

# NHS BLOOD AND TRANSPLANT

## LIVER ADVISORY GROUP

### FLIGHT COSTS

#### INTRODUCTION

1. Concern was raised regarding the increase in flights commissioned to transport livers between the donor and transplant hospitals since the introduction of the National Liver Offering Scheme in March 2018. This paper monitors the number and cost of flights during a recent six month period.

#### METHODS

2. Data on flights commissioned between 1 April 2025 and 30 September 2025 was obtained from NHSBT commissioning team. Data was also obtained on the blue light utilisation during the period. Please note livers flown back with the retrieval (NORS) team are not counted in this paper due to limited availability of this data.

#### RESULTS

3. **Table 1** shows the liver offering outcome for livers offered from deceased donors in the United Kingdom (UK) between 1 April 2025 and 30 September 2025 by donor nation and donor type. It should be noted that the majority of donors after brain death (DBD) in the Republic of Ireland will be transplanted in the Republic of Ireland and only offered to the United Kingdom if there are no suitable recipients.
4. NHSBT commissioned 3 international flights for livers which travelled alone during this time period and the total cost of these flights were £80,406.51:
  - a. One liver flew from the Republic of Ireland to be transplanted King's.
  - b. One liver flew from the Sweden to be transplanted at King's
  - c. One liver flew from the Hungary to be transplanted at King's.
5. **Table 1** also shows the number of donors where flights were arranged and charged to NHSBT through the transport contract with IMT. It should be noted that two quotes are produced and sent to transplant centres when a flight is requested (one for the flight journey and one for the equivalent road journey). Flights from Europe and the Republic of Ireland are excluded. Sixty-eight flights were arranged for sixty-seven (8%) of the livers offered during the six-month period. One split liver had two flights arranged however the right lobe was declined and only handling costs were charged. Fifty-five flights were arranged for 55 livers that were retrieved and transplanted. Twelve of the 55 donors were from Northern Ireland, where these would always be flown if transplanted in the UK.

6. **Table 2** shows the total and average flight cost by offering outcome, donor type and donor nation for the 68 flights arranged for livers offered. Overall, £965,570.53 was spent on 68 flights for 67 donors, with an average total flight cost of £14,411.050 per donor. It should be noted that these do not include the cost of transport from the donor hospital to airport or from airport to transplant centre. NHSBT are still liable for flights arranged but not used either due to the donor not proceeding or transplant centre declining late after transport has been arranged.
7. **Table 3** shows the accepting centre requesting a flight for the 35 DBD donors in England, Wales and Scotland where the liver was retrieved and transplanted. Two of these DBD donor livers were split, with one resulting in two transplants. Sixteen livers ultimately transplanted had a flight requested for Edinburgh.
8. **Table 3** also presents the road travel time between donor hospital and accepting centre using NORS travel time estimations for DBD donors in England, Wales and Scotland. It should be noted that this is not the travel time quoted at time of booking the flight. The median travel time by road for the 35 DBD livers retrieved and transplanted was 5.1 hours and ranged between 3.6 and 8.5 hours.
9. **Table 3** shows that there were 16 flights where the estimated road journey was less than 5 hours with a total flight cost of £221,526.50. Three of the 16 flights had an estimated road journey of less than 4 hours with a total flight cost of £41,826.80.
10. **Table 3A** present details of livers that were flown and were either reduced or split resulting in two transplants along with the estimated road travel time and distance had the livers been split at the nearest paediatric hospital. Three split livers from Northern Ireland are not included in this table.
11. **Table 4** present details of DCD livers donors in England, Wales and Scotland where the liver was retrieved and transplanted.
12. Overall between 1 April 2025 to 30 September 2025 there were 62 blue light journeys for 60 livers resulting in an average of 44 minutes with blue lights per journey. Two livers had two blue light journeys: one where the liver was split and blue lights were used for transport prior to and after splitting; one where the liver was declined on arrival at the accepting centre and subsequently fast-tracked. There were seven liver donors who used both flight and blue light car as means of transport. **Table 5** describes the frequencies by month that flights and blue light cars were used for liver donations.

## ACTION

13. Centres are asked to review flights where the estimated road time was less than 5 hours.

**Table 1**      **Liver utilisation for livers offered from deceased donors in the United Kingdom between 1 April 2025 to 30 September 2025 by donor type and donor nation**

