



Blood and Transplant

**ANNUAL REPORT ON
LIVER TRANSPLANTATION**

**REPORT FOR 2025/2026
(1 APRIL 2016 – 31 MARCH 2026)**

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Executive Summary



This report presents key figures about liver transplantation in the UK. The period reported covers ten years of transplant data, from 1 April 2016 to 31 March 2026. The report presents information of patients on the transplant list, number of transplants, demographic characteristics of donors and transplant recipients, and survival post registration and post first liver transplant. The data are reported both on a national and centre-specific basis, where relevant.

The National Liver Offering Scheme (NLOS) was introduced on 20th March 2018 for offering livers from donors after brain death (DBD).

Key findings

- There were 724 patients on the UK liver transplant list on 31 March 2026 of which 610 patients were on the UK [active transplant list](#).
- Of the patients joining the [elective](#) liver only waiting list, approximately 72% had received a transplant within two years of listing.
- There were 9228 liver transplants performed in the UK in the ten year period. The number of liver transplants using deceased donors decreased in 2025/2026 compared with 2024/2025 for [donors after brain death](#) (4.3%) but increased for [donors after circulatory death](#) (19.5%).
- Three hundred and seventy four DCD transplants were performed in the UK in 2025/2026 compared with 209 in 2016/2017.
- The unadjusted national rates of patient survival one and five years after first liver only transplantation are given below

Unadjusted patient survival (%) post-transplant for first deceased donor liver only transplants		
	One year patient survival (%)	Five year patient survival (%)
Adult		
Elective	95	84
Super-urgent	91	82
Paediatric		
Elective	96	89
Super-urgent	81	82

- The national rates of patient survival after joining the transplant list for adult elective first liver only patients were 90% at one and 77% at five years post-registration.

Introduction



This report presents information on the UK transplant list, transplant activity and transplant outcomes between 1 April 2016 and 31 March 2026, for all seven centres performing liver transplantation in the UK. Data were obtained from the UK Transplant Registry, at NHS Blood & Transplant, that holds information relating to donors, recipients and outcomes for all liver transplants performed in the UK.

Patients registered and transplanted at Dublin in the Republic of Ireland (RoI) are included in the centre specific charts and tables but not in the overall charts throughout the report. It has been noted in both the text and relevant figures and tables where Dublin has been included.

Liver containing intestinal transplants have been excluded from the report.

[Patient survival](#) from both registration and transplant are reported for cohorts of patients registered or transplanted between 1 April 2017 and 31 March 2021 for five year survival, and 1 April 2021 to 31 March 2025 for one year survival. Results are described separately for adults (aged $\geq$ 17 years) and paediatrics (aged $<$ 17 years) and according to the urgency of the transplantation ([elective and super-urgent](#)).

2.1 Transplant list

Figure 2.1 shows the total number of liver patients on the UK [active transplant list](#) at 31 March each year between 2017 and 2026. It should be noted that the transplant list on 31 March 2021 is not reflective of the true active transplant list due to restrictions imposed during COVID-19. Patients active in Dublin are not included.

There was a decrease in the number of patients registered on the UK active liver transplant list between March 2017 and March 2020. However, this number increased to 610 patients active on 31 March 2026, higher than pre-pandemic levels.

The change in the number of patients actively listed in 2018 may be due to the introduction of the National Liver Offering Scheme (NLOS) on 20 March 2018. It may also be due to changes in medical treatment options for patients with certain diseases.

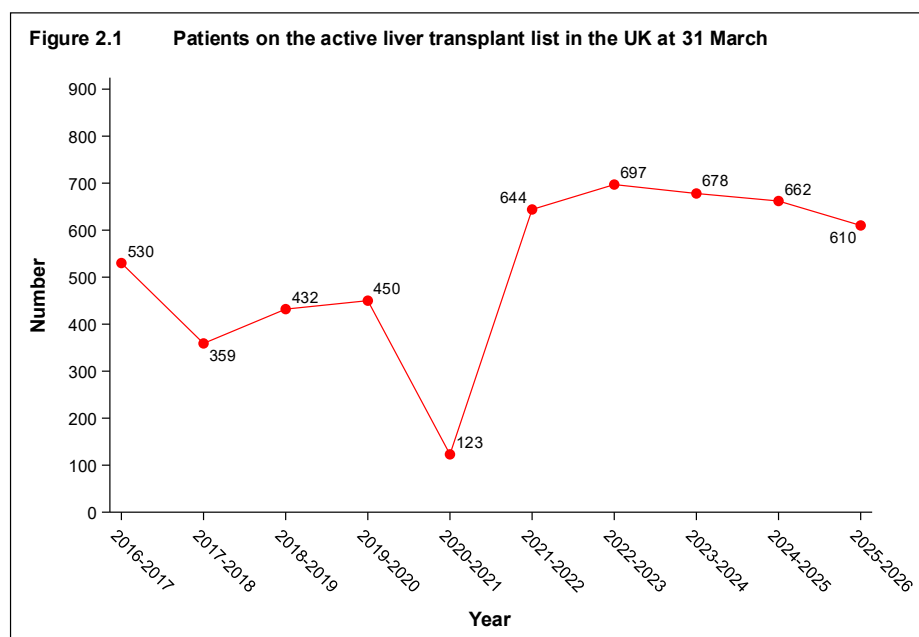
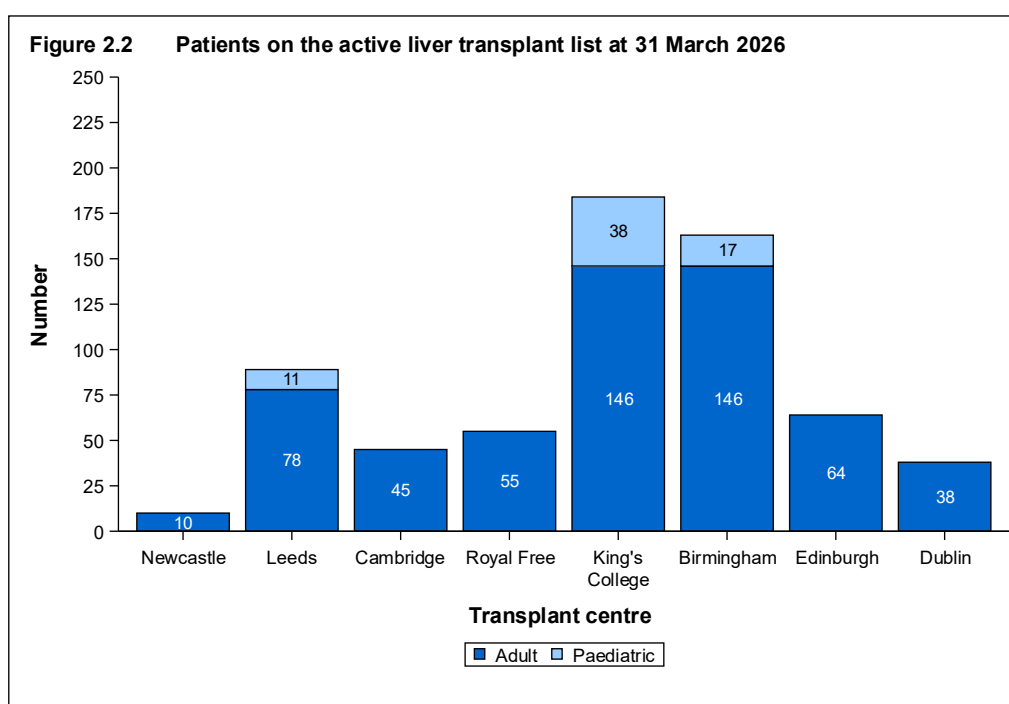


Figure 2.2 shows the number of adults and paediatrics on the active UK transplant list at 31 March 2026, by centre. In total, there were 544 adults and 66 paediatrics on the UK active transplant list and 38 adults on the Dublin active transplant list. King's College had the largest share of the UK transplant list (30%) and Newcastle the smallest (2%). This figure includes [multi-organ](#), [elective](#) and [super-urgent](#) registrations.



An indication of long-term outcomes for patients listed in the UK between April 2023 and March 2024 for a liver transplant is summarised in **Figure 2.3**. This shows the proportion of patients transplanted or still waiting six months, one year and two years after joining the transplant list. At six months post-registration, 50% of patients had received a transplant and 42% were still waiting.

