



Blood and Transplant

**ANNUAL REPORT ON
THE NATIONAL ORGAN RETRIEVAL SERVICE (NORS)**

**REPORT FOR 2014/2015
(1 APRIL 2014 – 31 MARCH 2015)**

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EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

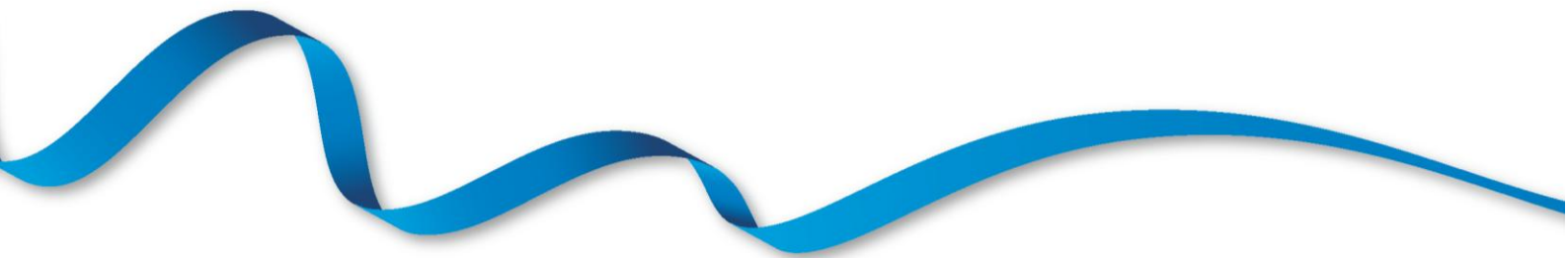
The National Organ Retrieval Service (NORS) was introduced on 1 April 2010. At any given time there are 7 abdominal organ retrieval teams and 6 cardiothoracic organ retrieval teams available to perform retrievals. This report presents organ retrieval data from the last full financial year, 1 April 2014 to 31 March 2015. Data were extracted from the UK Transplant Registry on 8 June 2015.

Between 1 April 2014 and 31 March 2015, 1,637 potential donors were attended by a retrieval team. 1,279 (78%) of these proceeded to abdominal organ donation and 313 (60% of the 520 attended by a cardiothoracic team) proceeded to cardiothoracic organ donation.

Key findings

- Activity has decreased slightly for most teams in this financial year compared with last financial year; the average change in the number of abdominal team attendances was -8% and the average change in the number of cardiothoracic team attendances was -10%.
- On average, 4.6 potential donors were attended by a retrieval team per day, which has decreased slightly from last year (4.8 last year).
- On average abdominal teams attended at least one donor 53% of days in the year, while cardiothoracic teams attended at least one donor 22% of days.
- The proportion of out of zone attendances ranged from 12% (Leeds/Manchester) to 43% (Oxford) for abdominal teams and from 3% (Scotland) to 29% (Harefield) for cardiothoracic teams.
- There were statistically significant differences in the mean number of organs retrieved and transplanted per DBD donor across retrieval teams but this was generally not the case for DCD donors.
- Overall a very high proportion of abdominal organs accepted for transplantation were retrieved (88%-100%). The proportion was lower for cardiothoracic organs accepted (76%-81%). The transplantation rates for retrieved organs were variable across organs, from 51% for DBD pancreases, up to 98% for DBD hearts. Additionally, 100% of bowels that were retrieved were transplanted and one DCD heart was retrieved and transplanted in the time period.

INTRODUCTION



INTRODUCTION

The National Organ Retrieval Service (NORS) was introduced on 1 April 2010 and comprises 14 specialist surgical teams that are commissioned to retrieve organs from deceased donors in the UK. Although there are 14 NORS teams in total, the teams have different responsibilities and a few of them share on-call responsibilities. At any given time there are 7 abdominal organ retrieval teams and 6 cardiothoracic organ retrieval teams available to perform retrievals.

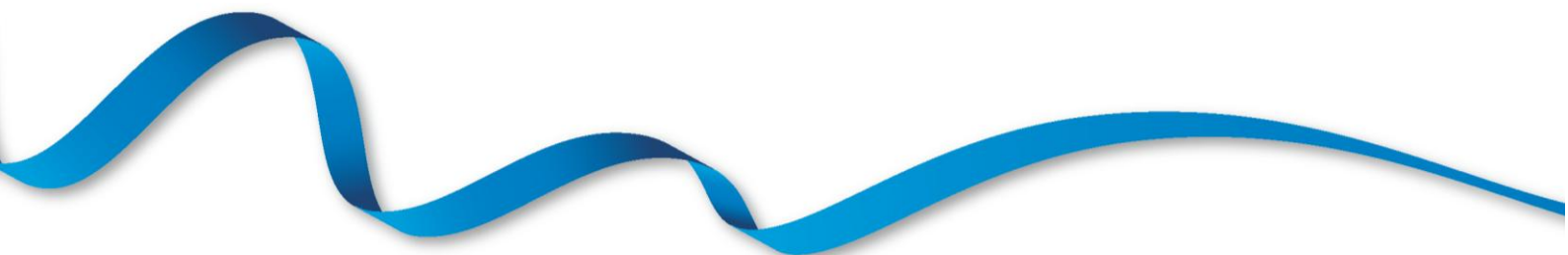
This report presents organ retrieval data from the last full financial year, 1 April 2014 to 31 March 2015. Data were provided by retrieval teams and Specialist Nurses for Organ Donation (SN-ODs) via the Retrieval Team Information (RTI) and Organ Retrieval Information (ORI) forms. Only a very small proportion (1%) of forms were missing at time of data extraction, which was 8 June 2015.

Each NORS team has a designated area for which they are first on-call, based on the proximity of their base to each donor hospital. If a team is first on-call for a particular donor hospital, they are required to attend potential donors at that hospital if at least one organ has been accepted for transplantation. If the team is already retrieving when they are called to attend, then a second team is 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 2014 and 31 March 2015 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 2014 – 31 March 2015, by donor type (DBD/DCD)						
Attending retrieval team	DBD		DCD		Total	% of all donors attended
	N	%	N	%		
Abdominal						
Birmingham ¹	111	47.8	121	52.2	232	14.2
Cambridge	100	42.0	138	58.0	238	14.6
Cardiff ¹	39	51.3	37	48.7	76	4.7
King's College	134	51.1	128	48.9	262	16.0
Leeds / Manchester	119	43.1	157	56.9	276	16.9
Newcastle	86	50.9	83	49.1	169	10.3
Oxford ²	64	52.5	58	47.5	122	7.5
Royal Free ²	68	51.5	64	48.5	132	8.1
Scotland	66	54.5	55	45.5	121	7.4
Local/overseas teams						
Belfast	0	0.0	1	100.0	1	0.1
St George's	1	25.0	3	75.0	4	0.2
Abdominal total	788	48.3	845	51.7	1633	100.0
Cardiothoracic						
Birmingham	78	75.7	25	24.3	103	19.8
Harefield	109	79.6	28	20.4	137	26.3
Manchester	54	65.1	29	34.9	83	16.0
Newcastle	43	62.3	26	37.7	69	13.3
Papworth	72	75.8	23	24.2	95	18.3
Scotland	32	100.0	0	0.0	32	6.2
Local/overseas teams						
Overseas	1	100.0	0	0.0	1	0.2
Cardiothoracic total	389	74.8	131	25.2	520	100.0
Total no. attendances	1177	54.7	976	45.3	2153	-
Total no. donors attended	792	48.4	845	51.6	1637	-

