

# NHS BLOOD AND TRANSPLANT

## CARDIOTHORACIC ADVISORY GROUP

### AUDIT OF REASONS FOR DECLINING CARDIOTHORACIC ORGAN OFFERS

#### SUMMARY

##### INTRODUCTION

1. Between December 2017 and December 2018 cardiothoracic transplant units were asked to record all donor organ offers they received and declined and send this information periodically to Statistics and Clinical Studies. A template spreadsheet was provided for this purpose. This paper presents the information that has been reported during this 13 month pilot.

##### DATA ANALYSIS

2. Outstanding data were chased in January 2019 and at time of analysis all centres except Harefield had returned all 13 months. Harefield had two months outstanding. The data received were linked with the donor data recorded on the UK Transplant Registry, but due to discrepancies 6% of the offer data were excluded (the highest proportion of errors were in Birmingham's data). The analysis included 3324 heart declines and 4670 lungs declines.
3. The most common group of reasons given for declining hearts that were ultimately transplanted was 'Organ unsuitable for named recipient', while for lungs that were eventually transplanted the reasons were evenly spread across the reason groups. The most common group of reasons reported for hearts and lungs not accepted by any centre was 'Donor Unsuitable' and for hearts and lungs accepted and not retrieved it was 'Organ unsuitable'.
4. Harefield and Great Ormond Street recorded the highest number of declines for hearts and lungs, respectively, that were eventually transplanted with the most common reason being size mismatch. The most common reasons for decline for organs retrieved but not transplanted were size mismatch (hearts) and poor function (lungs). The most common reasons for decline for organs not accepted by any centre were past medical history and poor function, as well as no suitable recipients for lungs.

##### CONCLUSIONS

5. This temporary data collection was a useful exercise to pilot the new decline reasons which are an improvement on the current list of reasons used by the ODT Hub and which will soon be built into their electronic systems. Collecting and analysing this information in spreadsheets is time consuming and not error proof. For that reason the data collection has now stopped, however centres may choose to collect this information for their own purposes.
6. Free-text comments highlighted that a few reasons should be added such as 'poor function on assessment/retrieval', 'insufficient investigation to assess organ function' and 'size & sex mismatch'. Additionally, since tertiary reasons were provided in such few cases it seems unnecessary to collect this.

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### AUDIT OF REASONS FOR DECLINING CARDIOTHORACIC ORGAN OFFERS

#### INTRODUCTION

7. Between 1 December 2017 and 31 December 2018 cardiothoracic transplant units were asked to record all donor organ offers they received and declined from NHSBT ODT Hub Operations or from a Specialist Nurse in Organ Donation and send this information periodically to Statistics and Clinical Studies. The aim was to gain a greater insight into reasons for non-acceptance of donor organs direct from centres and also to pilot the new decline reasons that had been developed by CTAG (see **Appendix A1**).
8. A template spreadsheet was provided by for this purpose. This paper reports on how many centres have returned information during this initiative and presents the reasons that have been reported in the spreadsheets for the entire period December 2017 to December 2018 (13 months).

#### DATA AND METHODS

9. Centres were asked to record all declines, which include offers that they declined outright and offers that they initially accepted but later declined when more information had come to light. They were also asked to record super-urgent or urgent offers for individual patients as well as non-urgent, or group offers.
10. Centres could select whether the offer that was received was the heart-lung block, heart, bilateral lungs or single lung. For the purposes of analysis, single lungs were treated the same as bilateral lungs. Hearts and lungs were analysed separately, and so heart-lung blocks were counted in both analyses (however, it was noticed that in some cases separate reasons were provided for each organ, or only one part of the block was declined, but this was not accounted for due to time constraints).
11. A primary, secondary and tertiary reason could be entered, as well as free-text comments. This report focusses on the primary reason for decline (if no primary reason was given, the secondary reason was substituted). In a number of declines reported by Birmingham it was not specified which was the primary reason, so a judgement call was made.
12. The data received were linked with the donor data recorded on the UK Transplant Registry. Offer data were excluded if any of the following issues arose:
  - a. No donor ID provided (81 cases)
  - b. No primary, secondary or tertiary reason for decline provided (266 cases)
  - c. The offer was withdrawn (28 cases)
  - d. No organ specified (9 cases)
  - e. Donor ID did not match our records (65 cases)
13. A reminder was sent to centres in January 2019, giving three weeks to return any outstanding spreadsheets.

## RESULTS

### Form return rates

14. **Table 1** shows the information that has been returned from each centre, by month, at time of analysis. Harefield was the only centre with outstanding data having completed 11 out of 13 months, with data from November and December 2018 not returned.

Centre	Month													Number of months returned
	Dec 17	Jan 18	Feb 18	Mar 18	Apr 18	May 18	Jun 18	Jul 18	Aug 18	Sep 18	Oct 18	Nov 18	Dec 18	
Birmingham	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
Glasgow	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
GOSH	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
Harefield	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	x	x	11
Manchester	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
Newcastle	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13
Papworth	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	13

15. **Table 2** shows the number of offer declines reported by each centre, by organ type, and the number that went on to be analysed once it had been merged with the UK Transplant Registry data. Birmingham had the highest proportion of data that had to be excluded which was mainly due to no primary, secondary or tertiary reason for decline given. Overall, 6% of offers were excluded from further analysis. For further analysis heart-lung blocks were counted separately in both the heart and lung analysis, therefore 3324 heart declines and 4670 lungs declines were analysed, and by centre, the total number of analysable declines equals the total of the heart and lung declines, plus two times the heart-lung declines, which results in the totals shown in **Table 3**.

Centre	Heart	Organ declines Lungs	Heart-lung block	Total <sup>1</sup>	% excluded from analysis <sup>2</sup>
Birmingham	300 (220)	822 (672)	212 (182)	<b>1337 (1074)</b>	20%
GOSH	134 (123)	561 (509)	202 (186)	<b>898 ( 818)</b>	9%
Glasgow	462 (435)	-	-	<b>462 ( 435)</b>	6%
Harefield	651 (638)	516 (502)	124 (123)	<b>1295 (1263)</b>	2%
Manchester	449 (444)	770 (751)	150 (149)	<b>1370 (1344)</b>	2%
Newcastle	269 (265)	667 (652)	119 (115)	<b>1055 (1032)</b>	2%
Papworth	364 (354)	753 (739)	91 ( 90)	<b>1208 (1183)</b>	2%
<b>Total</b>	<b>2629 (2479)</b>	<b>4089 (3825)</b>	<b>898 (845)</b>	<b>7625 (7149)</b>	6%

<sup>1</sup> Includes cases where the organ type is unknown

<sup>2</sup> Offers were excluded if there was a missing or incorrect donor ID, no primary, secondary or tertiary reason for decline provided, no organ specified, or the offer was withdrawn

16. **Table 3** shows the number of times a secondary or tertiary reason was provided (19% and 2% of all declines), and the number of times a free-text comment was given (20% of all declines). Free-text primary, secondary and tertiary comments are provided in **Appendix A2**.