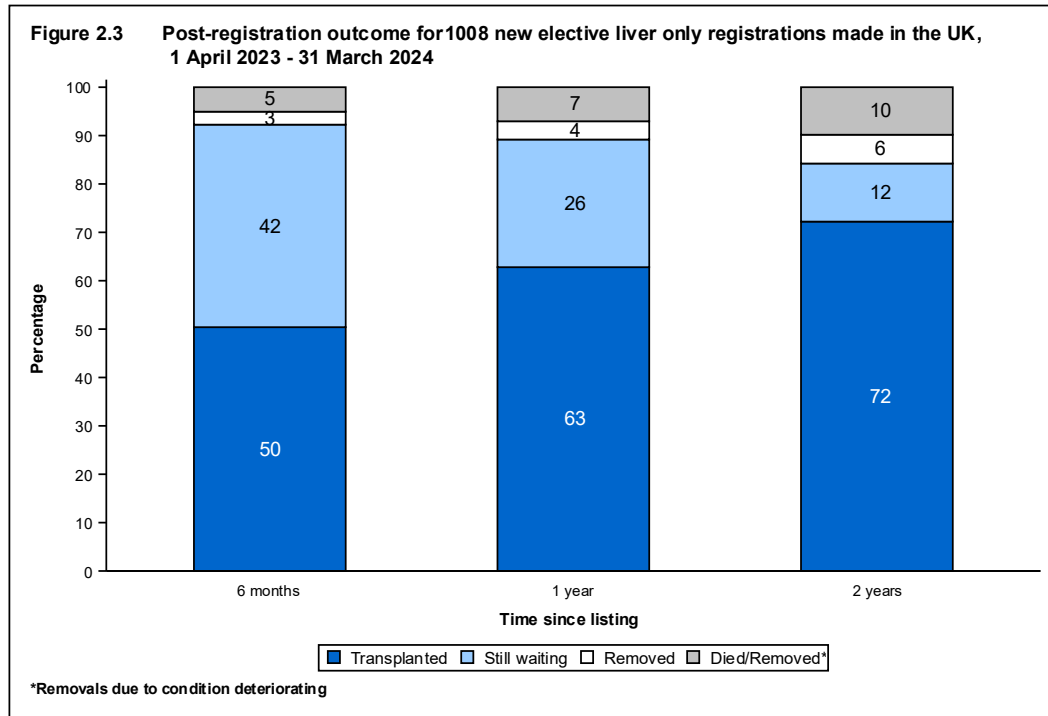
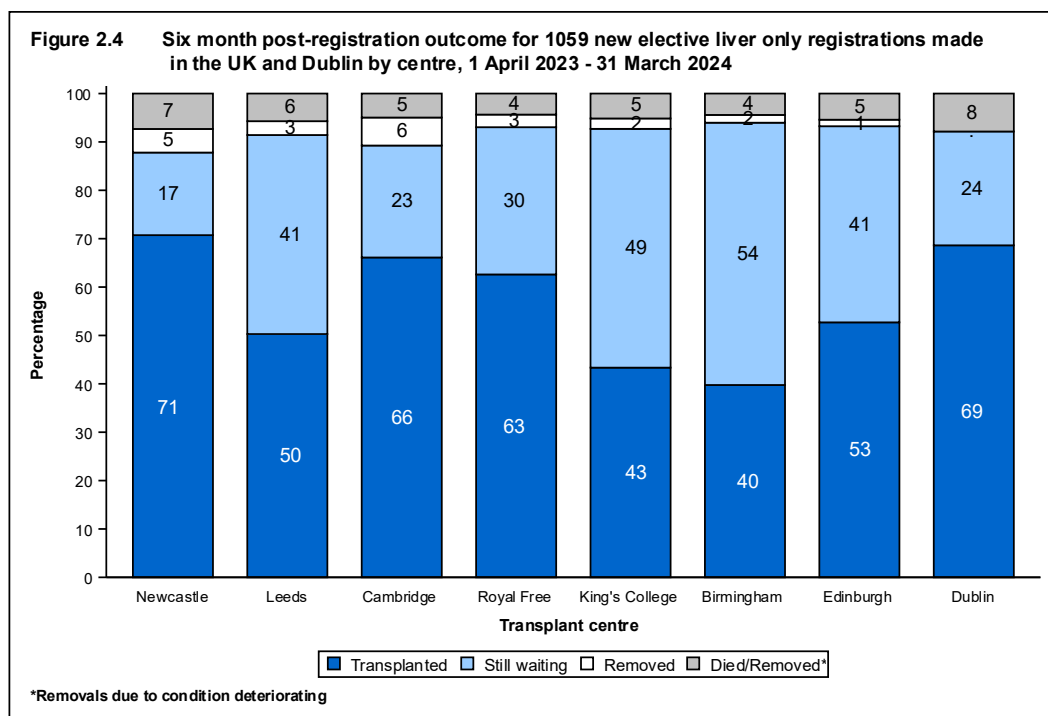


Figure 2.4 shows the six month registration outcome by centre. The proportion of patients transplanted six months after listing at each UK transplant centre ranges from 40% at Birmingham to 71% at Newcastle.



2.2 Transplant activity

Figure 2.5 shows the total number of liver transplants performed in the last ten years, by type of donor while **Figure 2.6** shows the equivalent information by transplant centre. Liver containing intestinal transplants have been excluded. Dublin are included in **Figure 2.6** but not **Figure 2.5**.

The number of transplants from deceased donors increased since 2020/2021 to 911 in 2025/2026. However, the number of DBD liver transplants has steadily reduced since 2017/2018 with 537 DBD transplants performed in 2025/2026. The number of DCD liver transplants performed in the UK increased to 374 in the last financial year which is a 93% increase when compared to 2021/22 (194). There were 33 [living donor](#) liver transplants and zero [domino](#) transplant performed in the last financial year.

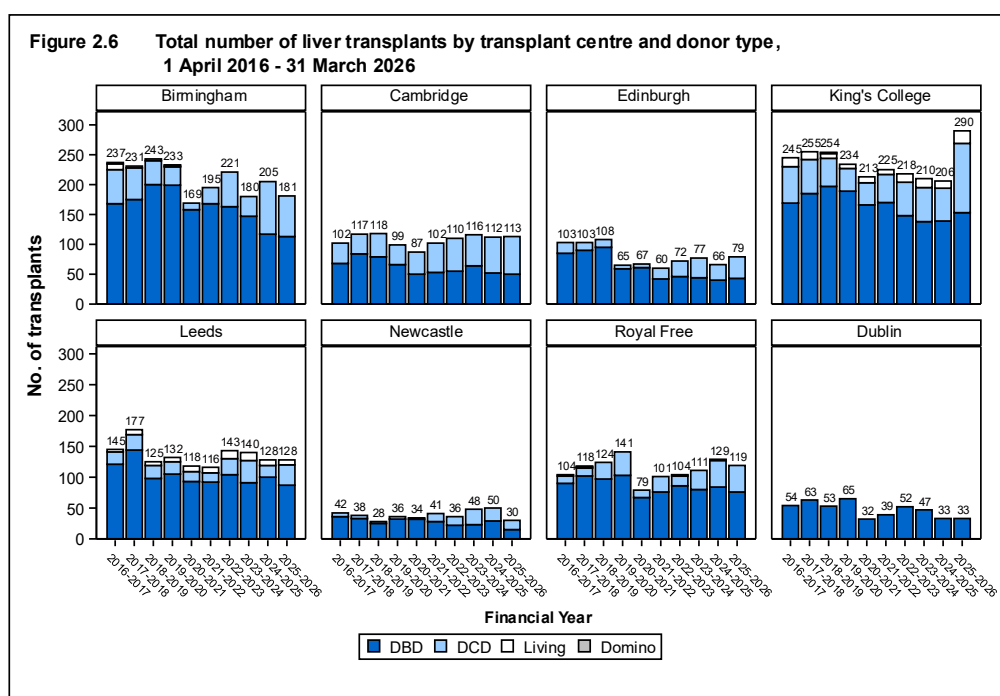
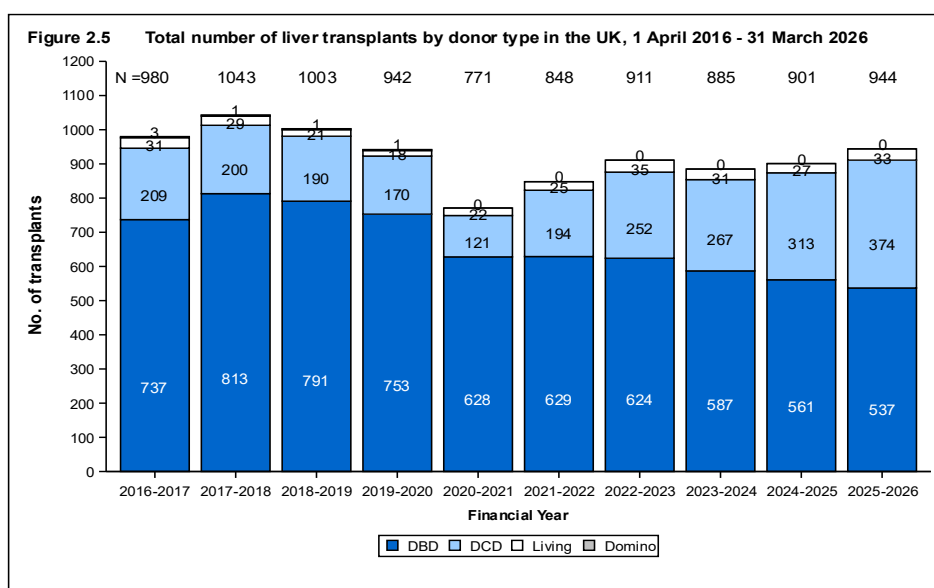


Figure 2.7 details the 9228 liver transplants performed in the UK in the ten year period (Dublin are excluded). Of these, 8016 (87%) were deceased donor first liver only transplants. Of the deceased donor first liver only transplants, 7333 (91%) were performed in adults and 683 (9%) in paediatrics. Similarly including both adult and paediatric, 7291 (91%) were [elective](#) and 725 (9%) were [super-urgent](#) transplants.