^{1,2} Share on call responsibilities.
 Note: there were 3 potential donors reported as attended by more than one abdominal retrieval team (in 1 case the other team was a local retrieval team); these have been allocated to the team that was highest in the attendance sequence (or the NORS team) in this table. There were also 3 potential donors reported as attended by an overseas cardiothoracic team as well as a NORS cardiothoracic team; 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 1,637 potential donors attended by a retrieval team. Of these, 792 (48%) were potential DBD donors and 845 (52%) were potential DCD donors. 770 (97%) of potential DBD donors attended by an abdominal team proceeded to abdominal organ donation while 509 (69%) of potential DBD donors attended by a cardiothoracic team proceeded to cardiothoracic organ donation. For potential DCD donors, 267 (60%) of those attended by an abdominal team proceeded to abdominal organ donation while 46 (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 2014 – 31 March 2015, by donor type (DBD/DCD) and proceeding/non-proceeding						
Attending retrieval team	No. actual donors	DBD		No. actual donors	DCD	
		No. non-proceeding	% non-proc		No. non-proceeding	% non-proc
Abdominal						
Birmingham ¹	110	1	0.9	66	55	45.5
Cambridge	99	1	1.0	89	49	35.5
Cardiff ¹	39	0	0.0	22	15	40.5
King's College	133	1	0.7	80	48	37.5
Leeds / Manchester	116	3	2.5	92	65	41.4
Newcastle	82	4	4.7	53	30	36.1
Oxford ²	62	2	3.1	35	23	39.7
Royal Free ²	64	4	5.9	37	27	42.2
Scotland	64	2	3.0	34	21	38.2
Local/overseas teams						
Belfast	0	0	-	1	0	0.0
St George's	1	0	0.0	0	3	100.0
Abdominal total	770	18	2.3	509	336	39.8
Cardiothoracic						
Birmingham	54	24	30.8	8	17	68.0
Harefield	69	40	36.7	11	17	60.7
Manchester	38	16	29.6	10	19	65.5
Newcastle	33	10	23.3	9	17	65.4
Papworth	53	19	26.4	8	15	65.2
Scotland	19	13	40.6	0	0	-
Local/overseas teams						
Overseas	1	0	0.0	0	0	-
Cardiothoracic total	267	122	31.4	46	85	64.9
Total no. donors attended	772	20	2.5	510	335	39.6

^{1,2} Share on call responsibilities.
Note: there were 3 potential donors reported as attended by more than one abdominal retrieval team (in 1 case the other team was a local retrieval team); these have been allocated to the team that was highest in the attendance sequence (or the NORS team) in this table. There were also 3 potential donors reported as attended by an overseas cardiothoracic team as well as a NORS cardiothoracic team; 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 2014 – 31 March 2015, by accepting cardiothoracic transplant centre						
Initial accepting transplant team	DBD			DCD		
	Actual	Non-proceeding	% non-proc	Actual	Non-proceeding	% non-proc
Birmingham	44	4	8.3	7	2	22.2
Harefield	57	18	24.0	13	2	13.3
Manchester	36	7	16.3	4	2	33.3
Newcastle	50	9	15.3	10	5	33.3
Papworth	52	16	23.5	10	4	28.6
Scotland	12	0	0.0	0	0	-
Other	16	0	0.0	2	0	0.0
Unknown	0	68	100.0	0	70	100.0
Total	267	122	31.4	46	85	64.9

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, 19% of potential donors in 2014/15 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 Birmingham/Cardiff and 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. Birmingham 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 2014 and 31 March 2015, by first on call abdominal retrieval zone

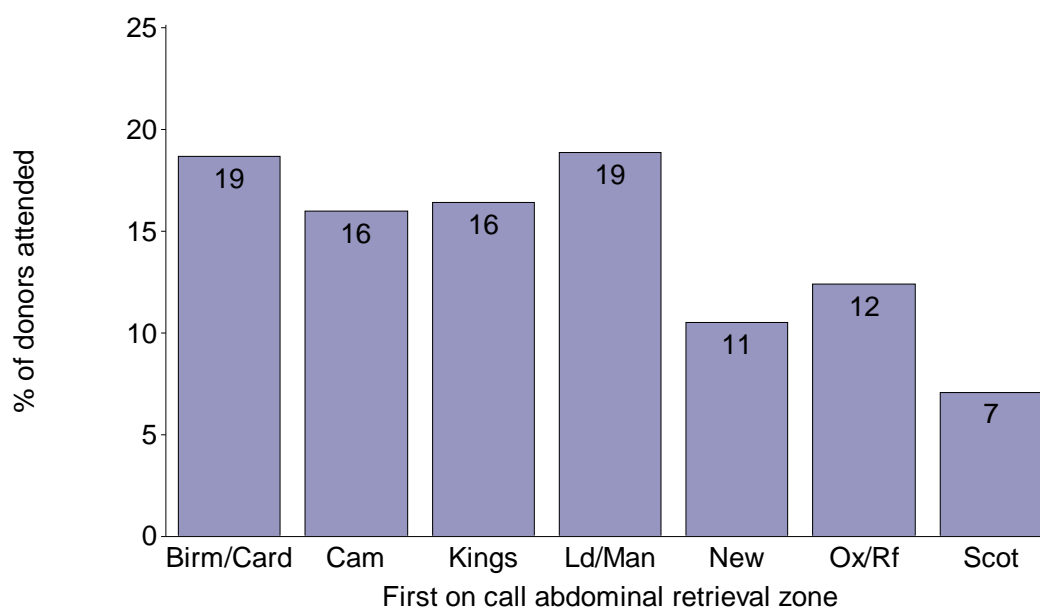


Figure 1b Percentage share of donors attended by a cardiothoracic team between 1 April 2014 and 31 March 2015, by first on call cardiothoracic retrieval zone

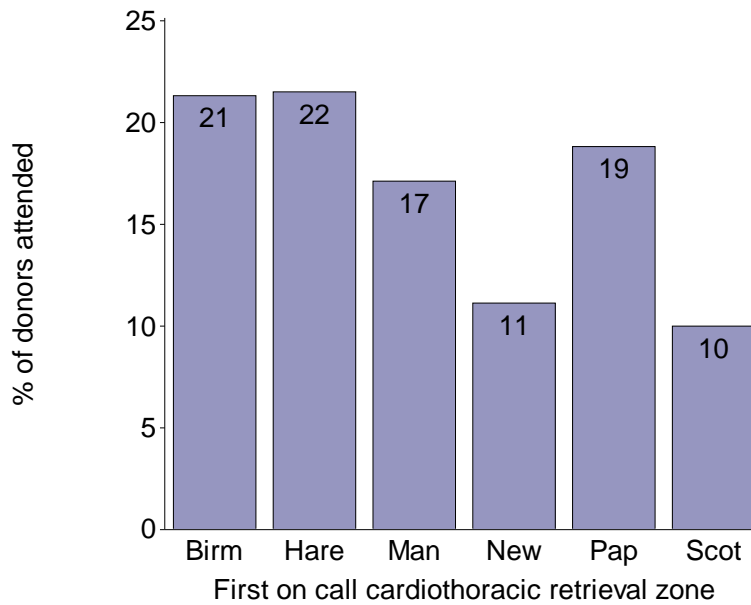


Figure 2 shows the distribution of the number of donors (actual and non-proceeding) attended by at least one retrieval team, per day in 2014/15. The number of donors per day ranged from zero (7 days) to 12 (1 day). The mean number of donors per day was 4.6.