Reason type	Birmingham	GOSH	Glasgow	Harefield	Manchester	Newcastle	Papworth	Total
Primary	1256 (100)	1004 (100)	435 (100)	1386 (100)	1493 (100)	1147 (100)	1273 (100)	<b>7994 (100)</b>
Secondary	206 (16)	323 (32)	112 (26)	166 (12)	372 (25)	133 (12)	173 (14)	<b>1485 (19)</b>
Tertiary	5 (0)	56 (6)	24 (6)	8 (1)	38 (3)	4 (0)	(0)	<b>135 (2)</b>
Free-text comments	1044(83)	64(6)	115(26)	137(10)	111(7)	111(10)	23(2)	<b>1605(20)</b>
<b>Total analysable declines</b>	<b>1256</b>	<b>1004</b>	<b>435</b>	<b>1386</b>	<b>1493</b>	<b>1147</b>	<b>1273</b>	<b>7994</b>

17. **Table 4** and **Table 5** shows the number of heart declines and lung declines, respectively, by primary decline reason group and the end status of the organ. The most common group of reasons given for declining hearts that were ultimately transplanted was 'Organ unsuitable for named recipient', while for lungs that were eventually transplanted there was a reasonably even spread across the reason groups. The most common group of reasons for hearts and lungs not accepted by any centre was 'Donor Unsuitable' and for hearts and lungs accepted and not retrieved it was 'Organ unsuitable'.

Primary reason group	Organ end status				Total
	Ultimately transplanted N (%)	Retrieved and not used N (%)	Accepted and not retrieved N (%)	Not accepted N (%)	
A – Donor unsuitable	71 ( 19)	1 ( 7)	263 ( 27)	762 ( 39)	<b>1097</b>
B – Organ unsuitable	58 ( 16)	1 ( 7)	272 ( 28)	642 ( 33)	<b>973</b>
C – Organ unsuitable for named recipient	129 ( 35)	11 ( 73)	223 ( 23)	200 ( 10)	<b>563</b>
D – Recipient unsuitable	47 ( 13)	0 ( -)	103 ( 11)	200 ( 10)	<b>350</b>
E – Logistical issue	63 ( 17)	2 ( 13)	118 ( 12)	158 ( 8)	<b>341</b>
<b>Total</b>	<b>368 (100)</b>	<b>15 (100)</b>	<b>979 (100)</b>	<b>1962 (100)</b>	<b>3324</b>

Primary reason group	Organ end status				Total
	Ultimately transplanted N (%)	Retrieved and not used N (%)	Accepted and not retrieved N (%)	Not accepted N (%)	
A – Donor unsuitable	102 ( 22)	30 ( 26)	338 ( 29)	1087 ( 37)	<b>1557</b>
B – Organ unsuitable	99 ( 22)	42 ( 37)	342 ( 30)	872 ( 30)	<b>1355</b>
C – Organ unsuitable for named recipient	101 ( 22)	19 ( 17)	167 ( 14)	293 ( 10)	<b>580</b>
D – Recipient unsuitable	87 ( 19)	10 ( 9)	161 ( 14)	455 ( 15)	<b>713</b>
E – Logistical issue	68 ( 15)	13 ( 11)	146 ( 13)	238 ( 8)	<b>465</b>
<b>Total</b>	<b>457 (100)</b>	<b>114 (100)</b>	<b>1154 (100)</b>	<b>2945 (100)</b>	<b>4670</b>

18. The remainder of this report provides a breakdown of the primary reasons reported for declined hearts and lungs, split by whether the organ was ultimately transplanted (**Table 6** and **7**), ultimately retrieved and not used (**Table 8** and **9**), ultimately accepted and not retrieved (**Table 10** and **11**), or ultimately not accepted by any centre (**Table 12** and **13**). Harefield recorded the highest number of declines for hearts that were eventually transplanted with the most common reason being size mismatch. Great Ormond Street recorded the highest number of declines for lungs that were eventually transplanted also with the most common reason being size mismatch.