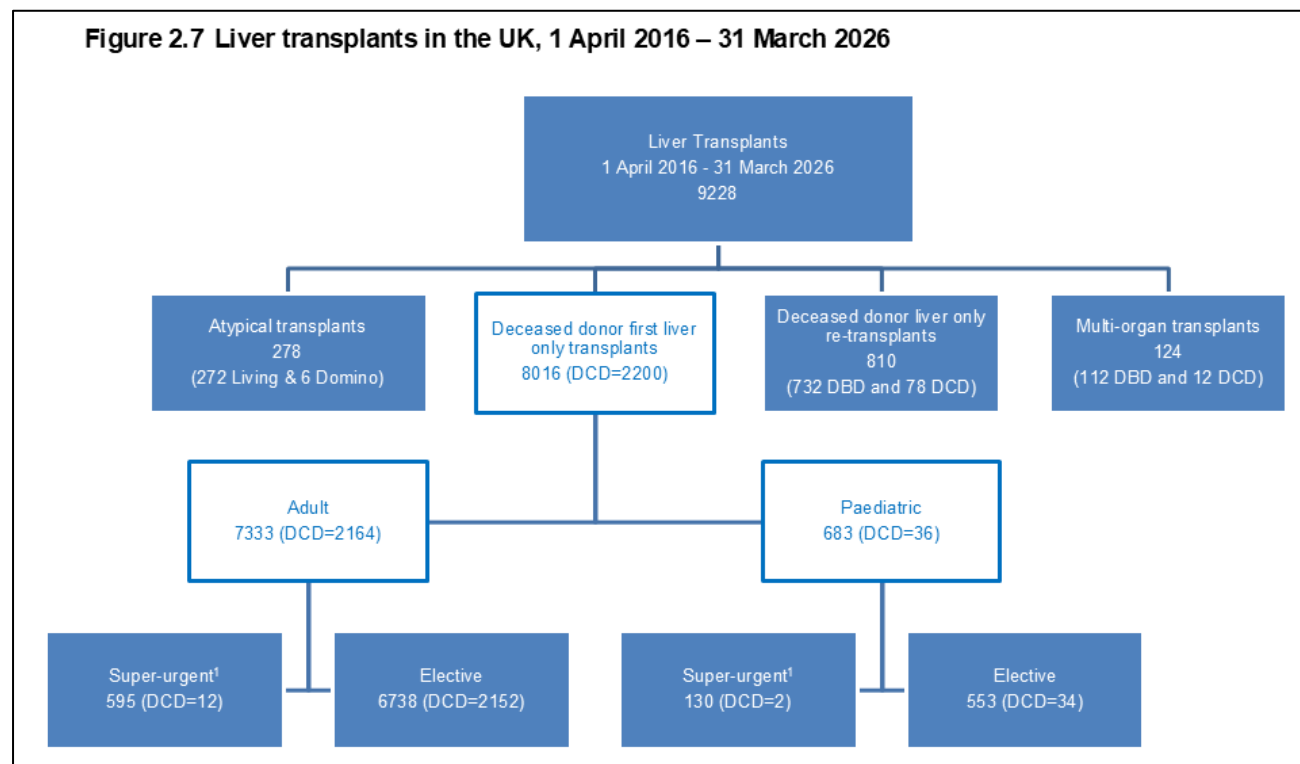
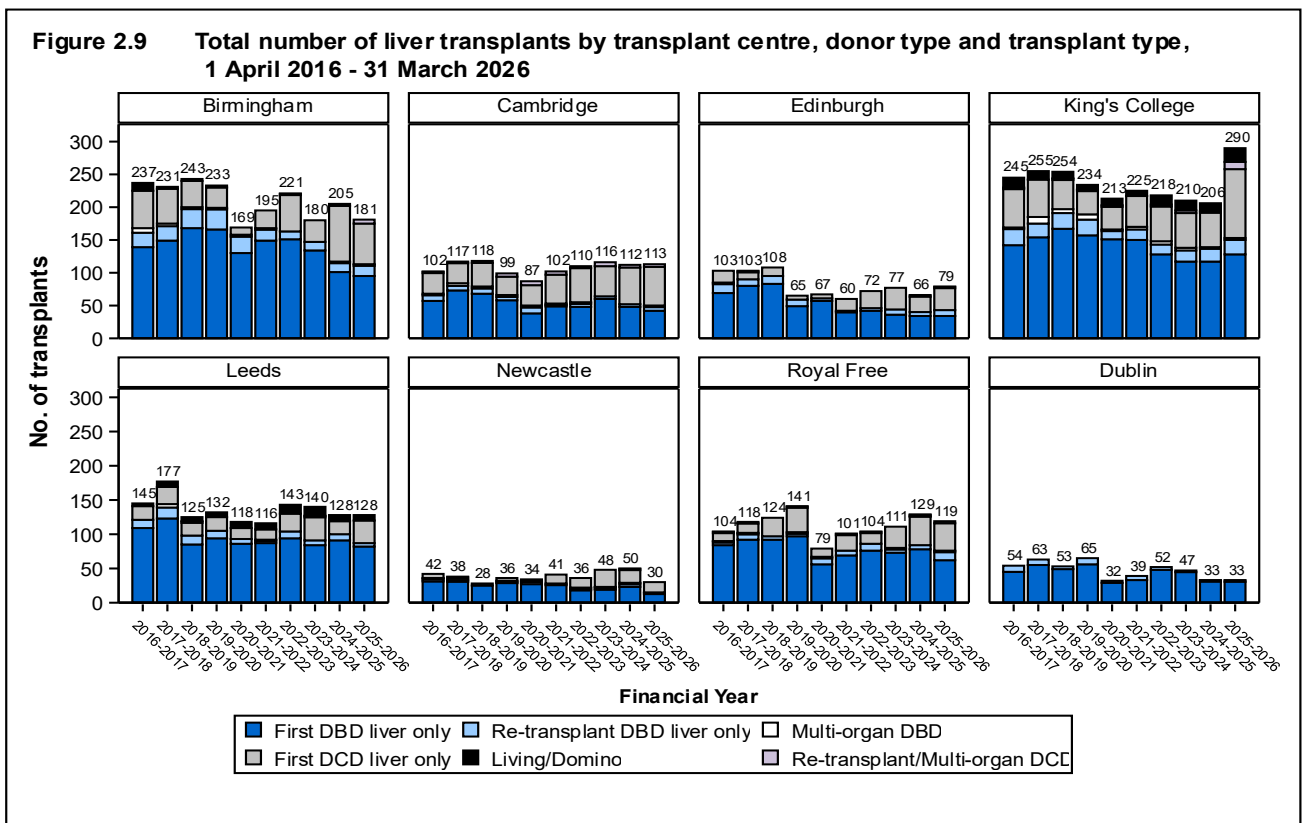
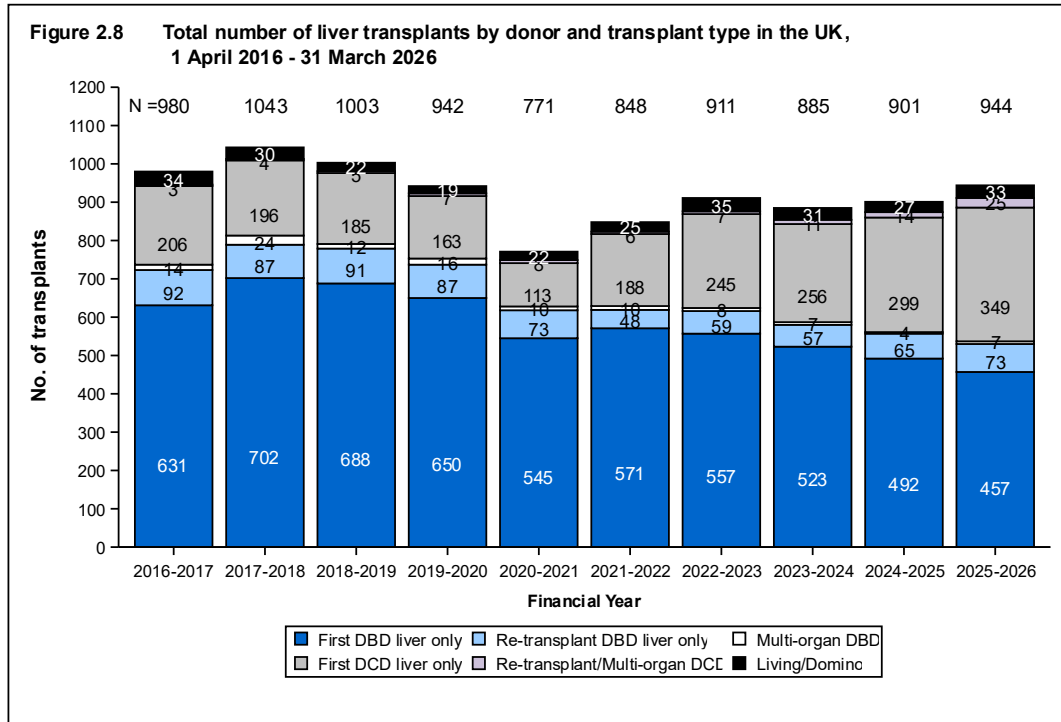


Figure 2.8 shows the number of liver transplants performed in the UK the last ten years, by type of transplant and donor whilst **Figure 2.9** shows the equivalent information by transplant centre. Dublin are included in **Figure 2.9** but not **Figure 2.8**.

The number of liver only retransplants in the UK from donors after brain death ([DBD](#)) ranged between 48 in 2021/2022 and 92 in 2016/2017. During the last ten years, 112 DBD and 12 DCD multi-organ transplants involving the liver were performed of which seven were retransplants. Of the 112 multi-organ DBD transplants, 100 were simultaneous liver and kidney transplants (six of which were retransplants), eight were simultaneous liver and heart transplants and four were simultaneous liver and lung transplants.