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 2014 – 31 March 2015

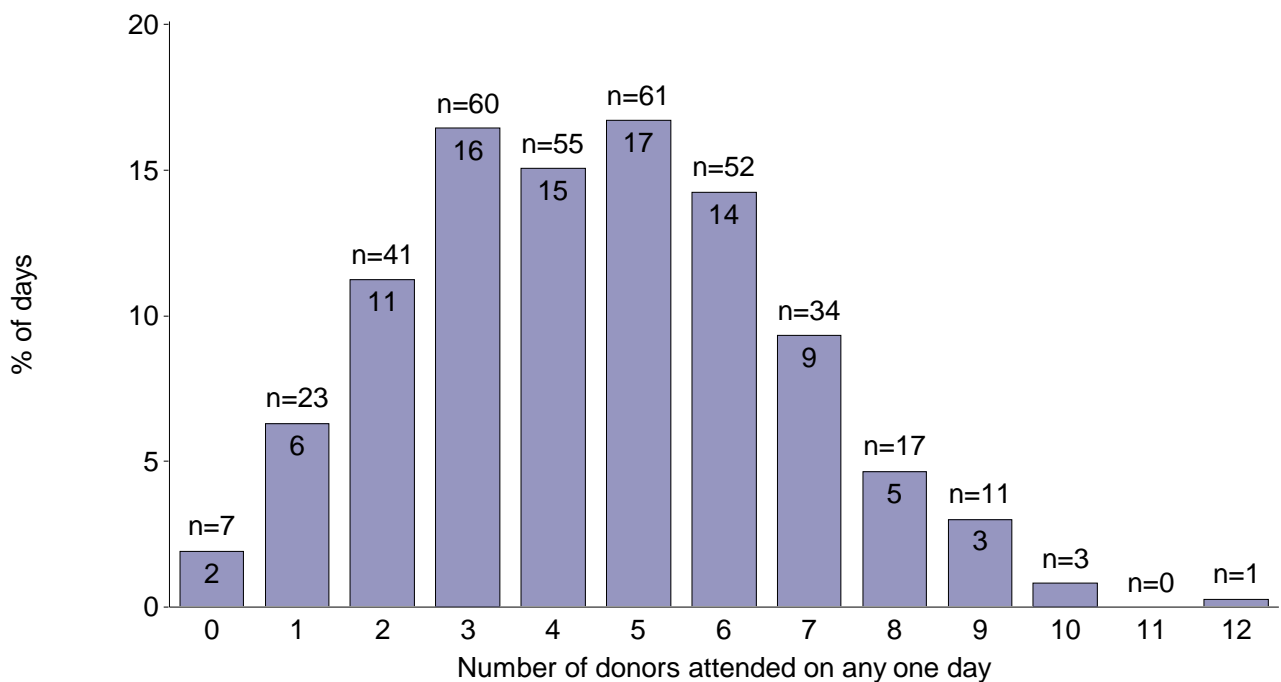


Figure 3a shows the distribution of the number of abdominal teams out on any one day during 2014/15. For example, there were 87 days in the 12 month period (24% of days) where four abdominal teams were out attending donors.

Figure 3a Distribution of the number of abdominal retrieval teams out on any one day between 1 April 2014 and 31 March 2015

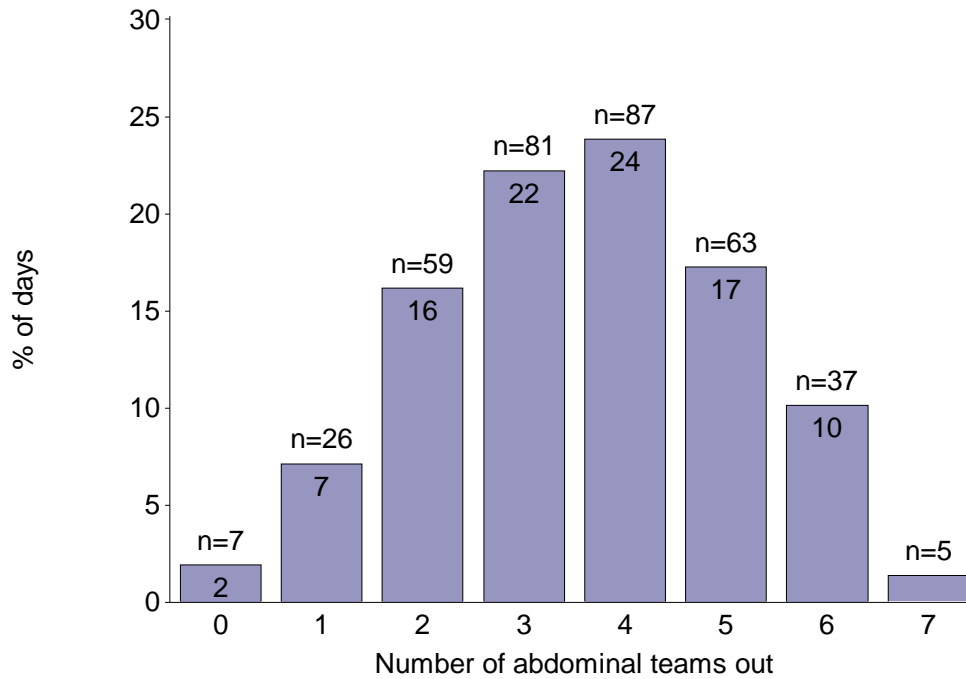


Figure 3b shows the distribution of the number of donors (actual and non-proceeding) attended by each abdominal team on any one day during the year (that they were on call). On average abdominal teams attended no donors 47% of days in the year, one donor 41% of days, two donors 12% of days and three donors 1% of days. The “busiest” team in 2014/15 in terms of days active was Birmingham (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 2014 – 31 March 2015

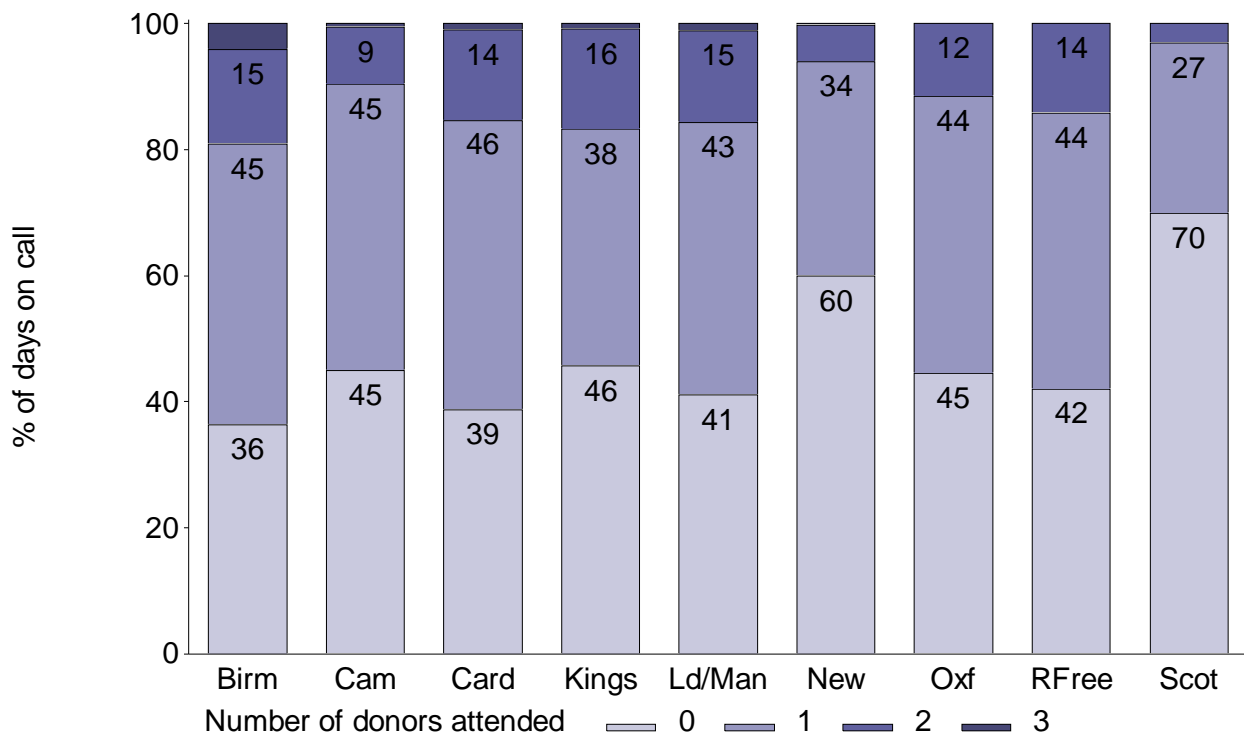


Figure 4a shows the distribution of the number of cardiothoracic teams out on any one day during 2014/15. It is most common for only one cardiothoracic team to be out at once (four is most common for abdominal teams).