<b>Table 6</b>		<b>Number of Heart declines by centre where the Heart was ultimately transplanted</b>							
<b>Primary reason for decline</b>	<b>Birmingham</b>	<b>GOSH</b>	<b>Glasgow</b>	<b>Harefield</b>	<b>Manchester</b>	<b>Newcastle</b>	<b>Papworth</b>	<b>Total</b>	
A1 DONOR UNSUITABLE - AGE	3 (7)	3 (8)	1 (2)	1 (1)	2 (4)	2 (4)	0 (0)	<b>12</b>	
A2 DONOR UNSUITABLE - CAUSE OF DEATH	1 (2)	1 (3)	0 (0)	3 (3)	2 (4)	0 (0)	0 (0)	<b>7</b>	
A3 DONOR UNSUITABLE - HIGH RISK LIFESTYLE	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	<b>1</b>	
A5 DONOR UNSUITABLE - PAST MEDICAL HISTORY	3 (7)	1 (3)	5 (11)	11 (10)	6 (12)	6 (11)	0 (0)	<b>32</b>	
A7 DONOR UNSUITABLE - TUMOUR	0 (0)	0 (0)	0 (0)	6 (6)	0 (0)	0 (0)	0 (0)	<b>6</b>	
A9 DONOR UNSUITABLE - DCD	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	<b>1</b>	
A98 OTHER, PLEASE SPECIFY	3 (7)	0 (0)	4 (9)	2 (2)	1 (2)	2 (4)	0 (0)	<b>12</b>	
B1 CORONARY ARTERY DISEASE	0 (0)	1 (3)	1 (2)	0 (0)	0 (0)	0 (0)	0 (0)	<b>2</b>	
B11 ASPIRATION	0 (0)	1 (3)	0 (0)	0 (0)	1 (2)	1 (2)	0 (0)	<b>3</b>	
B23 INFECTION	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	1 (2)	0 (0)	<b>2</b>	
B24 ORGAN TRAUMA – CONTUSION, LACERATION	1 (2)	0 (0)	0 (0)	0 (0)	1 (2)	1 (2)	0 (0)	<b>3</b>	
B26 POOR FUNCTION	7 (16)	4 (10)	6 (13)	13 (12)	8 (16)	4 (7)	1 (4)	<b>43</b>	
B98 OTHER, PLEASE SPECIFY	0 (0)	0 (0)	3 (6)	1 (1)	0 (0)	1 (2)	0 (0)	<b>5</b>	
C1 ABO MISMATCH	2 (5)	6 (15)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>8</b>	
C3 HLA MISMATCH	1 (2)	2 (5)	6 (13)	14 (13)	0 (0)	12 (22)	6 (23)	<b>41</b>	
C4 SIZE MISMATCH	8 (19)	13 (33)	7 (15)	25 (23)	11 (22)	7 (13)	4 (15)	<b>75</b>	
C98 OTHER, PLEASE SPECIFY	0 (0)	3 (8)	0 (0)	1 (1)	0 (0)	1 (2)	0 (0)	<b>5</b>	
D1 NO SUITABLE RECIPIENTS	7 (16)	1 (3)	1 (2)	5 (5)	11 (22)	5 (9)	12 (46)	<b>42</b>	
D6 RECIPIENT UNFIT	0 (0)	0 (0)	0 (0)	1 (1)	3 (6)	1 (2)	0 (0)	<b>5</b>	
E1 CENTRE ALREADY TRANSPLANTING	2 (5)	2 (5)	2 (4)	14 (13)	3 (6)	4 (7)	2 (8)	<b>29</b>	
E2 DONOR CROSS CLAMP TIME TOO IMMINENT	0 (0)	1 (3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>	
E3 LONG TRAVEL TIME FOR ORGAN	1 (2)	0 (0)	7 (15)	0 (0)	1 (2)	0 (0)	1 (4)	<b>10</b>	
E4 NO ICU BEDS	0 (0)	0 (0)	0 (0)	6 (6)	0 (0)	3 (6)	0 (0)	<b>9</b>	
E6 NO THEATRE	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	<b>1</b>	
E9 POOR WEATHER	0 (0)	0 (0)	2 (4)	0 (0)	0 (0)	1 (2)	0 (0)	<b>3</b>	
E98 OTHER, PLEASE SPECIFY	4 (9)	1 (3)	2 (4)	1 (1)	0 (0)	2 (4)	0 (0)	<b>10</b>	
<b>Total</b>	<b>43</b>	<b>40</b>	<b>47</b>	<b>107</b>	<b>51</b>	<b>54</b>	<b>26</b>	<b>368</b>	

<b>Table 7</b>		<b>Number of Lung declines by centre where the Lungs were ultimately transplanted</b>					
<b>Primary reason for decline</b>	<b>Birmingham</b>	<b>GOSH</b>	<b>Harefield</b>	<b>Manchester</b>	<b>Newcastle</b>	<b>Papworth</b>	<b>Total</b>
A1 DONOR UNSUITABLE - AGE	3 (3)	19 (18)	1 (2)	5 (7)	8 (11)	2 (3)	<b>38</b>
A2 DONOR UNSUITABLE - CAUSE OF DEATH	3 (3)	0 (0)	3 (6)	0 (0)	0 (0)	0 (0)	<b>6</b>
A3 DONOR UNSUITABLE - HIGH RISK LIFESTYLE	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
A4 DONOR UNSUITABLE - MEDICATION	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	<b>1</b>
A5 DONOR UNSUITABLE - PAST MEDICAL HISTORY	10 (11)	1 (1)	11 (22)	4 (6)	5 (7)	5 (8)	<b>36</b>
A6 DONOR UNSUITABLE - SMOKING HISTORY	0 (0)	2 (2)	0 (0)	3 (4)	0 (0)	2 (3)	<b>7</b>
A7 DONOR UNSUITABLE - TUMOUR	0 (0)	1 (1)	0 (0)	1 (1)	0 (0)	0 (0)	<b>2</b>
A8 DONOR UNSUITABLE - VIROLOGY	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
A9 DONOR UNSUITABLE - DCD	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
A98 OTHER, PLEASE SPECIFY	3 (3)	0 (0)	1 (2)	0 (0)	5 (7)	0 (0)	<b>9</b>
B1 CORONARY ARTERY DISEASE	0 (0)	2 (2)	0 (0)	0 (0)	0 (0)	0 (0)	<b>2</b>
B3 VENTRICULAR HYPERTROPHY	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
B11 ASPIRATION	2 (2)	0 (0)	0 (0)	3 (4)	0 (0)	0 (0)	<b>5</b>
B12 ATELECTASIS	0 (0)	2 (2)	0 (0)	0 (0)	0 (0)	0 (0)	<b>2</b>
B21 ANATOMICAL ANOMALY	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (2)	<b>1</b>
B23 INFECTION	2 (2)	0 (0)	0 (0)	4 (6)	2 (3)	0 (0)	<b>8</b>
B24 ORGAN TRAUMA – CONTUSION, LACERATION	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	<b>1</b>
B26 POOR FUNCTION	22 (24)	4 (4)	6 (12)	14 (19)	17 (24)	7 (11)	<b>70</b>
B98 OTHER, PLEASE SPECIFY	2 (2)	1 (1)	1 (2)	2 (3)	2 (3)	1 (2)	<b>9</b>
C1 ABO MISMATCH	0 (0)	21 (20)	0 (0)	1 (1)	0 (0)	0 (0)	<b>22</b>
C2 AGE MISMATCH	0 (0)	2 (2)	0 (0)	0 (0)	0 (0)	0 (0)	<b>2</b>
C3 HLA MISMATCH	0 (0)	2 (2)	1 (2)	4 (6)	3 (4)	7 (11)	<b>17</b>
C4 SIZE MISMATCH	10 (11)	30 (29)	6 (12)	3 (4)	5 (7)	1 (2)	<b>55</b>
C98 OTHER, PLEASE SPECIFY	0 (0)	5 (5)	0 (0)	0 (0)	0 (0)	0 (0)	<b>5</b>
D1 NO SUITABLE RECIPIENTS	9 (10)	8 (8)	3 (6)	16 (22)	9 (13)	34 (52)	<b>79</b>
D3 RECIPIENT REFUSED	0 (0)	0 (0)	0 (0)	3 (4)	0 (0)	1 (2)	<b>4</b>
D6 RECIPIENT UNFIT	0 (0)	0 (0)	1 (2)	1 (1)	0 (0)	1 (2)	<b>3</b>
D98 OTHER, PLEASE SPECIFY	0 (0)	0 (0)	1 (2)	0 (0)	0 (0)	0 (0)	<b>1</b>
E1 CENTRE ALREADY TRANSPLANTING	12 (13)	0 (0)	9 (18)	5 (7)	9 (13)	3 (5)	<b>38</b>
E2 DONOR CROSS CLAMP TIME TOO IMMEDIATE	3 (3)	0 (0)	0 (0)	1 (1)	0 (0)	1 (2)	<b>5</b>
E3 LONG TRAVEL TIME FOR ORGAN	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
E4 NO ICU BEDS	2 (2)	0 (0)	7 (14)	0 (0)	2 (3)	0 (0)	<b>11</b>
E6 NO THEATRE	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
E7 NO TIME	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	<b>1</b>