The majority of liver transplants (96%) performed in the UK over the last ten years involving donors after circulatory death ([DCD](#)) were first liver only transplants, with only 78 DCD retransplant liver only transplants, eleven simultaneous liver/kidney DCD transplant and one simultaneous liver/heart DCD transplant.

The majority of transplants, 423 (90%), performed in Dublin over the last ten years were first liver only DBD transplants and 48 (10%) were DBD retransplant liver only transplants.



Geographical variation in registration and transplant rates

Figure 2.9 shows rates of registration to the liver transplant list per million population (pmp) between 1 April 2025 and 31 March 2026 compared with liver transplant rates pmp for the same time period, by recipient country/NHS region of residence. **Table 2.1** shows the breakdown of these numbers by recipient country/NHS region of residence. No adjustments have been made for potential demographic differences in populations. If a patient has had more than one registration/transplant in the period, each registration/transplant is considered. Note that this analysis only considered NHS Group 1 patients.

Since there will inevitably be some random variation in rates between areas, the systematic coefficient component of variation (SCV) was used to identify if the variation is more (or less) than a random effect for the different NHS regions in England only. Only first registrations and transplants in this period were considered. The larger the SCV the greater the evidence of a high level of systematic variation between areas. Registration and transplant rates yielded an SCV of 0.000 (p-value >0.999) and 0.000 (p-value >0.999), respectively. The p-value shows the probability that an SCV of this size (or higher) would be observed by chance if only random variation existed and therefore, no evidence of geographical variation beyond what would be expected at random. No adjustment has been made for area-specific demographic characteristics that may impact the rates of registration to the transplant list and transplantation such as age and sex. Therefore, these results should be interpreted with caution.

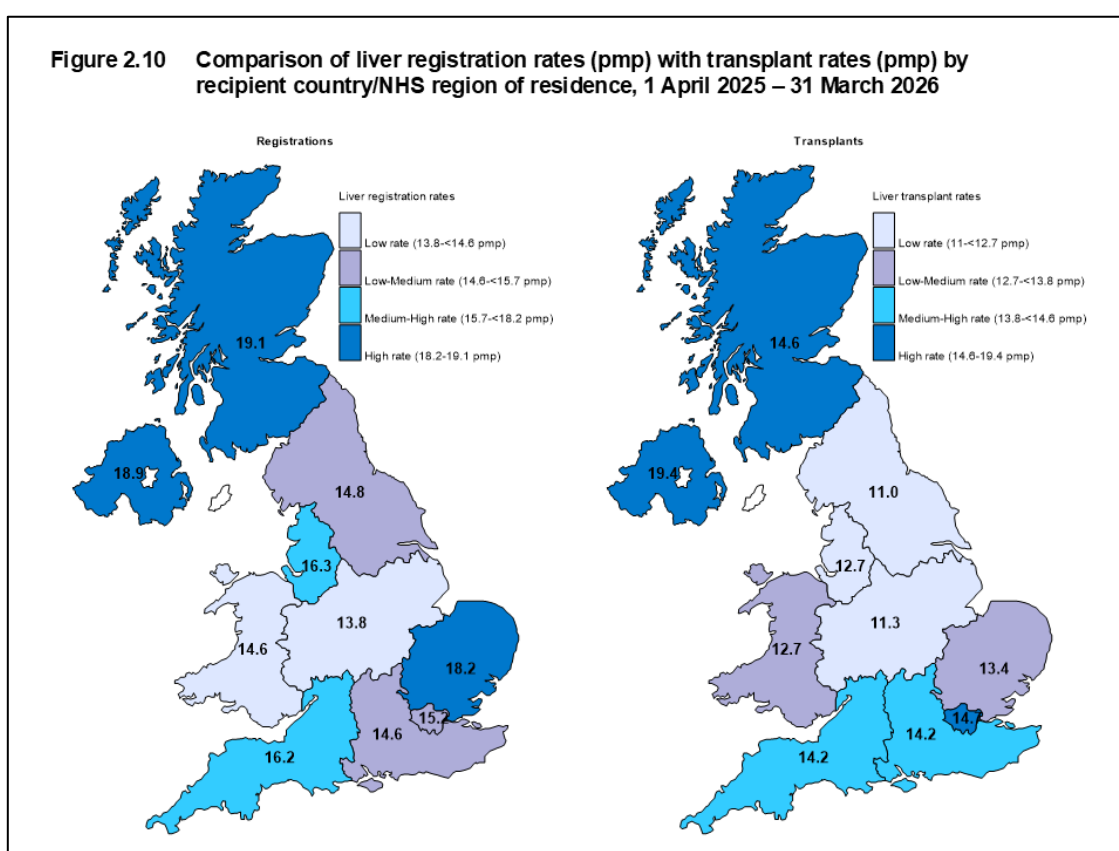


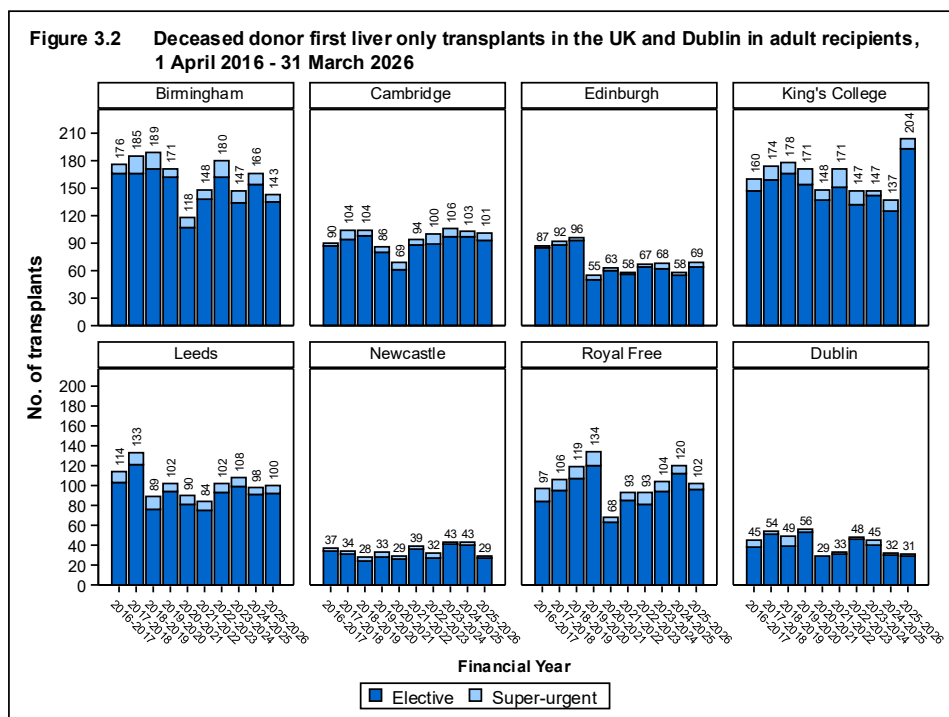
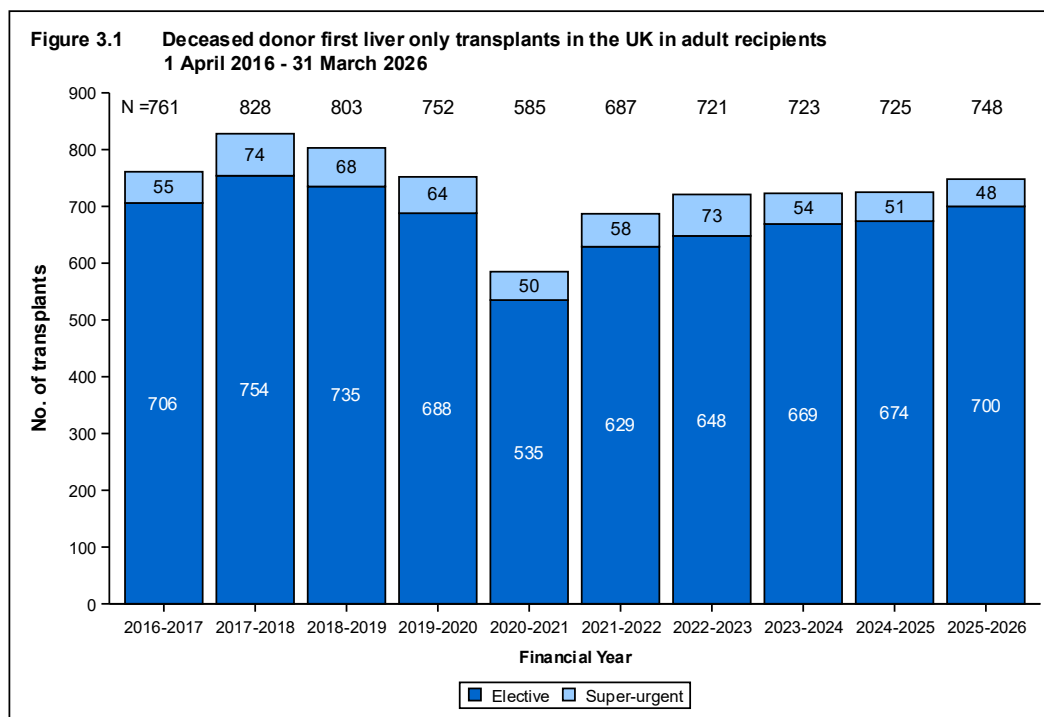
Table 2.1 Liver registration and transplant rates per million population (pmp) in the UK, 1 April 2025 - 31 March 2026, by Country/NHS region				
Country/ NHS region	Registrations (pmp)		Transplants (pmp)	
North East and Yorkshire	125	(14.8)	93	(11.0)
North West	126	(16.3)	98	(12.7)
Midlands	156	(13.8)	127	(11.3)
East of England	120	(18.2)	88	(13.4)
London	139	(15.2)	134	(14.7)
South East	141	(14.6)	137	(14.2)
South West	96	(16.2)	84	(14.2)
England	903	(15.4)	761	(13.0)
Isle of Man	0	(0.0)	0	(0.0)
Channel Islands	1	(5.9)	0	(0.0)
Wales	47	(14.6)	41	(12.7)
Scotland	107	(19.1)	82	(14.6)
Northern Ireland	37	(18.9)	38	(19.4)
TOTAL^{1,2}	1100	(15.8)	924	(13.3)
¹ Registrations include 5 recipients whose postcode was unknown and excludes 3 recipients who reside in the Republic of Ireland and 1 recipient who resides overseas ² Transplants include 2 recipients whose postcode was unknown and excludes 8 recipients who reside in the Republic of Ireland and 1 recipient who resides overseas				