Figure 4a Distribution of the number of cardiothoracic retrieval teams out on any one day between 1 April 2014 and 31 March 2015

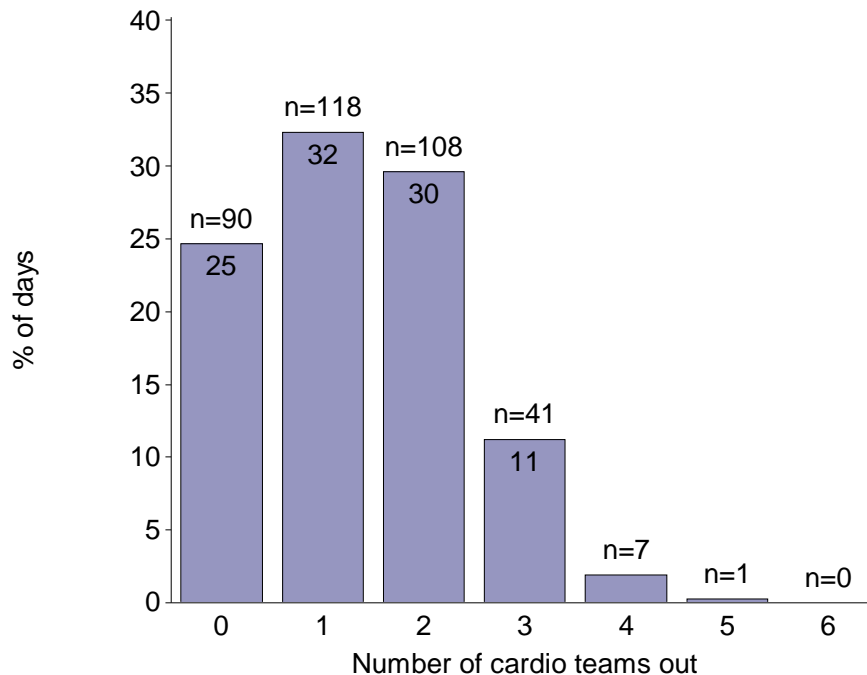


Figure 4b shows the distribution of the number of donors (actual and non-proceeding) attended by each cardiothoracic team on any one day during the year. On average cardiothoracic teams attended no donors 78% of days in the year, one donor 21% of days, two donors 1% of day and three donors <1% of days. The “busiest” team in 2014/15 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 2014 – 31 March 2015

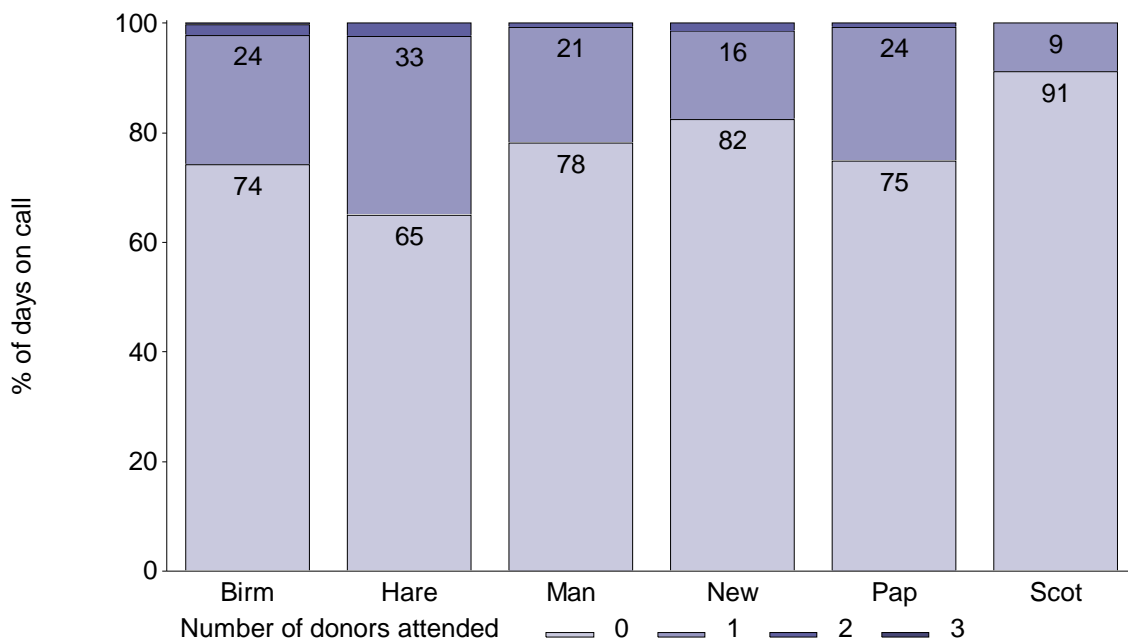


Table 2 shows the position of the retrieval team in the retrieval team attendance sequence for each of the actual and non-proceeding donors that were attended during the financial year. The data show that teams went out of zone a variable proportion of times; 42.6% of Oxford's attendances were out of their first on call zone, compared with 12.4% for Leeds/Manchester and for cardiothoracic teams, out of zone activity ranged from 3.1% for Scotland to 29.2% for Harefield.

Table 2 Number of actual and non-proceeding donors attended by each retrieval team, 1 April 2014 – 31 March 2015, by to the position of the donor hospital in the on-call attendance sequence									
Attending retrieval team	1 st on call N	2 nd on call N	3 rd on call N	4 th on call N	5 th on call N	6 th on call N	7 th on call N	Total N	% not 1 st on call
Abdominal									
Birmingham	170	41	4	13	0	0	0	228	25.4
Cambridge	197	3	26	7	4	1	0	238	17.2
Cardiff	62	8	3	3	0	0	0	76	18.4
King's College	197	40	15	1	2	1	0	256	23.0
Leeds / Manchester	240	22	8	0	4	0	0	274	12.4
Newcastle	128	16	15	1	0	8	0	168	23.8
Oxford	70	44	3	2	3	0	0	122	42.6
Royal Free	76	46	7	3	0	0	0	132	42.4
Scotland	103	9	7	1	0	0	0	120	14.2
Abdominal Total	1243	229	88	31	13	10	0	1614	23.0
Cardiothoracic									
Birmingham	89	6	5	3	0	0	0	103	13.6
Harefield	97	24	2	4	3	7	0	137	29.2
Manchester	76	5	2	0	0	0	0	83	8.4
Newcastle	49	16	1	0	0	0	0	66	25.8
Papworth	80	10	1	0	0	0	0	91	12.1
Scotland	31	1	0	0	0	0	0	32	3.1
Cardiothoracic Total	422	62	11	7	3	7	0	512	17.6
Total no. attendances	1665	291	99	38	16	17	0	2126	21.7
Note that 7 paediatric (< 30 kg) cardiothoracic attendances and 14 paediatric (< 5 years) abdominal attendances have been excluded from this table due to the special arrangements for paediatric retrieval. Local/overseas retrievals have also been excluded.									

