	**32.8**	**63.8**	**3.4**

Table 5b **Cardiothoracic organs accepted, retrieved and transplanted 1 April 2015 - 31 March 2016, by attending retrieval team**

Attending retrieval team*	Heart: No. donors where organ acctd	Heart: % where organ retd	Heart: % where organ txd (of retd)	Lung: No. donors where organ acctd	Lung: % where organ retd	Lung: % where organ txd (of retd)
DBD						
Birmingham	42	69.0	96.6	37	70.3	100.0
Harefield	58	69.0	90.0	63	61.9	94.9
Manchester	44	90.9	100.0	36	77.8	100.0
Newcastle	25	84.0	100.0	28	92.9	80.8
Papworth	57	84.2	97.9	46	69.6	100.0
Scotland	10	80.0	100.0	12	91.7	72.7
Total	**236**	**78.8**	**96.8**	**222**	**73.0**	**93.8**
DCD						
Birmingham	0	.	.	13	61.5	75.0
Harefield	7	71.4	80.0	20	60.0	83.3
Manchester	0	.	.	16	43.8	100.0
Newcastle	0	.	.	14	57.1	100.0
Papworth	16	100.0	93.8	17	23.5	100.0
Total	**23**	**91.3**	**90.5**	**80**	**48.8**	**89.7**
Total	**259**	**79.9**	**96.1**	**302**	**66.6**	**93.0**

Figure 7a DBD cardiothoracic organs retrieved, 1 April 2015 - 31 March 2016, by attending retrieval team

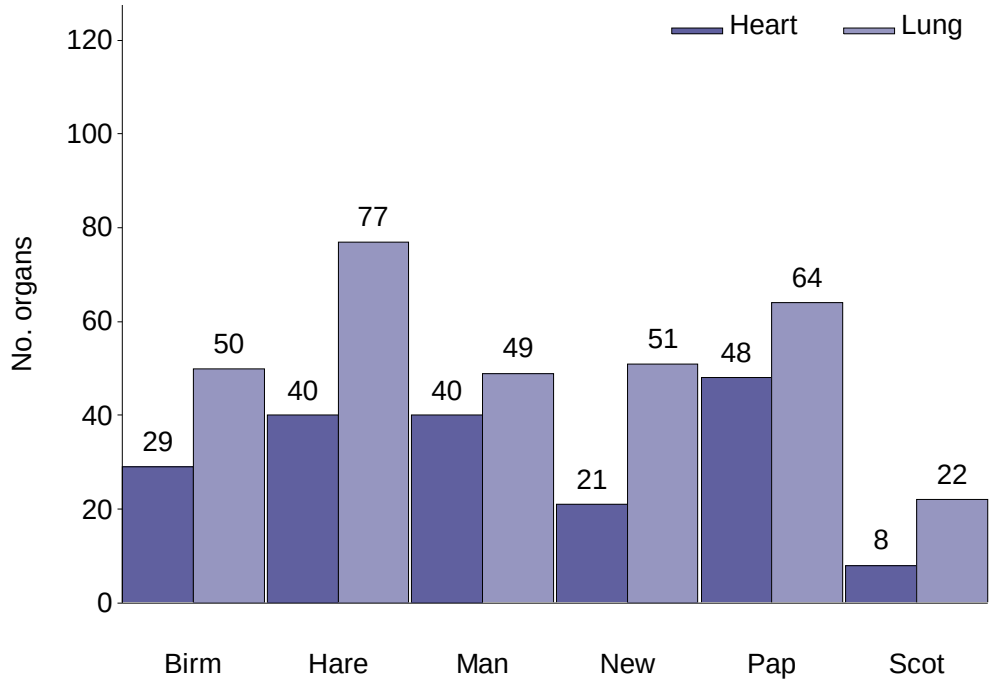

Figure 7a DCD cardiothoracic organs retrieved, 1 April 2015 - 31 March 2016, by attending retrieval team

Table 5c shows the mean number of cardiothoracic organs retrieved and transplanted per proceeding cardiothoracic donor, for each attending cardiothoracic team, by donor type. The mean number of organs retrieved per DBD donor ranged from 1.8 to 2.1 across teams. Analysis of Variance indicated that these differences were not statistically significant (p=0.26). The mean number of organs transplanted per DBD donor ranged from 1.7 to 1.8 across teams. The mean number of organs retrieved per DCD donor was significantly different (p<0.001) across teams, ranging from 1.3 to 2.0 and the mean number of organs transplanted (p=0.001) ranged from 1.2 to 2.0.

Table 5c **Mean number of cardiothoracic organs retrieved and transplanted per proceeding cardiothoracic donor, by attending retrieval team, 1 April 2015 - 31 March 2016**

	DBD					DCD				
Attending retrieval team	Number of actual cardiothoracic donors	Mean no. organs retrieved		Mean no. organs transplanted		Number of actual cardiothoracic donors	Mean no. organs retrieved		Mean no. organs transplanted	
		Mean	Std.	Mean	Std.		Mean	Std.	Mean	Std.
Birmingham	45	1.8	(0.8)	1.7	(0.8)	8	2.0	(0.0)	1.5	(0.9)
Harefield	60	2.0	(0.8)	1.8	(0.9)	16	1.8	(0.4)	1.4	(0.8)
Manchester	50	1.8	(0.9)	1.8	(0.9)	7	2.0	(0.0)	2.0	(0.0)
Newcastle	34	2.1	(0.8)	1.8	(1.0)	8	2.0	(0.0)	2.0	(0.0)
Papworth	61	1.8	(0.9)	1.8	(0.9)	19	1.3	(0.6)	1.2	(0.5)
Scotland	14	2.1	(0.8)	1.7	(1.1)	.	.		.	
Total	**264**	**1.9**	**(0.8)**	**1.8**	**(0.9)**	**58**	**1.7**	**(0.5)**	**1.5**	**(0.7)**

APPENDIX

APPENDIX

Appendix I Retrieval data from completion rates, 1 April 2015 - 31 March 2016

Attending retrieval team	Number of forms due	RTI missing N	RTI missing %	ORI missing N	ORI missing %
Abdominal					
Birmingham	199	7	3.5	6	3.0
Cambridge	256	2	0.8	2	0.8
Cardiff	85	1	1.2	0	.
King's College	295	9	3.1	8	2.7
Leeds / Manchester	269	2	0.7	6	2.2
Newcastle	197	0	.	2	1.0
Oxford	133	0	.	4	3.0
Royal Free	135	0	.	2	1.5
Scotland	132	1	0.8	2	1.5
Cardiothoracic					
Birmingham	101	1	1.0	4	4.0
Harefield	143	1	0.7	5	3.5
Manchester	92	0	.	5	5.4
Newcastle	73	5	6.8	0	.
Papworth	135	1	0.7	8	5.9
Scotland	24	0	.	2	8.3
Total	**2269**	**30**	**1.3**	**56**	**2.5**

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