Adult Liver Transplantation



3.1 Overview

The number of adult deceased donor first liver only transplants in the last ten years is shown overall and by centre in **Figures 3.1 and 3.2**, respectively. Dublin are included in **Figure 3.2** but not **Figure 3.1**. Of the 748 transplants performed in the UK in the latest financial year, 700 (94%) were [elective](#) and 48 (6%) were [super-urgent](#) transplants. See **Appendix 1** for further details.



The overall [median total preservation times](#) (TPT) for UK adult transplant recipients are shown by financial year in **Figure 3.3** for [DBD](#) and [DCD](#) donors, respectively. The UK national median total preservation time for transplants from DBD donors remained relatively stable. In 2016/17, the median TPT was 8.6 hours and in 2025/26 it was 8.7 hours. Similarly, the UK national median for DCD donor transplants has remained relatively stable over the ten-year period. The median TPT was 7.4 hours in 2016/17 and 6.8 hours in 2025/26.

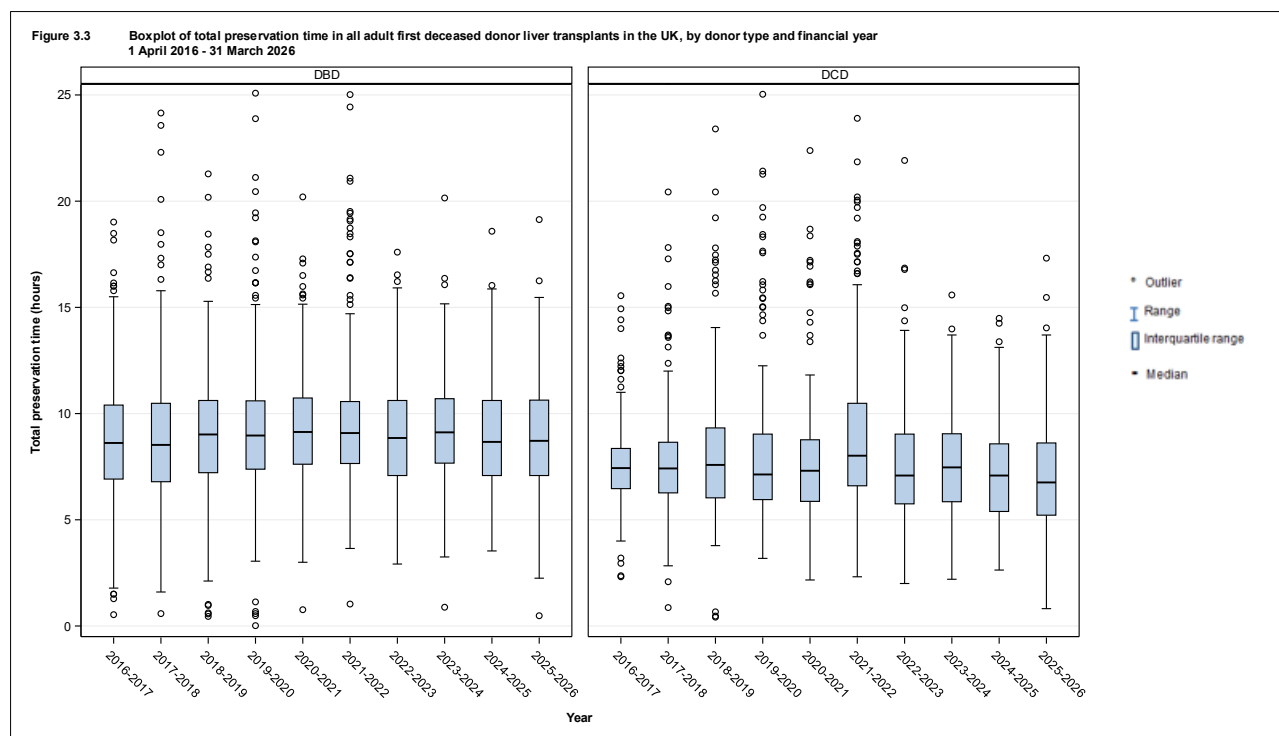


Figure 3.4 shows boxplots of [total preservation times](#) (TPT) for adult transplant recipients by centre and donor type in the latest financial year (2025/2026) while **Figure 3.5** and **Figure 3.6** show the equivalent information by centre over the last ten financial years for [DBD](#) and [DCD](#) donors, respectively. Dublin are included in **Figures 3.4** and **3.5** but not in **3.6** as there were no DCD transplants performed in Dublin during the time period. The median total preservation time for DBD in the last financial year ranged between 7.6 and 10.6 hours across UK transplant centres whilst the median for DCD ranged between 5.7 and 10.4 hours. The median total preservation time for patients transplanted at Dublin in the last financial year was 7.1 hours for DBD transplants.

The total preservation time used is as reported on the liver transplant record form and may include periods of machine perfusion; no adjustment has been made for this. 504 (67%) of adult deceased donor first liver only transplants performed in the latest financial year were reported to have involved in situ normothermic regional perfusion or ex situ machine perfusion (either normothermic or hypothermic). This ranged from 42% to 85% by transplant centre. Machine perfusion or NRP was undertaken for 332 (96%) of the adult DCD first liver only transplants performed in the latest financial year involved whilst the equivalent was 172 (43%) for DBD.

Figure 3.4 Boxplot of total preservation time in all adult first deceased donor liver transplants, by donor type and transplant centre
1 April 2025 - 31 March 2026

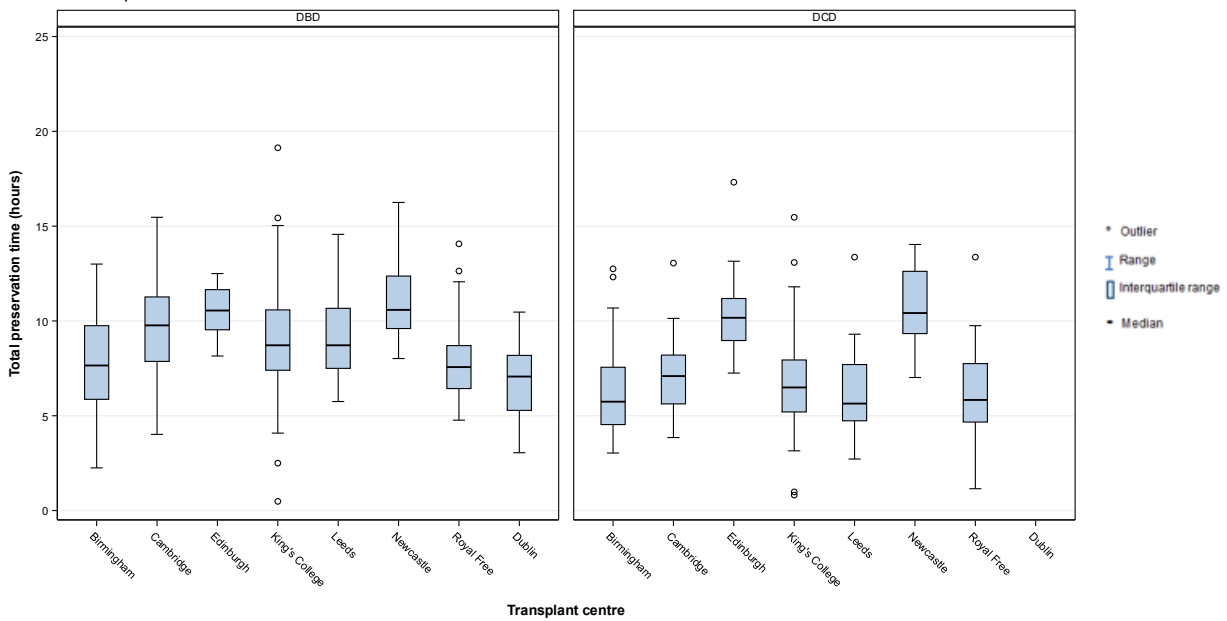


Figure 3.5 Boxplot of total preservation time in all adult first DBD donor liver transplants, by donor type and transplant centre
1 April 2016 - 31 March 2026