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 2014 – 31 March 2015

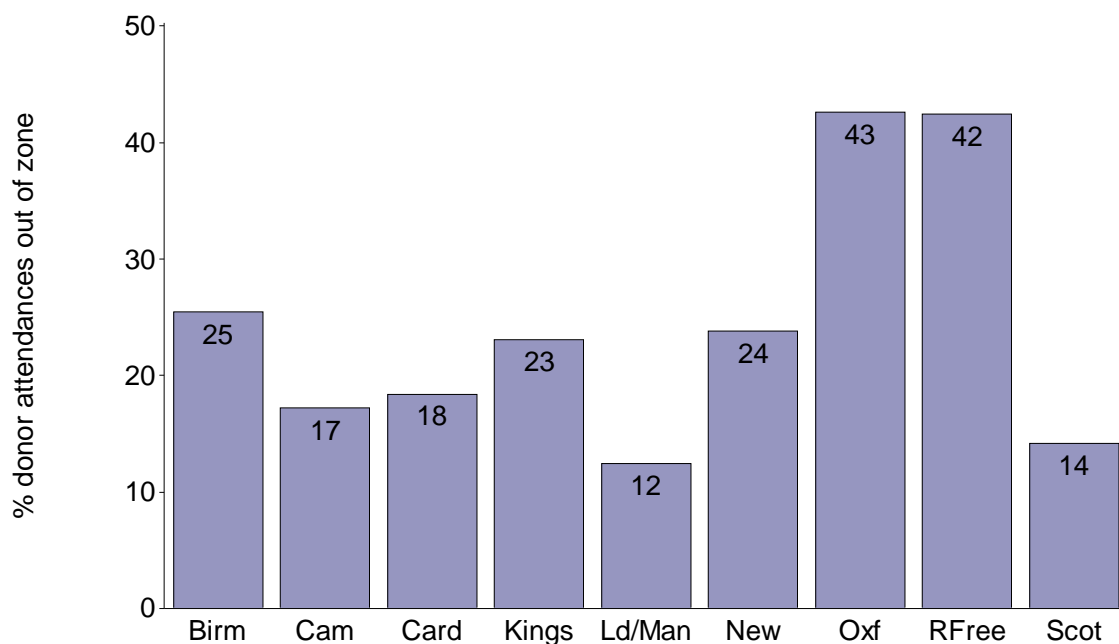


Figure 5b Proportion of out of zone donor attendances (actual and non-proceeding) for each cardiothoracic team, 1 April 2014 – 31 March 2015

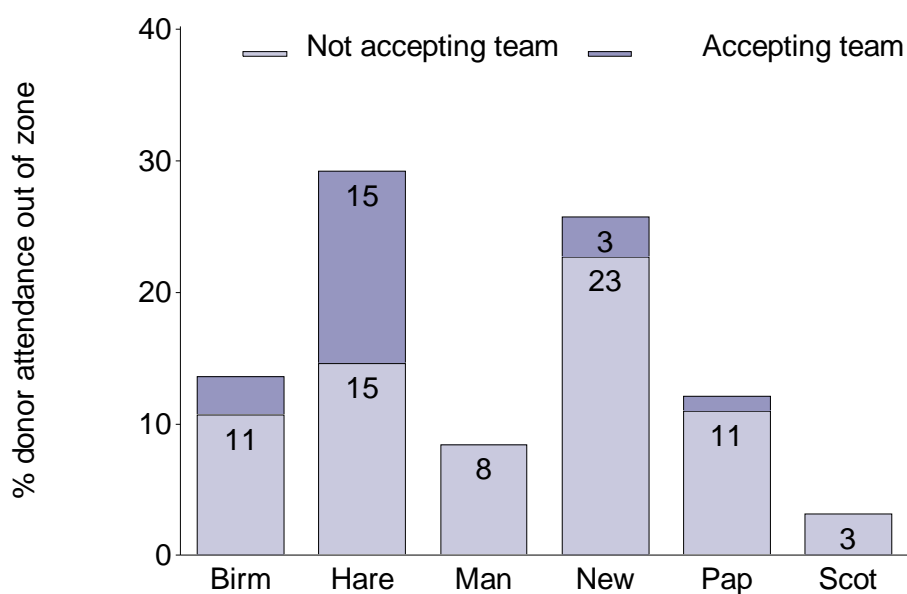


Table 3a and **3b** show the number of donor attendances by each team, against the team that was actually first on call for that donor. For example, Birmingham abdominal team were first on call for 225 donors (when on call) and attended 75.6% of these. The remainder of Birmingham abdominal team’s attendances 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 2014 – 31 March 2015, by the team that was first on call

Retrieval team that attended	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	170	12	0	6	25	3	9	3	0
Cambridge	5	197	2	12	7	2	7	6	0
Cardiff	0	4	62	0	5	2	2	1	0
King's College	12	17	4	197	1	0	13	12	0
Leeds / Manchester	6	3	3	2	240	17	0	1	2
Newcastle	3	0	1	2	23	128	1	1	9
Oxford	19	8	3	18	3	0	70	0	1
Royal Free	10	18	4	23	1	0	0	76	0
Scotland	0	0	0	0	1	16	0	0	103
Local/overseas	0	0	0	4	0	1	0	0	0
Total	225	259	79	264	306	169	102	100	115
No. retrieved by 1st team on call	170	197	62	197	240	128	70	76	103
% retrieved by 1st team on call	75.6	76.1	78.5	74.6	78.4	75.7	68.6	76	89.6

Note that 7 paediatric (< 30 kg) cardiothoracic attendances and 14 paediatric (< 5 years) abdominal attendances have been excluded from this table due to the special arrangements for paediatric retrieval. Local/overseas retrievals have not been excluded.

Table 3b Number of actual and non-proceeding donors attended by each cardiothoracic retrieval team, 1 April 2014 – 31 March 2015, by the team that was first on call

Retrieval team that attended	Retrieval team first on call					
	Birmingham N	Harefield N	Manchester N	Newcastle N	Papworth N	Scotland N
Birmingham	89	5	3	1	3	2
Harefield	17	97	5	2	12	4
Manchester	3	0	76	3	0	1
Newcastle	0	0	4	49	0	13
Papworth	1	10	0	0	80	0
Scotland	0	0	0	1	0	31
Local/overseas	0	0	1	0	0	0
Total	110	112	89	56	95	51
No. retrieved by 1st team on call	89	97	76	49	80	31
% retrieved by 1st team on call	80.9	86.6	85.4	87.5	84.2	60.8

Note that 7 paediatric (< 30 kg) cardiothoracic attendances and 14 paediatric (< 5 years) abdominal attendances have been excluded from this table due to the special arrangements for paediatric retrieval. Local/overseas retrievals have not been excluded.

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, 93.5% of actual (donating at least one abdominal organ) DBD donors donated their kidney(s), 88.9% donated their liver, 46.0% donated their pancreas and 2.7% 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 2014 – 31 March 2015, by attending retrieval team											
Attending retrieval team*	No. actual donors		% donors donating								
	DBD	DCD	Kidney(s)		Liver		Pancreas		Bowel		
			DBD	DCD	DBD	DCD	DBD	DCD	DBD	DCD	
Birmingham	110	66	92.7	86.4	95.5	68.2	46.4	18.2	3.6	-	
Cambridge	99	89	97.0	95.5	91.9	46.1	55.6	23.6	11.1	-	
Cardiff	39	22	94.9	90.9	97.4	54.5	48.7	22.7	0.0	-	
King's College	133	80	91.0	96.3	89.5	47.5	41.4	22.5	2.3	-	
Leeds / Manchester	116	92	94.8	100.0	88.8	38.0	42.2	20.7	0.0	-	
Newcastle	82	53	96.3	96.2	70.7	28.3	43.9	17.0	0.0	-	
Oxford	62	35	87.1	97.1	85.5	45.7	38.7	28.6	3.2	-	
Royal Free	64	37	92.2	89.2	89.1	54.1	53.1	18.9	1.6	-	
Scotland	64	34	95.3	100.0	93.8	52.9	48.4	23.5	0.0	-	
Total	769	508	93.5	95.1	88.9	47.2	46.0	21.5	2.7	-	

* A small number of organs were retrieved by a team that does not match the attending retrieval team here (1 kidney where King's were the attending team was retrieved by the Royal London and 2 bowel pancreas blocks, 1 where Birmingham were the attending team and 1 where the Royal Free were the attending team, were retrieved by Oxford)

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 721 actual abdominal donors overall where at least one kidney was accepted, and of these 99.7% had at least one kidney retrieved, and of these 95.5% had at least one kidney transplanted.