E10 TRANSPORT DIFFICULTIES	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	<b>1</b>
E98 OTHER, PLEASE SPECIFY	7 (8)	0 (0)	0 (0)	1 (1)	2 (3)	0 (0)	<b>10</b>
<b>Total</b>	<b>93</b>	<b>103</b>	<b>51</b>	<b>72</b>	<b>72</b>	<b>66</b>	<b>457</b>

Primary reason for decline	Birmingham	GOSH	Glasgow	Harefield	Manchester	Newcastle	Papworth	Total
A98 OTHER, PLEASE SPECIFY	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
B26 POOR FUNCTION	0 (0)	0 (0)	0 (0)	1 (25)	0 (0)	0 (0)	0 (0)	<b>1</b>
C3 HLA MISMATCH	0 (0)	0 (0)	1 (33)	2 (50)	0 (0)	1 (50)	1 (100)	<b>5</b>
C4 SIZE MISMATCH	0 (0)	1 (100)	2 (67)	1 (25)	1 (100)	1 (50)	0 (0)	<b>6</b>
E4 NO ICU BEDS	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
E98 OTHER, PLEASE SPECIFY	1 (33)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
<b>Total</b>	<b>3</b>	<b>1</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>15</b>

Primary reason for decline	Birmingham	GOSH	Harefield	Manchester	Newcastle	Papworth	Total
A1 DONOR UNSUITABLE - AGE	0 (0)	6 (26)	0 (0)	3 (14)	1 (5)	0 (0)	<b>10</b>
A2 DONOR UNSUITABLE - CAUSE OF DEATH	1 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
A5 DONOR UNSUITABLE - PAST MEDICAL HISTORY	0 (0)	0 (0)	5 (45)	0 (0)	1 (5)	4 (25)	<b>10</b>
A6 DONOR UNSUITABLE - SMOKING HISTORY	0 (0)	0 (0)	0 (0)	3 (14)	0 (0)	0 (0)	<b>3</b>
A9 DONOR UNSUITABLE - DCD	1 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
A98 OTHER, PLEASE SPECIFY	4 (19)	0 (0)	0 (0)	0 (0)	1 (5)	0 (0)	<b>5</b>
B11 ASPIRATION	2 (10)	1 (4)	0 (0)	1 (5)	2 (10)	0 (0)	<b>6</b>
B13 BULLOUS DISEASE / EMPHYSEMA	0 (0)	0 (0)	1 (9)	1 (5)	0 (0)	0 (0)	<b>2</b>
B23 INFECTION	1 (5)	0 (0)	0 (0)	3 (14)	2 (10)	1 (6)	<b>7</b>
B24 ORGAN TRAUMA – CONTUSION, LACERATION	0 (0)	1 (4)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
B25 ORGAN DAMAGED AT RETRIEVAL	0 (0)	0 (0)	1 (9)	0 (0)	0 (0)	0 (0)	<b>1</b>
B26 POOR FUNCTION	6 (29)	1 (4)	1 (9)	5 (23)	7 (33)	4 (25)	<b>24</b>

B98 OTHER, PLEASE SPECIFY	1 (5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1
C1 ABO MISMATCH	0 (0)	4 (17)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	4
C2 AGE MISMATCH	0 (0)	2 (9)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2
C3 HLA MISMATCH	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (5)	1 (6)	2
C4 SIZE MISMATCH	0 (0)	5 (22)	1 (9)	0 (0)	0 (0)	1 (5)	0 (0)	7
C98 OTHER, PLEASE SPECIFY	1 (5)	2 (9)	0 (0)	0 (0)	0 (0)	1 (5)	0 (0)	4
D1 NO SUITABLE RECIPIENTS	0 (0)	1 (4)	1 (9)	3 (14)	1 (5)	4 (25)	10	
E1 CENTRE ALREADY TRANSPLANTING	3 (14)	0 (0)	1 (9)	1 (5)	1 (5)	0 (0)	6	
E2 DONOR CROSS CLAMP TIME TOO IMMINENT	0 (0)	0 (0)	0 (0)	1 (5)	0 (0)	1 (6)	2	
E4 NO ICU BEDS	0 (0)	0 (0)	0 (0)	0 (0)	1 (5)	1 (6)	2	
E10 TRANSPORT DIFFICULTIES	0 (0)	0 (0)	0 (0)	1 (5)	0 (0)	0 (0)	1	
E98 OTHER, PLEASE SPECIFY	1 (5)	0 (0)	0 (0)	0 (0)	1 (5)	0 (0)	2	
<b>Total</b>	<b>21</b>	<b>23</b>	<b>11</b>	<b>22</b>	<b>21</b>	<b>16</b>	<b>114</b>	