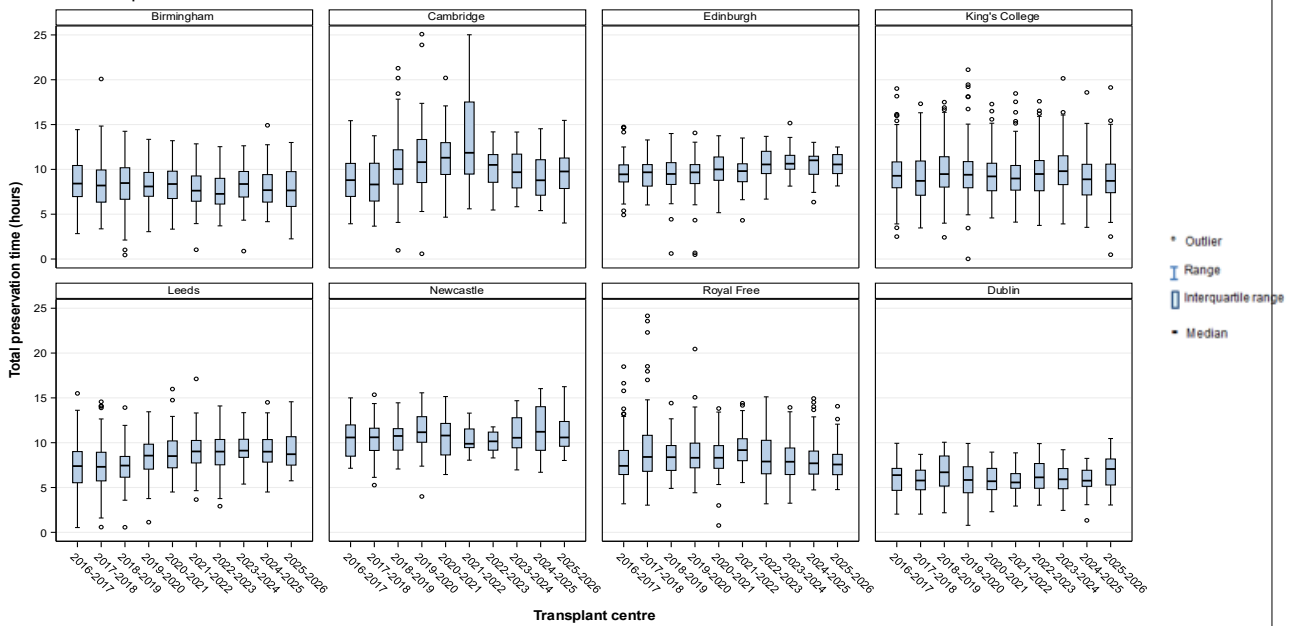
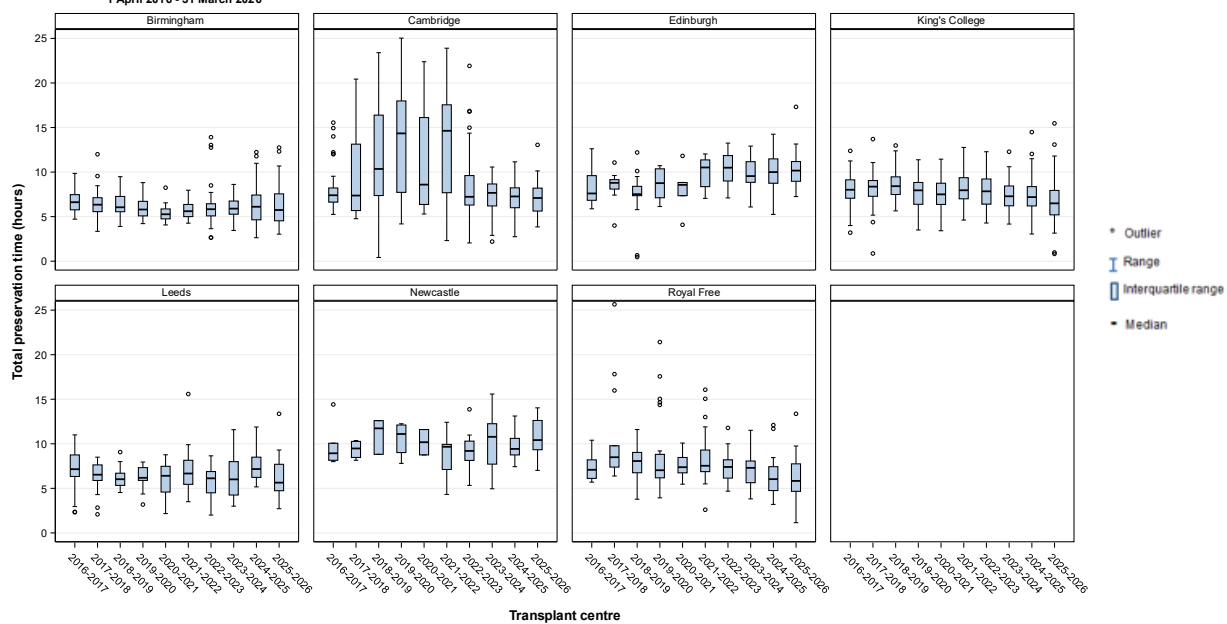


Figure 3.6 Boxplot of total preservation time in all adult first DCD donor liver transplants, by transplant centre
1 April 2016 - 31 March 2026



Adult Liver Transplantation Elective Patients



3.2.1 Transplant list

Figure 3.7 shows the number of adult [elective](#) patients on the UK liver only transplant list at 31 March each year between 2017 and 2026. Patients registered at Dublin were excluded. There were 613 adult patients either active or suspended on the UK liver only transplant list on 31 March 2026, a 31% increase compared with 31 March 2017.

The number of adult patients on the UK [active](#) liver only transplant list has increased from 445 in 2017 to 512 in 2026. The majority of patients suspended on 31 March 2021 were reactivated by transplant centres in April 2021 following relaxation of restrictions imposed during COVID-19.

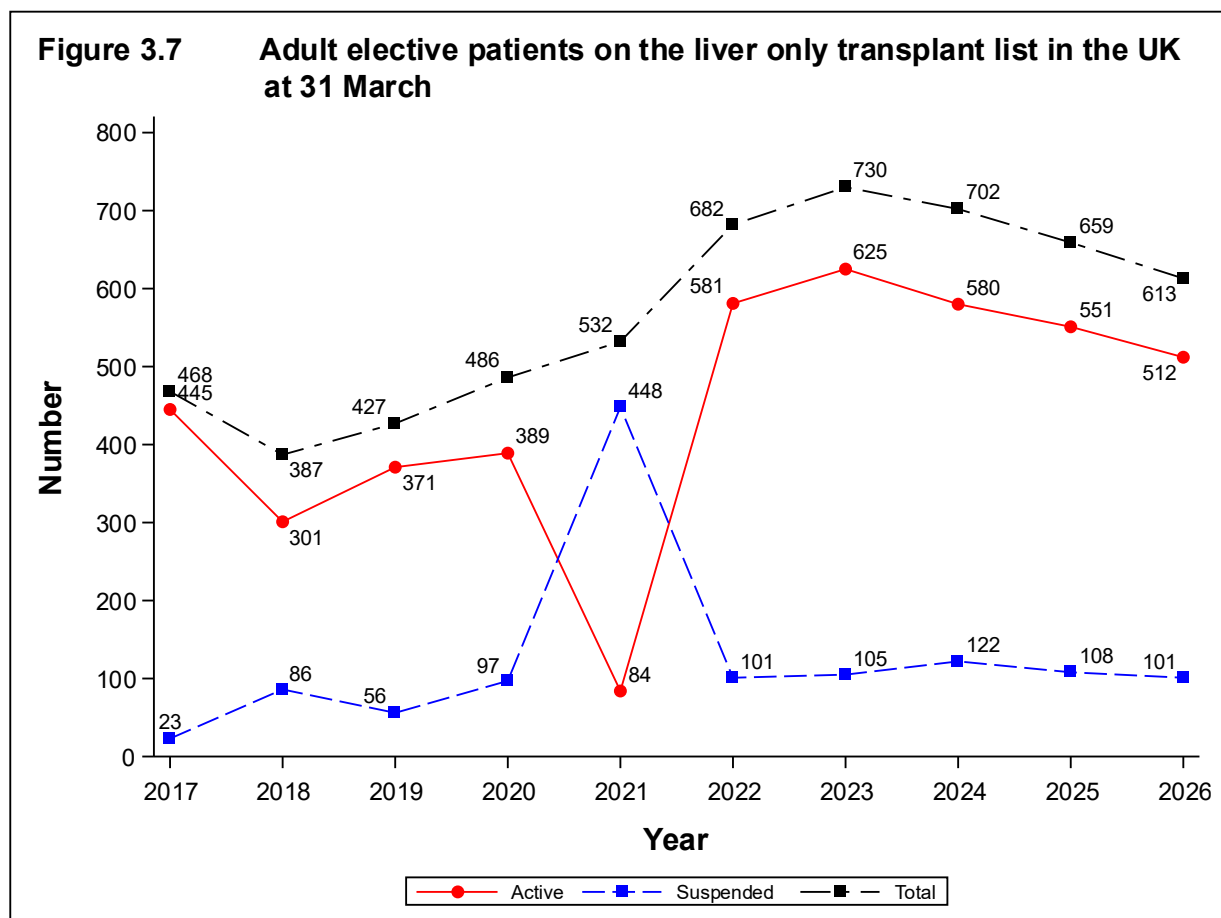
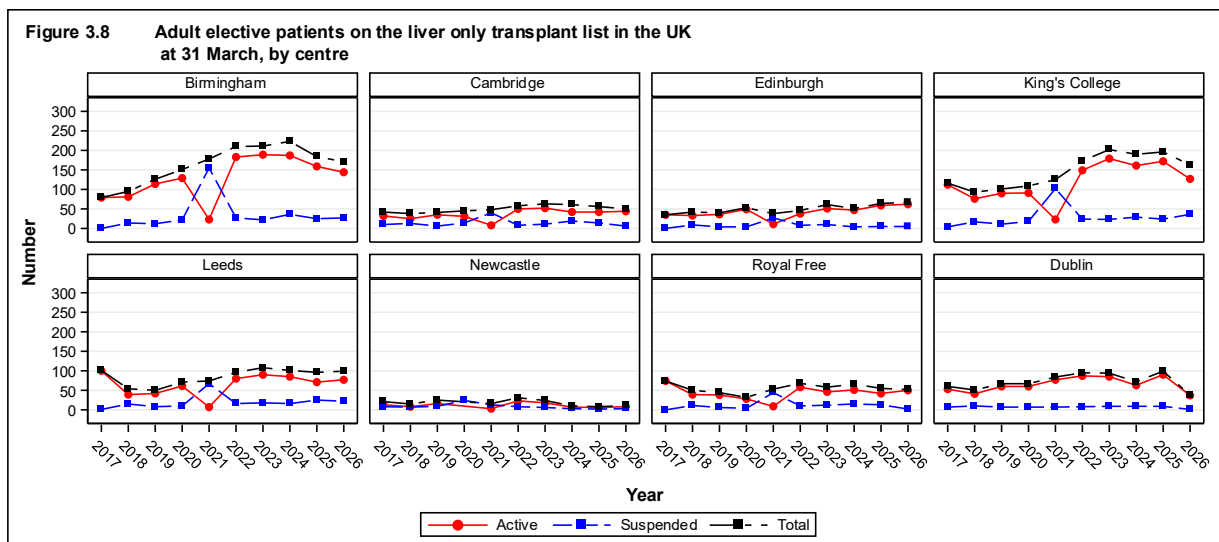