Table 4b **Organs accepted, retrieved and transplanted from actual abdominal donors, 1 April 2014 – 31 March 2015, by attending retrieval team**

Attending retrieval team*	Kidney			Liver			Pancreas			Bowel		
	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	102	100.0	96.1	106	99.1	91.4	52	98.1	58.8	4	100.0	100.0
Cambridge	96	100.0	92.7	92	98.9	92.3	56	98.2	47.3	13	84.6	100.0
Cardiff	37	100.0	100.0	39	97.4	94.7	20	95.0	57.9	0	-	-
King's College	122	99.2	94.2	121	98.3	87.4	56	98.2	50.9	3	100.0	100.0
Leeds / Manchester	110	100.0	96.4	105	98.1	95.1	53	92.5	53.1	0	-	-
Newcastle	79	100.0	92.4	64	90.6	91.4	39	92.3	52.8	0	-	-
Oxford	54	100.0	94.4	55	96.4	100.0	26	92.3	41.7	2	100.0	100.0
Royal Free	59	100.0	98.3	57	100.0	96.5	34	100.0	55.9	2	50.0	100.0
Scotland	62	98.4	100.0	61	98.4	93.3	36	86.1	41.9	0	-	-
Total	721	99.7	95.5	700	97.7	92.8	372	95.2	51.4	24	87.5	100.0
DCD												
Birmingham	57	100.0	87.7	45	100.0	71.1	13	92.3	41.7	0	-	-
Cambridge	85	100.0	80.0	47	87.2	70.7	22	95.5	71.4	0	-	-
Cardiff	20	100.0	85.0	14	85.7	83.3	5	100.0	80.0	0	-	-
King's College	77	100.0	89.6	41	92.7	78.9	18	100.0	44.4	0	-	-
Leeds / Manchester	92	100.0	95.7	42	83.3	82.9	21	90.5	57.9	0	-	-
Newcastle	51	100.0	82.4	20	75.0	66.7	12	75.0	66.7	0	-	-
Oxford	34	100.0	88.2	17	94.1	62.5	10	100.0	70.0	0	-	-
Royal Free	33	100.0	90.9	20	100.0	65.0	7	100.0	42.9	0	-	-
Scotland	34	100.0	97.1	21	85.7	77.8	8	100.0	50.0	0	-	-
Total	483	100.0	88.4	267	89.9	73.8	116	94.0	57.8	0	-	-
Total	1204	99.8	92.7	967	95.6	87.9	488	94.9	52.9	24	87.5	100.0

* A small number of organs were retrieved by a team that does not match the attending retrieval team here (1 kidney where King's were the attending team was retrieved by the Royal London and 2 bowel pancreas blocks, 1 where Birmingham were the attending team and 1 where the Royal Free were the attending team, were retrieved by Oxford)

Figures 6a and **6b** show the number of organs retrieved, by attending retrieved team, from DBD and DCD donors, respectively. Note that a small number of organs were retrieved by a team that does not match the attending retrieval team here (1 kidney where King's College were the attending team was retrieved by the Royal London and 2 bowel pancreas blocks, 1 where Birmingham were the attending team and 1 where the Royal Free were the attending team, were retrieved by Oxford).

Figure 6a DBD abdominal organs retrieved, 1 April 2014 – 31 March 2015, by attending retrieval team

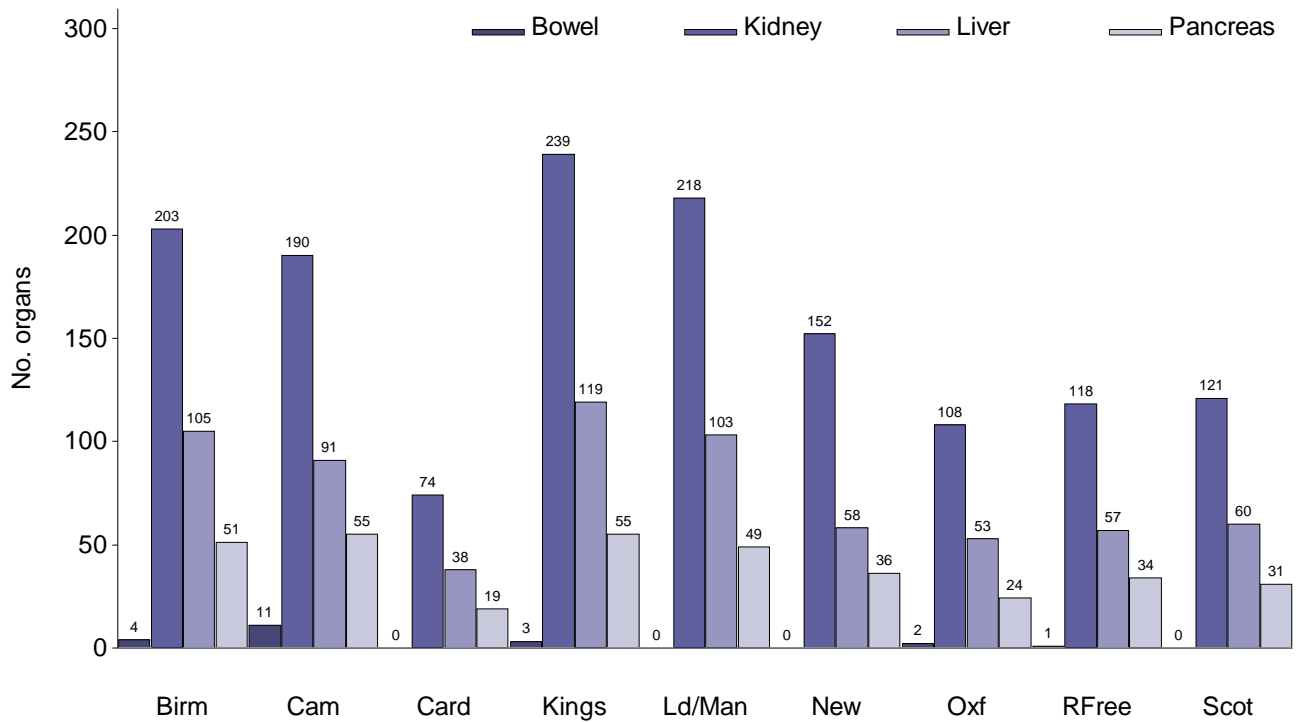


Figure 6b DCD abdominal organs retrieved, 1 April 2014 – 31 March 2015, by attending retrieval team