Primary reason for decline	Birmingham	GOSH	Glasgow	Harefield	Manchester	Newcastle	Papworth	Total
A1 DONOR UNSUITABLE - AGE	0 (0)	19 (21)	7 (5)	0 (0)	5 (3)	6 (5)	0 (0)	37
A2 DONOR UNSUITABLE - CAUSE OF DEATH	1 (1)	0 (0)	1 (1)	0 (0)	3 (2)	0 (0)	0 (0)	5
A3 DONOR UNSUITABLE - HIGH RISK LIFESTYLE	2 (2)	3 (3)	0 (0)	0 (0)	6 (4)	0 (0)	0 (0)	11
A4 DONOR UNSUITABLE - MEDICATION	1 (1)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	2
A5 DONOR UNSUITABLE - PAST MEDICAL HISTORY	12 (10)	6 (7)	20 (14)	50 (23)	38 (23)	18 (16)	14 (11)	158
A6 DONOR UNSUITABLE - SMOKING HISTORY	0 (0)	1 (1)	0 (0)	0 (0)	2 (1)	3 (3)	0 (0)	6
A7 DONOR UNSUITABLE - TUMOUR	0 (0)	1 (1)	0 (0)	2 (1)	2 (1)	0 (0)	0 (0)	5
A8 DONOR UNSUITABLE - VIROLOGY	0 (0)	0 (0)	1 (1)	2 (1)	2 (1)	1 (1)	0 (0)	6
A98 OTHER, PLEASE SPECIFY	6 (5)	0 (0)	15 (11)	1 (0)	3 (2)	7 (6)	1 (1)	33
B1 CORONARY ARTERY DISEASE	3 (2)	0 (0)	3 (2)	1 (0)	1 (1)	0 (0)	7 (5)	15
B2 EXCESSIVE CATECHOLAMINES	0 (0)	1 (1)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	3
B3 VENTRICULAR HYPERTROPHY	0 (0)	3 (3)	7 (5)	0 (0)	0 (0)	1 (1)	1 (1)	12
B11 ASPIRATION	4 (3)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5
B12 ATELECTASIS	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1
B21 ANATOMICAL ANOMALY	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	1
B23 INFECTION	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1
B24 ORGAN TRAUMA – CONTUSION, LACERATION	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	2
B26 POOR FUNCTION	28 (23)	15 (16)	34 (24)	51 (24)	36 (22)	22 (19)	29 (22)	215



B98 OTHER, PLEASE SPECIFY	7 (6)	0 (0)	5 (4)	0 (0)	2 (1)	2 (2)	1 (1)	17
C1 ABO MISMATCH	0 (0)	13 (14)	0 (0)	0 (0)	1 (1)	0 (0)	1 (1)	15
C2 AGE MISMATCH	0 (0)	4 (4)	2 (1)	0 (0)	1 (1)	0 (0)	0 (0)	7
C3 HLA MISMATCH	5 (4)	2 (2)	12 (9)	34 (16)	5 (3)	14 (12)	17 (13)	89
C4 SIZE MISMATCH	15 (12)	9 (10)	14 (10)	36 (17)	11 (7)	11 (10)	9 (7)	105
C98 OTHER, PLEASE SPECIFY	0 (0)	1 (1)	3 (2)	1 (0)	2 (1)	0 (0)	0 (0)	7
D1 NO SUITABLE RECIPIENTS	10 (8)	5 (5)	4 (3)	3 (1)	17 (10)	8 (7)	41 (31)	88
D2 RECIPIENT DIED	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1
D4 RECIPIENT TRAVEL TIME TOO LONG	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1
D6 RECIPIENT UNFIT	0 (0)	0 (0)	1 (1)	3 (1)	3 (2)	5 (4)	0 (0)	12
D98 OTHER, PLEASE SPECIFY	0 (0)	0 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	1
E1 CENTRE ALREADY TRANSPLANTING	11 (9)	0 (0)	1 (1)	6 (3)	10 (6)	10 (9)	4 (3)	42
E2 DONOR CROSS CLAMP TIME TOO IMMINENT	0 (0)	3 (3)	2 (1)	1 (0)	0 (0)	0 (0)	1 (1)	7
E3 LONG TRAVEL TIME FOR ORGAN	2 (2)	1 (1)	3 (2)	0 (0)	3 (2)	1 (1)	3 (2)	13
E4 NO ICU BEDS	11 (9)	0 (0)	0 (0)	23 (11)	0 (0)	0 (0)	0 (0)	34
E5 NO STAFF	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	1 (1)	2
E7 NO TIME	0 (0)	0 (0)	0 (0)	0 (0)	3 (2)	0 (0)	0 (0)	3
E9 POOR WEATHER	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (2)	1 (1)	3
E10 TRANSPORT DIFFICULTIES	0 (0)	0 (0)	3 (2)	0 (0)	2 (1)	1 (1)	0 (0)	6
E98 OTHER, PLEASE SPECIFY	3 (2)	1 (1)	0 (0)	2 (1)	1 (1)	1 (1)	0 (0)	8
<b>Total</b>	122	91	141	217	164	113	131	979

Table 11

Number of Lung declines by centre where the Lungs were ultimately accepted and not retrieved

Primary reason for decline	Birmingham	GOSH	Harefield	Manchester	Newcastle	Papworth	Total
A1 DONOR UNSUITABLE - AGE	13 (6)	33 (19)	3 (2)	19 (9)	6 (3)	1 (0)	<b>75</b>
A2 DONOR UNSUITABLE - CAUSE OF DEATH	2 (1)	0 (0)	1 (1)	1 (0)	2 (1)	0 (0)	<b>6</b>
A3 DONOR UNSUITABLE - HIGH RISK LIFESTYLE	0 (0)	1 (1)	0 (0)	5 (2)	0 (0)	0 (0)	<b>6</b>
A4 DONOR UNSUITABLE - MEDICATION	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	<b>1</b>
A5 DONOR UNSUITABLE - PAST MEDICAL HISTORY	31 (14)	1 (1)	49 (31)	30 (14)	27 (16)	34 (15)	<b>172</b>
A6 DONOR UNSUITABLE - SMOKING HISTORY	1 (0)	5 (3)	2 (1)	17 (8)	4 (2)	2 (1)	<b>31</b>
A7 DONOR UNSUITABLE - TUMOUR	0 (0)	0 (0)	1 (1)	4 (2)	0 (0)	1 (0)	<b>6</b>
A8 DONOR UNSUITABLE - VIROLOGY	1 (0)	0 (0)	0 (0)	2 (1)	1 (1)	0 (0)	<b>4</b>
A9 DONOR UNSUITABLE - DCD	3 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>3</b>
A10 NO BLOOD FOR VIROLOGY	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	<b>1</b>
A98 OTHER, PLEASE SPECIFY	20 (9)	0 (0)	8 (5)	1 (0)	4 (2)	0 (0)	<b>33</b>
B11 ASPIRATION	5 (2)	9 (5)	1 (1)	7 (3)	1 (1)	6 (3)	<b>29</b>
B12 ATELECTASIS	0 (0)	3 (2)	0 (0)	1 (0)	0 (0)	0 (0)	<b>4</b>
B13 BULLOUS DISEASE / EMPHYSEMA	1 (0)	0 (0)	1 (1)	0 (0)	0 (0)	3 (1)	<b>5</b>
B22 EXTENSIVE ADHESIONS	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	<b>1</b>
B23 INFECTION	5 (2)	2 (1)	1 (1)	6 (3)	5 (3)	11 (5)	<b>30</b>
B24 ORGAN TRAUMA – CONTUSION, LACERATION	8 (4)	3 (2)	0 (0)	8 (4)	5 (3)	0 (0)	<b>24</b>
B26 POOR FUNCTION	46 (21)	6 (3)	22 (14)	35 (17)	45 (26)	75 (33)	<b>229</b>
B98 OTHER, PLEASE SPECIFY	5 (2)	0 (0)	6 (4)	4 (2)	3 (2)	2 (1)	<b>20</b>
C1 ABO MISMATCH	0 (0)	34 (19)	0 (0)	0 (0)	0 (0)	0 (0)	<b>34</b>
C2 AGE MISMATCH	0 (0)	6 (3)	0 (0)	1 (0)	0 (0)	0 (0)	<b>7</b>
C3 HLA MISMATCH	2 (1)	1 (1)	8 (5)	10 (5)	5 (3)	6 (3)	<b>32</b>
C4 SIZE MISMATCH	16 (7)	47 (27)	6 (4)	8 (4)	6 (3)	1 (0)	<b>84</b>
C98 OTHER, PLEASE SPECIFY	0 (0)	9 (5)	0 (0)	0 (0)	1 (1)	0 (0)	<b>10</b>
D1 NO SUITABLE RECIPIENTS	14 (6)	14 (8)	12 (8)	25 (12)	20 (12)	67 (30)	<b>152</b>
D3 RECIPIENT REFUSED	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	<b>2</b>
D5 RECIPIENT UNAVAILABLE	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	<b>1</b>
D6 RECIPIENT UNFIT	0 (0)	0 (0)	2 (1)	0 (0)	1 (1)	2 (1)	<b>5</b>
D98 OTHER, PLEASE SPECIFY	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>1</b>
E1 CENTRE ALREADY TRANSPLANTING	15 (7)	0 (0)	21 (13)	13 (6)	21 (12)	7 (3)	<b>77</b>
E2 DONOR CROSS CLAMP TIME TOO IMMINENT	2 (1)	0 (0)	0 (0)	3 (1)	0 (0)	0 (0)	<b>5</b>
E3 LONG TRAVEL TIME FOR ORGAN	2 (1)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	<b>3</b>
E4 NO ICU BEDS	11 (5)	0 (0)	10 (6)	2 (1)	9 (5)	4 (2)	<b>36</b>
E5 NO STAFF	0 (0)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)	<b>1</b>