Figure 3.8 shows the number of adults on the transplant list in the UK and Dublin at 31 March each year between 2017 and 2026, by transplant centre. The number of adult patients active on the elective liver only transplant list on 31 March 2026 ranged between 8 at Newcastle and 144 at Birmingham.



An indication of outcomes for adult [elective](#) patients listed for a liver transplant in the UK is summarised in **Figure 3.9**. Patients at Dublin are not included in **Figure 3.9**. This shows the proportion of patients transplanted or still waiting six months, one and two years after joining the list. It also shows the proportion removed from the transplant list and those dying while on the waiting list.

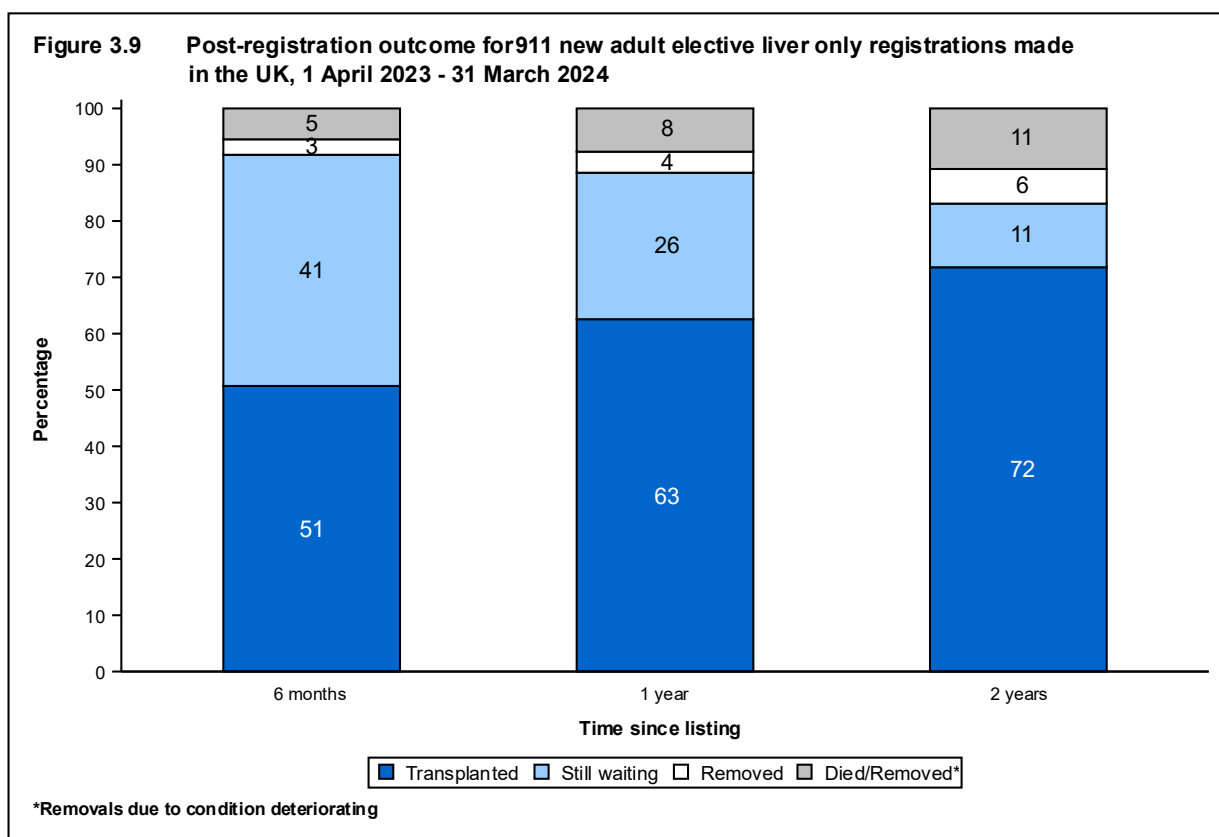


Figure 3.10 shows the proportion of patients transplanted, removed, died while waiting, or still waiting on the list at six months after joining the list at each transplant centre. Patients registered in Dublin are included in **Figure 3.10**. The proportion of patients transplanted six months after listing at each UK transplant centre ranges from 39% at Birmingham to 71% at Newcastle.

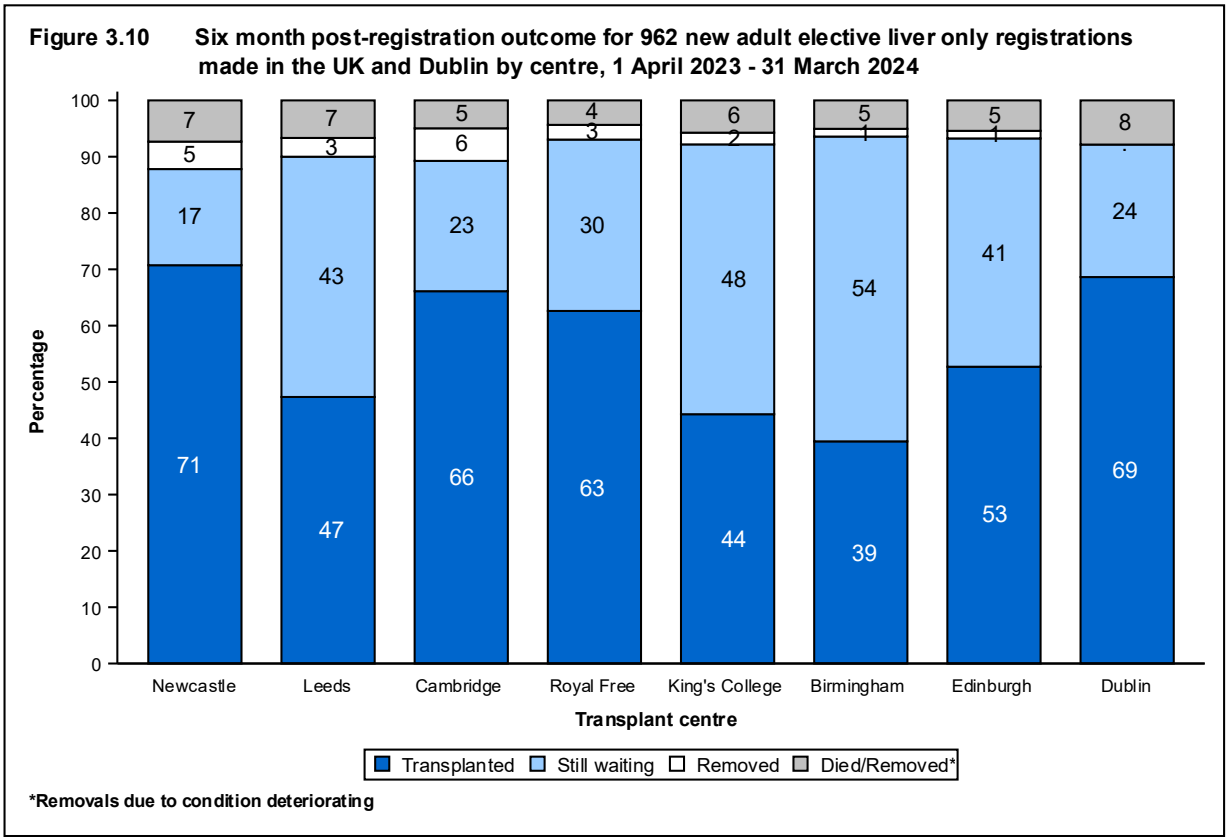


Table 3.1 shows the [median waiting time](#) to deceased donor liver only transplant for adult [elective](#) patients. The national UK median waiting time to transplant for adult elective patients is 130 days. The median waiting time to transplant was shorter at Newcastle (33 days) and longer at King’s College (213 days), compared to the national median waiting time. The median waiting time for patients registered in Dublin is also presented in **Table 3.1**.