	Offered		Retrieved		Retrieved and transplanted	
	Overall	N (%) donors where flights arranged	Overall	N (%) donors where flights arranged	Overall	N (%) donors where flights arranged
<b>DBD</b>						
England	258	29 (11.2)	234	29 (12.4)	193	22 (11.4)
Scotland <sup>1</sup>	22	11 (50)	19	11 (57.9)	18	11 (61.1)
Wales	20	2 (10)	20	2 (10)	20	2 (10)
Northern Ireland	17	11 (64.7)	17	11 (64.7)	13	9 (69.2)
Isle of Man	0	-	0	-	0	-
Channel Islands	0	-	0	-	0	-
<b>Total</b>	<b>317</b>	<b>53 (16.7)</b>	<b>290</b>	<b>53 (18.3)</b>	<b>244</b>	<b>44 (18)</b>
<b>DCD</b>						
England	424	2 (0.5)	230	2 (0.9)	163	2 (1.2)
Scotland	41	8 (19.5)	25	6 (24)	18	6 (33.3)
Wales	21	0 (0)	11	0 (0)	9	0 (0)
Northern Ireland	18	4 (22.2)	9	3 (33.3)	7	3 (42.9)
Isle of Man	0	-	0	-	0	-
Channel Islands	1	0 (0)	0	-	0	-
<b>Total</b>	<b>505</b>	<b>14 (2.8)</b>	<b>275</b>	<b>11 (4)</b>	<b>197</b>	<b>11 (5.6)</b>
<b>DBD &amp; DCD</b>						
England	682	31 (4.5)	464	31 (6.7)	356	24 (6.7)
Scotland <sup>1</sup>	63	19 (30.2)	44	17 (38.6)	36	17 (47.2)
Wales	41	2 (4.9)	31	2 (6.5)	29	2 (6.9)
Northern Ireland	35	15 (42.9)	26	14 (53.8)	20	12 (60)
Isle of Man	0	-	0	-	0	-
Channel Islands	1	0 (0)	0	-	0	-
<b>Total</b>	<b>822</b>	<b>67 (8.2)</b>	<b>565</b>	<b>64 (11.3)</b>	<b>441</b>	<b>55 (12.5)</b>

<sup>1</sup> One DBD liver from Scotland which was retrieved and the left lobe was transplanted had two flights arranged. The right lobe was initially accepted but later declined and not transplanted; only handling costs were charged.

Table 2

Total and average flight costs for livers offered from deceased donors in the United Kingdom between  
1 April 2025 to 30 September 2025 by donor type and donor nation

	N flights arranged	Offered Total cost	Average per flight	N flights arranged	Retrieved Total cost	Average per flight	N flights arranged	Retrieved and transplanted Total cost	Average per flight
<b>DBD</b>									
England	29	423099.73	14589.65	29	423099.73	14589.65	22	334946.24	15224.83
Scotland	12	154117.83	12843.15	12	154117.83	12843.15	12	154117.83	12843.15
Wales	2	24291.95	12145.98	2	24291.95	12145.98	2	24291.95	12145.98
Northern Ireland	11	137345.54	12485.96	11	137345.54	12485.96	9	114857.75	12761.97
Isle of Man	0	-	-	0	-	-	0	-	-
<b>Total</b>	<b>54</b>	<b>738855.05</b>	<b>13682.5</b>	<b>54</b>	<b>738855.05</b>	<b>13682.5</b>	<b>45</b>	<b>628213.77</b>	<b>13960.31</b>
<b>DCD</b>									
England	2	25409.28	12704.64	2	25409.28	12704.64	2	25409.28	12704.64
Scotland	8	138533.66	17316.71	6	114500.72	19083.45	6	114500.72	19083.45
Wales	0	-	-	0	-	-	0	-	-
Northern Ireland	4	62772.54	15693.14	3	37910.77	12636.92	3	37910.77	12636.92
Isle of Man	0	-	-	0	-	-	0	-	-
<b>Total</b>	<b>14</b>	<b>226715.48</b>	<b>16193.96</b>	<b>11</b>	<b>177820.77</b>	<b>16165.52</b>	<b>11</b>	<b>177820.77</b>	<b>16165.52</b>
<b>DBD &amp; DCD</b>									
England	31	448509.01	14468.03	31	448509.01	14468.03	24	360355.52	15014.81
Scotland	20	292651.49	14632.57	18	268618.55	14923.25	18	268618.55	14923.25
Wales	2	24291.95	12145.98	2	24291.95	12145.98	2	24291.95	12145.98
Northern Ireland	15	200118.08	13341.21	14	175256.31	12518.31	12	152768.52	12730.71
Isle of Man	0	-	-	0	-	-	0	-	-
<b>Total</b>	<b>68</b>	<b>965570.53</b>	<b>14199.57</b>	<b>65</b>	<b>916675.82</b>	<b>14102.7</b>	<b>56</b>	<b>806034.54</b>	<b>14393.47</b>