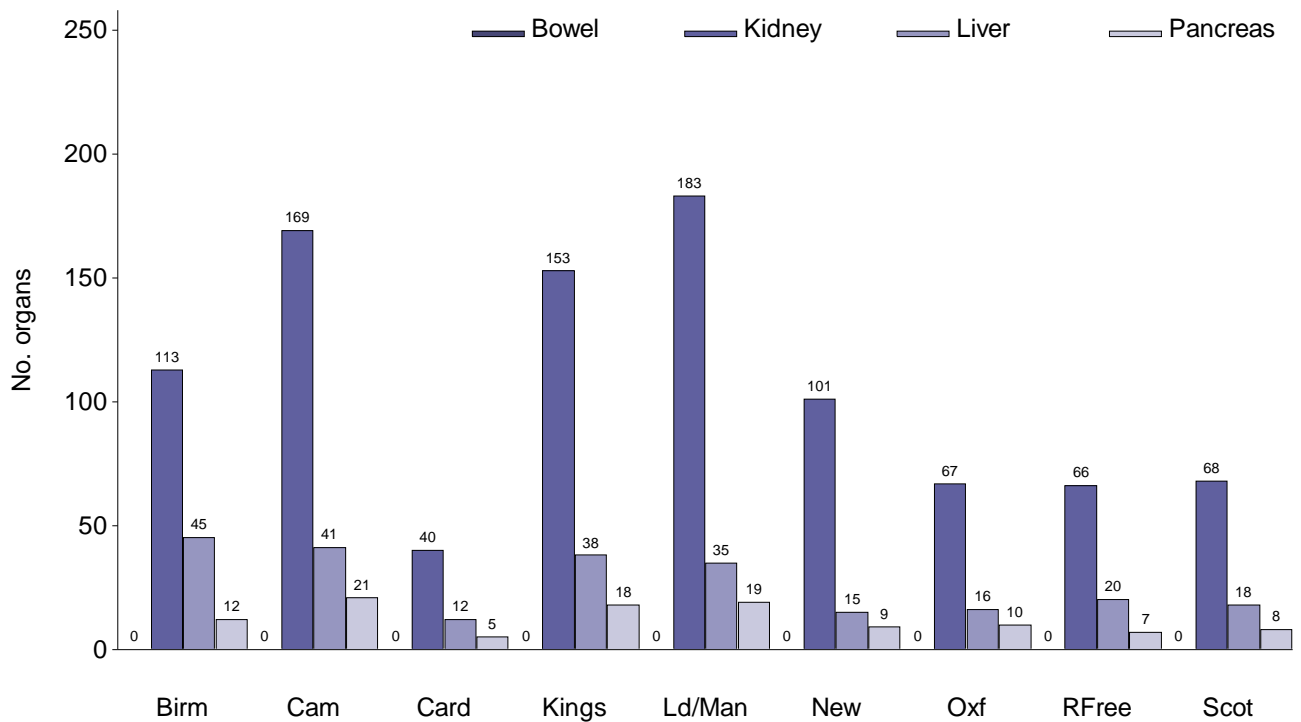


Table 4c shows the mean number of abdominal organs retrieved and transplanted per proceeding abdominal donor, for each attending abdominal team, by donor type. The mean number of organs retrieved per DBD donor ranged from 3.0 to 3.5 across teams. Analysis of Variance indicated that these differences were statistically significant

(p=0.004). The mean number of organs transplanted per DBD donor ranged from 2.6 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 retrieval team, 1 April 2014 – 31 March 2015														
Attending retrieval team	No. actual donors	DBD						DCD						
		Donor age (years)		Mean no. organs ret'd		Mean no. organs tx'd		Donor age (years)		Mean no. organs ret'd		Mean no. organs tx'd		
		Mean	(Sd.)	Mean	(Sd.)	Mean	(Sd.)	Mean	(Sd.)	Mean	(Sd.)	Mean	(Sd.)	
Birmingham	110	50.7	(16.6)	3.3	(0.9)	2.9	(1.1)	66	52.4	(17.8)	2.6	(0.9)	2.0	(1.2)
Cambridge	99	47.3	(15.5)	3.5	(0.8)	3.0	(1.1)	89	52.7	(16.8)	2.6	(0.9)	1.9	(1.2)
Cardiff	39	46.3	(17.6)	3.4	(0.7)	3.0	(0.8)	22	53.0	(19.2)	2.6	(1.0)	2.1	(1.4)
King's College	133	51.1	(17.4)	3.1	(1.0)	2.6	(1.1)	80	53.5	(17.3)	2.6	(0.8)	2.1	(1.0)
Leeds / Manchester	116	48.4	(15.8)	3.2	(0.8)	2.8	(0.9)	92	53.4	(16.2)	2.6	(0.8)	2.3	(0.9)
Newcastle	82	47.1	(17.8)	3.0	(0.9)	2.6	(1.0)	53	48.8	(16.2)	2.4	(0.7)	1.8	(1.1)
Oxford	62	49.9	(17.9)	3.0	(1.0)	2.7	(1.1)	35	49.8	(15.1)	2.7	(0.9)	2.1	(1.2)
Royal Free	64	46.2	(17.3)	3.3	(1.0)	2.9	(1.0)	37	55.5	(15.5)	2.5	(0.8)	1.9	(1.0)
Scotland	64	48.4	(13.9)	3.3	(0.8)	2.9	(0.7)	34	47.9	(17.2)	2.8	(0.7)	2.4	(0.6)
Total	769	48.7	(16.6)	3.2	(0.9)	2.8	(1.0)	508	52.2	(16.8)	2.6	(0.8)	2.1	(1.1)

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, 41.4% of actual (donating at least one cardiothoracic organ) DBD donors donated their heart only, 34.6% donated their lung(s) only and 24.4% donated their heart and lung(s). Most actual cardiothoracic DCD donors only donated their lung(s) but there was one donor, attended by Papworth, who donated their heart.

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 214 DBD hearts accepted for transplantation and of these 81.3% were retrieved, and of these 98.3% were transplanted.

Figures 7a and **7b** show the number of organs retrieved, by attending retrieval team, from DBD and DCD donors, respectively. Note that a small number of organs were retrieved by a team that does not match the attending retrieval team here (1 heart, where Birmingham were the attending team, 2 lungs, where Newcastle were the attending team and 1 heart lung block, where Harefield were the attending team, were retrieved by overseas teams).

Table 5a Organs retrieved from actual cardiothoracic donors, 1 April 2014 – 31 March 2015, by attending retrieval team							
Attending retrieval team*	No. actual donors	DBD			No. actual donors	DCD	
		Heart only %	Lung(s) only %	Heart & Lung(s) %		Lung(s) only %	Heart only %
Birmingham	54	46.3	40.7	13.0	8	100.0	-
Harefield	69	31.9	40.6	27.5	11	100.0	-
Manchester	38	44.7	28.9	26.3	10	100.0	-
Newcastle	33	39.4	33.3	27.3	9	100.0	-
Papworth	53	41.5	26.4	34.0	8	87.5	12.5
Scotland	19	57.9	31.6	10.5	0	-	-
Total	266	41.4	34.6	24.4	46	97.8	2.2

* A small number of organs were retrieved by a team that does not match the attending retrieval team here (1 heart, where Birmingham were the attending team, 2 lungs, where Newcastle were the attending team and 1 heart lung block, where Harefield were the attending team, were retrieved by overseas teams)

Table 5b Cardiothoracic organs accepted, retrieved and transplanted, 1 April 2014 – 31 March 2015, by attending retrieval team						
Attending retrieval team*	No. donors where organ acctd	Heart		No. donors where organ acctd	Lung	
		% where organ ret'd	% where organ txd (of ret'd)		% where organ ret'd	% where organ txd (of ret'd)
DBD						
Birmingham	40	80.0	100.0	38	76.3	89.7
Harefield	54	75.9	95.1	67	70.1	91.5
Manchester	32	84.4	96.3	27	77.8	95.2
Newcastle	24	91.7	100.0	21	95.2	95.0
Papworth	47	83.0	100.0	37	86.5	100.0
Scotland	17	76.5	100.0	14	57.1	75.0
Total	214	81.3	98.3	204	77.0	93.0
DCD						
Birmingham	0	-	-	11	72.7	62.5
Harefield	0	-	-	13	84.6	100.0
Manchester	0	-	-	15	66.7	100.0
Newcastle	0	-	-	11	81.8	55.6
Papworth	1	100.0	100.0	13	53.8	100.0
Total	1	100.0	100.0	63	71.4	84.4
Total	215	81.4	98.3	267	75.7	91.1

* A small number of organs were retrieved by a team that does not match the attending retrieval team here (1 heart, where Birmingham were the attending team, 2 lungs, where Newcastle were the attending team and 1 heart lung block, where Harefield were the attending team, were retrieved by overseas teams)

Figure 7a DBD cardiothoracic organs retrieved, 1 April 2014 – 31 March 2015, by attending retrieval team