E7 NO TIME	0 (0)	0 (0)	1 (1)	2 (1)	0 (0)	0 (0)	3
E9 POOR WEATHER	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1
E98 OTHER, PLEASE SPECIFY	14 (6)	0 (0)	1 (1)	1 (0)	4 (2)	0 (0)	20
<b>Total</b>	<b>218</b>	<b>175</b>	<b>156</b>	<b>207</b>	<b>173</b>	<b>225</b>	<b>1154</b>

Table 12

## Number of Heart declines by centre where the Heart was ultimately not accepted

Primary reason for decline	Birmingham	GOSH	Glasgow	Harefield	Manchester	Newcastle	Papworth	Total
A1 DONOR UNSUITABLE - AGE	5 (2)	61 (34)	13 (5)	17 (4)	18 (5)	23 (11)	13 (5)	150
A2 DONOR UNSUITABLE - CAUSE OF DEATH	5 (2)	0 (0)	0 (0)	2 (0)	5 (1)	0 (0)	1 (0)	13
A3 DONOR UNSUITABLE - HIGH RISK LIFESTYLE	0 (0)	4 (2)	0 (0)	2 (0)	9 (2)	1 (0)	0 (0)	16
A4 DONOR UNSUITABLE - MEDICATION	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	0 (0)	2
A5 DONOR UNSUITABLE - PAST MEDICAL HISTORY	34 (15)	6 (3)	47 (19)	176 (41)	91 (24)	26 (12)	69 (24)	449
A6 DONOR UNSUITABLE - SMOKING HISTORY	3 (1)	1 (1)	0 (0)	0 (0)	3 (1)	1 (0)	0 (0)	8
A7 DONOR UNSUITABLE - TUMOUR	0 (0)	0 (0)	0 (0)	2 (0)	1 (0)	1 (0)	0 (0)	4
A8 DONOR UNSUITABLE - VIROLOGY	3 (1)	4 (2)	7 (3)	8 (2)	15 (4)	8 (4)	11 (4)	56
A9 DONOR UNSUITABLE - DCD	0 (0)	0 (0)	1 (0)	2 (0)	1 (0)	0 (0)	0 (0)	4
A10 NO BLOOD FOR VIROLOGY	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	1 (0)	3
A98 OTHER, PLEASE SPECIFY	19 (8)	4 (2)	17 (7)	4 (1)	2 (1)	8 (4)	3 (1)	57
B1 CORONARY ARTERY DISEASE	1 (0)	3 (2)	0 (0)	1 (0)	6 (2)	1 (0)	0 (0)	12
B2 EXCESSIVE CATECHOLAMINES	0 (0)	2 (1)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	3
B3 VENTRICULAR HYPERTROPHY	1 (0)	0 (0)	10 (4)	0 (0)	2 (1)	1 (0)	5 (2)	19
B11 ASPIRATION	1 (0)	1 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2
B12 ATELECTASIS	0 (0)	2 (1)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2
B21 ANATOMICAL ANOMALY	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1
B23 INFECTION	1 (0)	4 (2)	2 (1)	2 (0)	2 (1)	2 (1)	1 (0)	14
B24 ORGAN TRAUMA – CONTUSION, LACERATION	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	0 (0)	2
B25 ORGAN DAMAGED AT RETRIEVAL	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1
B26 POOR FUNCTION	70 (30)	32 (18)	88 (36)	104 (24)	117 (31)	77 (36)	73 (26)	561
B98 OTHER, PLEASE SPECIFY	5 (2)	1 (1)	13 (5)	2 (0)	2 (1)	2 (1)	0 (0)	25
C1 ABO MISMATCH	2 (1)	18 (10)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	21
C2 AGE MISMATCH	1 (0)	3 (2)	10 (4)	0 (0)	0 (0)	0 (0)	0 (0)	14
C3 HLA MISMATCH	0 (0)	1 (1)	6 (2)	21 (5)	2 (1)	11 (5)	11 (4)	52
C4 SIZE MISMATCH	11 (5)	23 (13)	14 (6)	26 (6)	20 (5)	8 (4)	5 (2)	107
C98 OTHER, PLEASE SPECIFY	0 (0)	4 (2)	1 (0)	0 (0)	0 (0)	1 (0)	0 (0)	6