<b>Table 3</b>		<b>Accepting centre, patient accepted offer for and median road travel times for UK (excluding Northern Ireland and Channel Islands) DBD livers retrieved and ultimately transplanted where a flight was booked in the UK between 1 April 2025 to 30 September 2025, by donor nation</b>						
	<b>Accepting centre</b>	<b>Overall N</b>	<b>Type of patient offer accepted for</b>				<b>Equivalent road journey from donor hospital to accepting centre</b>	
			<b>Super-urgent</b>	<b>Liver split/reduced</b>	<b>Named patient</b>	<b>Accepted after fast-tracking</b>	<b>Median (range) travel time (hours)</b>	<b>No. where estimated journey less than 5 hours (less than 4 hours)</b>
England	Newcastle	5	0	0	5	0	4.8 (4.3 - 5.3)	4 (0)
	Leeds	2	1	0	1	0	4.2 (4 - 4.4)	2 (1)
	Edinburgh	15	2	0	12	1	5.8 (3.6 - 8.5)	5 (1)
Scotland <sup>1</sup>	Leeds	2	0	0	2	0	4.2 (3.6 - 4.7)	2 (1)
	Royal Free	2	1	0	1	0	6.3 (6.3 - 6.3)	0 (0)
	King's College	5	0	2	2	1	6.8 (5.7 - 7.6)	0 (0)
	Birmingham	2	0	1	1	0	4.9 (4.5 - 5.3)	1 (0)
Wales	Leeds	1	0	0	1	0	4.3 (4.3 - 4.3)	1 (0)
	Edinburgh	1	1	0	0	0	4.2 (4.2 - 4.2)	1 (0)
<b>Total</b>	<b>Newcastle</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>4.8 (4.3 - 5.3)</b>	<b>4 (0)</b>
	<b>Leeds</b>	<b>5</b>	<b>1</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>4.3 (3.6 - 4.7)</b>	<b>5 (2)</b>
	<b>Royal Free</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>6.3 (6.3 - 6.3)</b>	<b>0 (0)</b>
	<b>King's College</b>	<b>5</b>	<b>0</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>6.8 (5.7 - 7.6)</b>	<b>0 (0)</b>
	<b>Birmingham</b>	<b>2</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>4.9 (4.5 - 5.3)</b>	<b>1 (0)</b>
	<b>Edinburgh</b>	<b>16</b>	<b>3</b>	<b>0</b>	<b>12</b>	<b>1</b>	<b>5.5 (3.6 - 8.5)</b>	<b>6 (1)</b>
	<b>OVERALL</b>	<b>35</b>	<b>5</b>	<b>3</b>	<b>25</b>	<b>2</b>	<b>5.1 (3.6 - 8.5)</b>	<b>16 (3)</b>

<sup>1</sup>One split liver had two flights arranged however the right lobe was declined and only handling costs were charged. The flight for the right lobe is excluded from this table.

**Table 3A Transplant centre, zone and median road travel times for UK (excluding Northern Ireland and Channel Islands) DBD livers retrieved, flown, **SPLIT and REDUCED** and transplanted in the UK between 1 April 2025 to 30 September 2025, by donor type and donor nation**

Donor ID	Donor nation	Left lobe		Right lobe		Equivalent road journey from donor hospital to left lobe transplant centre		Equivalent road journey from donor hospital to nearest paediatric transplant centre		Flight arrival location
		Centre	CIT	Centre	CIT	Road mileage <sup>1</sup>	Travel time minutes (hours)	Road mileage <sup>1</sup>	Travel time minutes (hours)	
1	Scotland	King's	669	Leeds <sup>2</sup>	-	418	408 (6.8)	220	224 (3.7)	London
2	Scotland	King's	457	King's	457	357	341 (5.7)	164	170 (2.8)	London

<sup>1</sup>Road millage calculated from Google. Travel times provided from NORS estimations.

<sup>2</sup> Right lobe declined and not transplanted

**Table 4 Accepting centre, zone and median road travel times for 8 DCD livers retrieved and ultimately transplanted where a flight was booked in the UK between 1 April 2025 to 30 September 2025, by donor nation and centre<sup>1</sup>**

Donor ID	Donor nation	Zone	Accepting centre	Equivalent road travel time from donor hospital to accepting centre (minutes)
1	England	Leeds	King's	265
2	England	Newcastle	Royal Free	267
3	Scotland	Edinburgh	Cambridge	385
4	Scotland	Edinburgh	Leeds	359
5	Scotland	Edinburgh	Royal Free	362
6	Scotland	Edinburgh	King's	387
7	Scotland	Edinburgh	King's	408
8	Scotland	Edinburgh	King's	434

<sup>1</sup> Three DCD donors from Northern Ireland not included in this table

**Table 5**                      **Flights and blue light journeys for liver transplants from 1 April 2025 to 30 September 2025, by month**

	<b>Flights</b>	<b>Blue lights</b>
April 2025	11	7
May 2025 <sup>1</sup>	19	13
June 2025 <sup>2</sup>	15	13
July 2025	4	6
August 2025 <sup>3</sup>	14	12
September 2025	8	11
<b>Total</b>	<b>71</b>	<b>62</b>

<sup>1</sup> May 2025 flight from Sweden to London

<sup>2</sup> June 2025 flight from Republic of Ireland to London

<sup>3</sup> August 2025 flight from Hungary to London