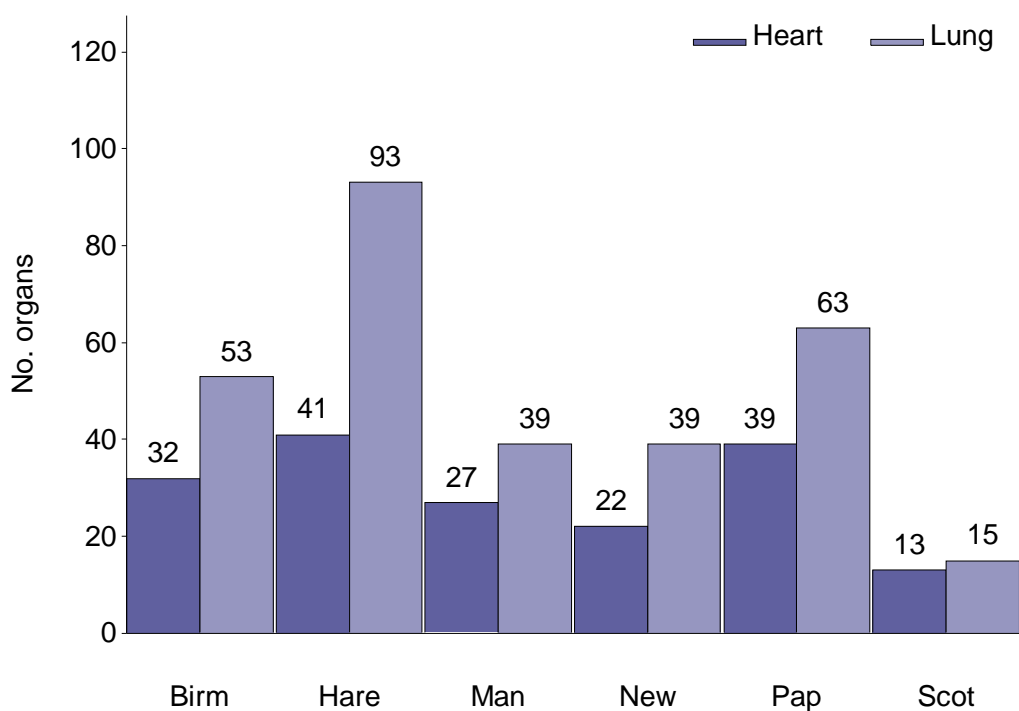


Figure 7b DCD cardiothoracic organs retrieved, 1 April 2014 – 31 March 2015, by attending retrieval team

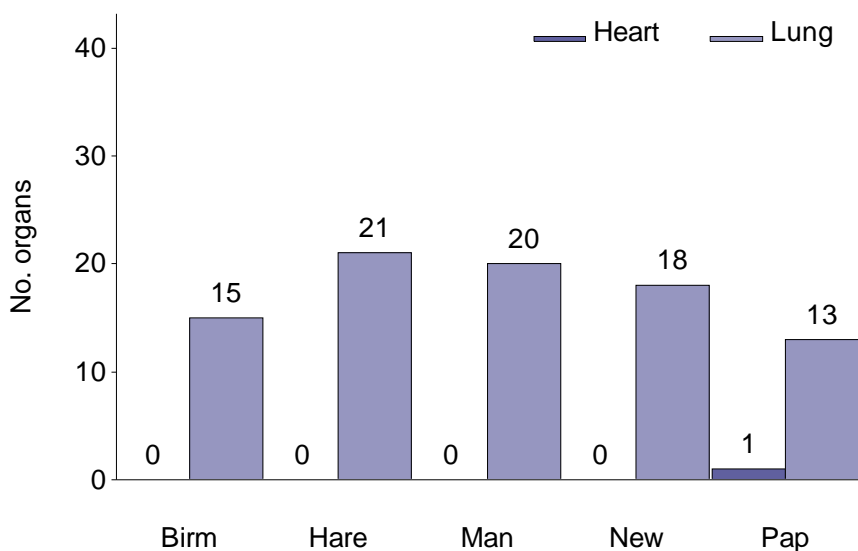
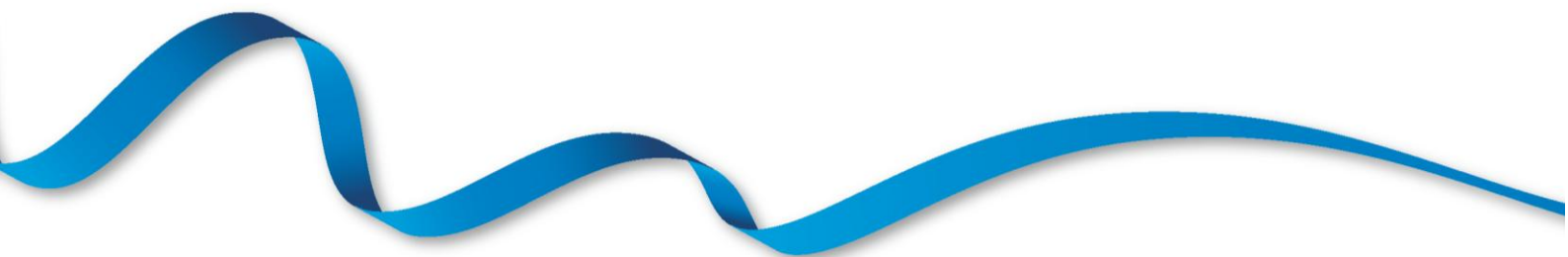


Table 5c shows the mean number of cardiothoracic organs retrieved and transplanted per proceeding cardiothoracic donor, for each attending cardiothoracic team, by donor type. The mean number of organs retrieved per DBD donor ranged from 1.5 to 1.9 across teams. Analysis of Variance indicated that these differences were statistically significant ($p=0.04$). The mean number of organs transplanted per DBD donor ranged from 1.3 to 1.9 across teams ($p=0.02$). The mean number of organs retrieved per DCD donor was not significantly different across team, ranging from 1.8 to 2.0, but the mean number of organs transplanted was ($p=0.02$), ranging from 1.1 to 2.0.

Table 5c Mean number of cardiothoracic organs retrieved and transplanted per proceeding cardiothoracic donor, by attending retrieval team, 1 April 2014 – 31 March 2015

Attending retrieval team	No. actual donors	DBD				No. actual donors	DCD			
		Mean no. organs ret'd		Mean no. organs tx'd			Mean no. organs ret'd		Mean no. organs tx'd	
		Mean	Std.	Mean	Std.		Mean	Std.	Mean	Std.
Birmingham	54	1.6	(0.7)	1.5	(0.7)	8	1.9	(0.4)	1.3	(1.0)
Harefield	69	1.9	(0.8)	1.8	(0.9)	11	1.9	(0.3)	1.9	(0.3)
Manchester	38	1.7	(0.8)	1.7	(0.8)	10	2.0	(0.0)	2.0	(0.0)
Newcastle	33	1.8	(0.8)	1.8	(0.9)	9	2.0	(0.0)	1.1	(1.1)
Papworth	53	1.9	(0.9)	1.9	(0.9)	8	1.8	(0.5)	1.8	(0.5)
Scotland	19	1.5	(0.7)	1.3	(0.8)	0	-	-	-	-
Total	266	1.8	(0.8)	1.7	(0.8)	46	1.9	(0.3)	1.6	(0.7)

APPENDIX



APPENDIX

Appendix I Retrieval data form completion rates, 1 April 2014 – 31 March 2015					
Attending retrieval team	No. attendances	RTI missing		ORI missing	
		N	%	N	%
Abdominal					
Birmingham	232	4	1.7	1	0.4
Cambridge	238	0	-	1	0.4
Cardiff	76	0	-	1	1.3
King's College	262	0	-	5	1.9
Leeds / Manchester	276	3	1.1	1	0.4
Newcastle	169	0	-	0	-
Oxford	122	1	0.8	1	0.8
Royal Free	132	0	-	0	-
Scotland	121	3	2.5	0	-
Cardiothoracic					
Birmingham	103	0	-	2	1.9
Harefield	137	5	3.6	1	0.7
Manchester	83	0	-	0	-
Newcastle	69	7	10.1	0	-
Papworth	95	2	2.1	1	1.1
Scotland	32	1	3.1	0	-
Total	2147	26	1.2	14	0.7

Prepared by:

Statistics and Clinical Studies, NHS Blood and Transplant

Miss Sally Rushton