D1 NO SUITABLE RECIPIENTS	23 (10)	2 (1)	3 (1)	21 (5)	37 (10)	24 (11)	77 (27)	<b>187</b>
D2 RECIPIENT DIED	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	<b>1</b>
D4 RECIPIENT TRAVEL TIME TOO LONG	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	<b>1</b>
D6 RECIPIENT UNFIT	0 (0)	0 (0)	0 (0)	0 (0)	6 (2)	2 (1)	0 (0)	<b>8</b>
D98 OTHER, PLEASE SPECIFY	2 (1)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	0 (0)	<b>3</b>
E1 CENTRE ALREADY TRANSPLANTING	14 (6)	0 (0)	5 (2)	26 (6)	20 (5)	8 (4)	5 (2)	<b>78</b>
E2 DONOR CROSS CLAMP TIME TOO IMMINENT	1 (0)	0 (0)	0 (0)	0 (0)	3 (1)	0 (0)	0 (0)	<b>4</b>
E3 LONG TRAVEL TIME FOR ORGAN	6 (3)	0 (0)	4 (2)	0 (0)	2 (1)	0 (0)	5 (2)	<b>17</b>
E4 NO ICU BEDS	14 (6)	0 (0)	0 (0)	13 (3)	0 (0)	1 (0)	0 (0)	<b>28</b>
E5 NO STAFF	0 (0)	0 (0)	0 (0)	1 (0)	4 (1)	0 (0)	1 (0)	<b>6</b>
E6 NO THEATRE	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	0 (0)	<b>2</b>
E8 NO UK RETRIEVAL TEAM AVAILABLE	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	<b>1</b>
E9 POOR WEATHER	1 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (1)	0 (0)	<b>3</b>
E10 TRANSPORT DIFFICULTIES	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	<b>1</b>
E98 OTHER, PLEASE SPECIFY	10 (4)	1 (1)	1 (0)	0 (0)	1 (0)	1 (0)	4 (1)	<b>18</b>
<b>Total</b>	<b>234</b>	<b>177</b>	<b>244</b>	<b>433</b>	<b>377</b>	<b>211</b>	<b>286</b>	<b>1962</b>

Table 13

## Number of Lung declines by centre where the Lungs were ultimately not accepted

Primary reason for decline	Birmingham	GOSH	Harefield	Manchester	Newcastle	Papworth	Total
A1 DONOR UNSUITABLE - AGE	61 (12)	106 (27)	18 (4)	40 (7)	21 (4)	11 (2)	<b>257</b>
A2 DONOR UNSUITABLE - CAUSE OF DEATH	6 (1)	2 (1)	3 (1)	7 (1)	2 (0)	0 (0)	<b>20</b>
A3 DONOR UNSUITABLE - HIGH RISK LIFESTYLE	0 (0)	3 (1)	0 (0)	8 (1)	0 (0)	0 (0)	<b>11</b>
A4 DONOR UNSUITABLE - MEDICATION	0 (0)	0 (0)	0 (0)	2 (0)	0 (0)	0 (0)	<b>2</b>
A5 DONOR UNSUITABLE - PAST MEDICAL HISTORY	90 (17)	4 (1)	147 (36)	102 (17)	87 (17)	120 (23)	<b>550</b>
A6 DONOR UNSUITABLE - SMOKING HISTORY	6 (1)	1 (0)	2 (0)	47 (8)	7 (1)	5 (1)	<b>68</b>
A7 DONOR UNSUITABLE - TUMOUR	0 (0)	0 (0)	5 (1)	5 (1)	1 (0)	1 (0)	<b>12</b>
A8 DONOR UNSUITABLE - VIROLOGY	5 (1)	5 (1)	11 (3)	20 (3)	11 (2)	14 (3)	<b>66</b>
A9 DONOR UNSUITABLE - DCD	5 (1)	0 (0)	0 (0)	0 (0)	6 (1)	0 (0)	<b>11</b>
A10 NO BLOOD FOR VIROLOGY	0 (0)	0 (0)	0 (0)	3 (1)	2 (0)	1 (0)	<b>6</b>
A98 OTHER, PLEASE SPECIFY	50 (10)	3 (1)	14 (3)	2 (0)	14 (3)	1 (0)	<b>84</b>
B1 CORONARY ARTERY DISEASE	0 (0)	0 (0)	0 (0)	2 (0)	0 (0)	0 (0)	<b>2</b>
B3 VENTRICULAR HYPERTROPHY	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	<b>1</b>
B11 ASPIRATION	13 (2)	11 (3)	1 (0)	21 (4)	3 (1)	1 (0)	<b>50</b>
B12 ATELECTASIS	2 (0)	3 (1)	0 (0)	2 (0)	0 (0)	0 (0)	<b>7</b>

B13 BULLOUS DISEASE / EMPHYSEMA	0 (0)	0 (0)	0 (0)	5 (1)	1 (0)	4 (1)	<b>10</b>
B21 ANATOMICAL ANOMALY	2 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	<b>2</b>
B23 INFECTION	20 (4)	7 (2)	4 (1)	30 (5)	23 (5)	8 (2)	<b>92</b>
B24 ORGAN TRAUMA – CONTUSION, LACERATION	4 (1)	3 (1)	1 (0)	8 (1)	8 (2)	3 (1)	<b>27</b>
B26 POOR FUNCTION	109 (21)	26 (7)	85 (21)	119 (20)	147 (29)	157 (30)	<b>643</b>
B98 OTHER, PLEASE SPECIFY	7 (1)	2 (1)	7 (2)	16 (3)	6 (1)	0 (0)	<b>38</b>
C1 ABO MISMATCH	1 (0)	81 (21)	0 (0)	1 (0)	0 (0)	0 (0)	<b>83</b>
C2 AGE MISMATCH	0 (0)	5 (1)	0 (0)	0 (0)	0 (0)	0 (0)	<b>5</b>
C3 HLA MISMATCH	0 (0)	3 (1)	12 (3)	2 (0)	4 (1)	1 (0)	<b>22</b>
C4 SIZE MISMATCH	27 (5)	99 (25)	17 (4)	12 (2)	13 (3)	1 (0)	<b>169</b>
C98 OTHER, PLEASE SPECIFY	0 (0)	12 (3)	1 (0)	0 (0)	1 (0)	0 (0)	<b>14</b>
D1 NO SUITABLE RECIPIENTS	41 (8)	17 (4)	22 (5)	107 (18)	78 (16)	181 (35)	<b>446</b>
D4 RECIPIENT TRAVEL TIME TOO LONG	0 (0)	0 (0)	0 (0)	1 (0)	1 (0)	0 (0)	<b>2</b>
D5 RECIPIENT UNAVAILABLE	0 (0)	0 (0)	0 (0)	3 (1)	0 (0)	0 (0)	<b>3</b>
D6 RECIPIENT UNFIT	0 (0)	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	<b>1</b>
D98 OTHER, PLEASE SPECIFY	1 (0)	0 (0)	1 (0)	0 (0)	0 (0)	1 (0)	<b>3</b>
E1 CENTRE ALREADY TRANSPLANTING	29 (6)	0 (0)	37 (9)	27 (5)	39 (8)	7 (1)	<b>139</b>
E2 DONOR CROSS CLAMP TIME TOO IMMINENT	2 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	<b>3</b>
E3 LONG TRAVEL TIME FOR ORGAN	3 (1)	0 (0)	0 (0)	1 (0)	0 (0)	2 (0)	<b>6</b>
E4 NO ICU BEDS	16 (3)	0 (0)	16 (4)	0 (0)	14 (3)	1 (0)	<b>47</b>
E5 NO STAFF	0 (0)	0 (0)	0 (0)	2 (0)	0 (0)	0 (0)	<b>2</b>
E6 NO THEATRE	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	<b>1</b>
E7 NO TIME	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	<b>1</b>
E9 POOR WEATHER	0 (0)	0 (0)	0 (0)	0 (0)	2 (0)	0 (0)	<b>2</b>
E10 TRANSPORT DIFFICULTIES	0 (0)	0 (0)	0 (0)	1 (0)	0 (0)	0 (0)	<b>1</b>
E98 OTHER, PLEASE SPECIFY	22 (4)	1 (0)	3 (1)	0 (0)	9 (2)	1 (0)	<b>36</b>
<b>Total</b>	<b>522</b>	<b>394</b>	<b>407</b>	<b>599</b>	<b>501</b>	<b>522</b>	<b>2945</b>

## Appendix A1: List of reasons for declining cardiothoracic organs as developed by CTAG Core Group

<b>A</b>	<b>Donor Unsuitable</b>
1	DONOR UNSUITABLE - AGE
2	DONOR UNSUITABLE - CAUSE OF DEATH
3	DONOR UNSUITABLE - HIGH RISK LIFESTYLE
4	DONOR UNSUITABLE - MEDICATION
5	DONOR UNSUITABLE - PAST MEDICAL HISTORY
6	DONOR UNSUITABLE - SMOKING HISTORY
7	DONOR UNSUITABLE - TUMOUR
8	DONOR UNSUITABLE - VIROLOGY
9	DONOR UNSUITABLE - DCD
10	NO BLOOD FOR VIROLOGY
98	OTHER, PLEASE SPECIFY
<b>B</b>	<b>Organ Unsuitable</b>
<i>Heart</i>	
1	CORONARY ARTERY DISEASE
2	EXCESSIVE CATECHOLAMINES
3	VENTRICULAR HYPERTROPHY
<i>Lung</i>	
11	ASPIRATION
12	ATELECTASIS
13	BULLOUS DISEASE / EMPHYSEMA
<i>Generic</i>	
21	ANATOMICAL ANOMALY
22	EXTENSIVE ADHESIONS
23	INFECTION
24	ORGAN TRAUMA – CONTUSION, LACERATION
25	ORGAN DAMAGED AT RETRIEVAL
26	POOR FUNCTION
98	OTHER, PLEASE SPECIFY
<b>C</b>	<b>Organ unsuitable for named recipient</b>
1	ABO MISMATCH
2	AGE MISMATCH
3	HLA MISMATCH
4	SIZE MISMATCH
98	OTHER, PLEASE SPECIFY
<b>D</b>	<b>Recipient unsuitable</b>
1	NO SUITABLE RECIPIENTS
2	RECIPIENT DIED
3	RECIPIENT REFUSED
4	RECIPIENT TRAVEL TIME TOO LONG
5	RECIPIENT UNAVAILABLE
6	RECIPIENT UNFIT
98	OTHER, PLEASE SPECIFY
<b>E</b>	<b>Logistic Issue</b>
1	CENTRE ALREADY TRANSPLANTING
2	DONOR CROSS CLAMP TIME TOO IMMINENT
3	LONG TRAVEL TIME FOR ORGAN
4	NO ICU BEDS
5	NO STAFF
6	NO THEATRE
7	NO TIME
8	NO UK RETRIEVAL TEAM AVAILABLE
9	POOR WEATHER
10	TRANSPORT DIFFICULTIES
98	OTHER, PLEASE SPECIFY

## Appendix A2: Free-text reasons (where frequency&gt;2)

Free text reason	Frequency
SIZE	69
NO ECHO	28
DECLINED ON LOGISTICS	16
POOR FUNCTION	15
CXR	14
SEX MISMATCH	13
ABNORMAL CT	12
ABNORMAL CXR	12
ABNORMAL ECHO	10
DCD HEART	10
OVER CAP	9
NO ITU BEDS & CAP	8
ABNORMAL BRONCHOSCOPY	6
SMOKING HISTORY	6
BLOOD GROUP	5
FASTRACK OFFER	5
MICROBIOLOGICAL CONCERNS	5
ABNORMAL CT/CXR	4
NO CARDIAC ASSESSMENT	4
ACROSS THE FLOOR & AT CAP	3
DISTANCE	3
DONOR DIAGNOSED WITH CARDIOMYOPATHY	3
HEART NOT TAKEN	3
INFECTION	3
LACK OF ASSESSMENT	3
LENGTH OF VENTILATION	3
LONG CARDIAC ARREST TIME	3
NO SUITABLE RECIPIENTS	3
NOT USED	3
POOR FUNCTION ON ECHO	3
SIZE & SEX	3
UNCLEAR CAUSE OF DEATH	3
UNLIKELY TO MEET CRITERIA AT WITHDRAWAL	3
AGE	2
CXR FINDINGS	2
DCD HEART OFFER	2
DOWN TIME 1HR 40	2
HX/OOHCA/ECHO/AGE/+VE VIROLOGY	2
LONG DOWN TIME	2
LONG VENTILATION	2
NO INFORMATION ABOUT HEART	2
NO OCS KIT	2
NO PLANES AVAILABLE	2
PAST MEDICAL HISTORY	2
PE	2
POSSIBLE BRAIN TUMOR BLEED	2
PRESENTING HISTORY	2
RETRIEVAL FINDINGS	2
SIZE (HEART)	2
TISSUE TYPING	2
UNLIKELY TO MEET CRITERIA	2
MISCELLANEOUS (FREQ<1)	