Note that these waiting times are not adjusted to account for the patient [case-mix](#) at centres.

Table 3.1 Median waiting time to liver only transplant for adult elective patients registered in the UK and Republic of Ireland, 1 April 2023 - 31 March 2025			
Transplant centre	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Newcastle	83	33	18 - 48
Royal Free	247	66	51 - 81
Cambridge	240	76	56 - 96
Leeds	273	152	107 - 197
Birmingham	409	198	154 - 242
Edinburgh	169	207	116 - 298
King's College	394	213	172 - 254
UK	1815	130	115 - 145
Dublin	109	184	112 - 256

Table 3.2 shows the demographics of 934 adult [elective](#) liver patients in the UK and 32 in Dublin, registered from 1 April 2025 to 31 March 2026, by transplant centre. The majority of patients that were registered in the UK were male (63%), white (86%) with a [median](#) age of 55 years and a median BMI of 28 kg/m². The most common indication for registration was alcoholic liver disease followed by cancer. For some characteristics, due to rounding, percentages may not add up to 100.

Please note that, due to small numbers, patients registered as part of the new cancer service evaluations are reported in the other disease category but will be included in a separate category in future reports.

Table 3.2 Demographic characteristics of adult elective liver patients registered from 1 April 2025 - 31 March 2026										
Number		Birmingham N (%)	Cambridge N (%)	Edinburgh N (%)	King's college N (%)	Leeds N (%)	Newcastle N (%)	Royal Free N (%)	UK N (%)	Dublin N (%)
		195	123	90	232	139	33	119	931	32
Recipient sex	Male	122 (63)	79 (64)	55 (61)	144 (62)	89 (64)	19 (58)	75 (63)	583 (63)	23 (72)
	Female	73 (37)	44 (36)	35 (39)	88 (38)	50 (36)	14 (42)	44 (37)	348 (37)	9 (28)
Recipient ethnicity	White	165 (85)	106 (86)	85 (94)	191 (82)	125 (90)	32 (97)	95 (80)	799 (86)	30 (94)
	Asian	17 (9)	3 (2)	2 (2)	19 (8)	8 (6)	1 (3)	17 (14)	67 (7)	1 (3)
	Black	6 (3)	4 (3)	2 (2)	18 (8)	2 (1)	0 (0)	7 (6)	39 (4)	0 (0)
	Other	4 (2)	0 (0)	0 (0)	3 (1)	1 (1)	0 (0)	0 (0)	8 (1)	1 (3)
	Not reported	3 (2)	10 (8)	1 (1)	1 (<1)	3 (2)	0 (0)	0 (0)	18 (2)	0 (0)
Indication	Acute on Chronic Liver Failure (ACLF)	5 (3)	5 (4)	2 (2)	6 (3)	2 (1)	2 (6)	4 (3)	26 (3)	0 (0)
	Cancer	30 (15)	26 (21)	16 (18)	37 (16)	45 (32)	9 (27)	17 (14)	180 (19)	4 (13)
	Hepatitis C	3 (2)	1 (1)	0 (0)	1 (<1)	1 (1)	0 (0)	1 (1)	7 (1)	0 (0)
	Alcoholic liver disease	48 (25)	28 (23)	25 (28)	58 (25)	39 (28)	4 (12)	33 (28)	235 (25)	7 (22)
	Hepatitis B	0 (0)	0 (0)	0 (0)	2 (1)	1 (1)	0 (0)	2 (2)	5 (1)	1 (3)
	Primary sclerosing cholangitis	23 (12)	12 (10)	12 (13)	33 (14)	15 (11)	7 (21)	16 (13)	118 (13)	6 (19)
	Primary biliary cholangitis	13 (7)	10 (8)	5 (6)	11 (5)	7 (5)	2 (6)	9 (8)	57 (6)	2 (6)
	Autoimmune and cryptogenic disease	20 (10)	3 (2)	3 (3)	17 (7)	6 (4)	0 (0)	5 (4)	54 (6)	0 (0)
	Metabolic liver disease	17 (9)	23 (19)	15 (17)	11 (5)	7 (5)	5 (15)	11 (9)	89 (10)	7 (22)
	Acute hepatic failure	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
	Other	28 (14)	13 (11)	7 (8)	36 (16)	9 (6)	4 (12)	20 (17)	117 (13)	2 (6)
	Regraft	8 (4)	2 (2)	5 (6)	20 (9)	7 (5)	0 (0)	1 (1)	43 (5)	3 (9)
Recipient HCV	No	187 (96)	120 (98)	87 (97)	228 (98)	131 (94)	32 (97)	114 (96)	899 (97)	31 (97)
	Yes	8 (4)	3 (2)	3 (3)	4 (2)	8 (6)	1 (3)	5 (4)	32 (3)	1 (3)
Encephalopathy	Absence	108 (55)	68 (55)	71 (79)	151 (65)	85 (61)	24 (73)	79 (66)	586 (63)	26 (81)
	Presence	87 (45)	55 (45)	19 (21)	81 (35)	54 (39)	9 (27)	40 (34)	345 (37)	6 (19)
Renal support	No	191 (98)	117 (95)	90 (100)	225 (97)	136 (98)	32 (97)	108 (91)	899 (97)	31 (97)
	Yes	4 (2)	6 (5)	0 (0)	7 (3)	3 (2)	1 (3)	11 (9)	32 (3)	1 (3)

Table 3.2 Demographic characteristics of adult elective liver patients registered from 1 April 2025 - 31 March 2026										
		Birmingham N (%)	Cambridge N (%)	Edinburgh N (%)	King's college N (%)	Leeds N (%)	Newcastle N (%)	Royal Free N (%)	UK N (%)	Dublin N (%)
Previous abdominal surgery	No	152 (78)	104 (85)	66 (73)	172 (74)	111 (80)	31 (94)	88 (74)	724 (78)	25 (78)
	Yes	43 (22)	19 (15)	24 (27)	60 (26)	28 (20)	2 (6)	31 (26)	207 (22)	7 (22)
Recip age (years)	Median (IQR)	53 (41, 60)	58 (49, 63)	58 (47, 64)	54 (42, 61)	57 (48, 62)	54 (44, 65)	52 (42, 59)	55 (45, 62)	54 (48, 61)
BMI (kg/m ²)	Median (IQR)	28 (24, 32)	29 (25, 34)	28 (25, 32)	27 (23, 30)	29 (25, 32)	27 (24, 32)	26 (23, 29)	27 (24, 31)	28.5 (24.5, 30.5)
Serum bilirubin (umol/l)	Median (IQR)	35 (18, 82)	40 (24, 88)	38 (19, 83)	41 (23, 86)	38 (22, 85)	28 (18, 100)	47 (19, 89)	40 (21, 86)	39 (21, 103)
Serum creatinine (umol/l)	Median (IQR)	71 (57, 93)	72 (57, 93)	83 (64, 110)	70 (58, 92)	69 (56, 88)	71 (61, 86)	79 (66, 101)	73 (59, 94)	77 (64, 100)
Serum sodium (mmol/l)	Median (IQR)	137 (133, 139)	137 (135, 140)	136 (133, 139)	137 (134, 139)	138 (136, 140)	138 (133, 141)	137 (135, 140)	137 (134, 139)	137 (134, 138)
Serum potassium (mmol/l)	Median (IQR)	4.1 (3.9, 4.5)	4.1 (3.9, 4.5)	4.2 (4.0, 4.5)	4.2 (3.9, 4.5)	4.1 (3.8, 4.4)	4.2 (4, 4.5)	4.3 (4, 4.6)	4.2 (3.9, 4.5)	4.4 (4.1, 4.8)
INR	Median (IQR)	1.3 (1.2, 1.6)	1.4 (1.2, 1.7)	1.2 (1.1, 1.4)	1.2 (1, 1.4)	1.3 (1.1, 1.5)	1.2 (1.1, 1.3)	1.3 (1.1, 1.4)	1.2 (1.1, 1.5)	1.2 (1, 1.3)
Serum albumin (g/l)	Median (IQR)	30 (26, 36)	29 (24, 32)	27.5 (24, 32)	31 (26, 36)	29 (25, 34)	35 (31, 39)	36 (31, 40)	31 (26, 36)	31 (26, 36)

Figure 3.11 shows the offer decline rate funnel plot for named adult and large paediatric elective DBD offers to UK transplant centres. All fast-track offers, regardless of whether the fast-track offer was accepted and the liver transplanted, were excluded along with offers to super-urgent, hepatoblastoma, ACLF, paediatric, intestinal or liver and cardiothoracic patients. **Figure 3.12** shows the corresponding funnel plot of offer decline rates for DCD. Unlike **Figure 3.11**, fast-track offers were only included in **Figure 3.12** if the offer was accepted and transplanted. Dublin are not included in **Figure 3.11** or **Figure 3.12**.

A DBD liver transplant can involve a whole liver, reduced liver or split liver. The term reduced is used when only one lobe of the liver is transplanted and the term split applies when both lobes of the liver are transplanted into two different recipients. Offers of whole livers and right lobes which resulted in transplantation are included in **Figure 3.11** and offer decline rates by centre and organ offered are presented in **Table 3.3**.

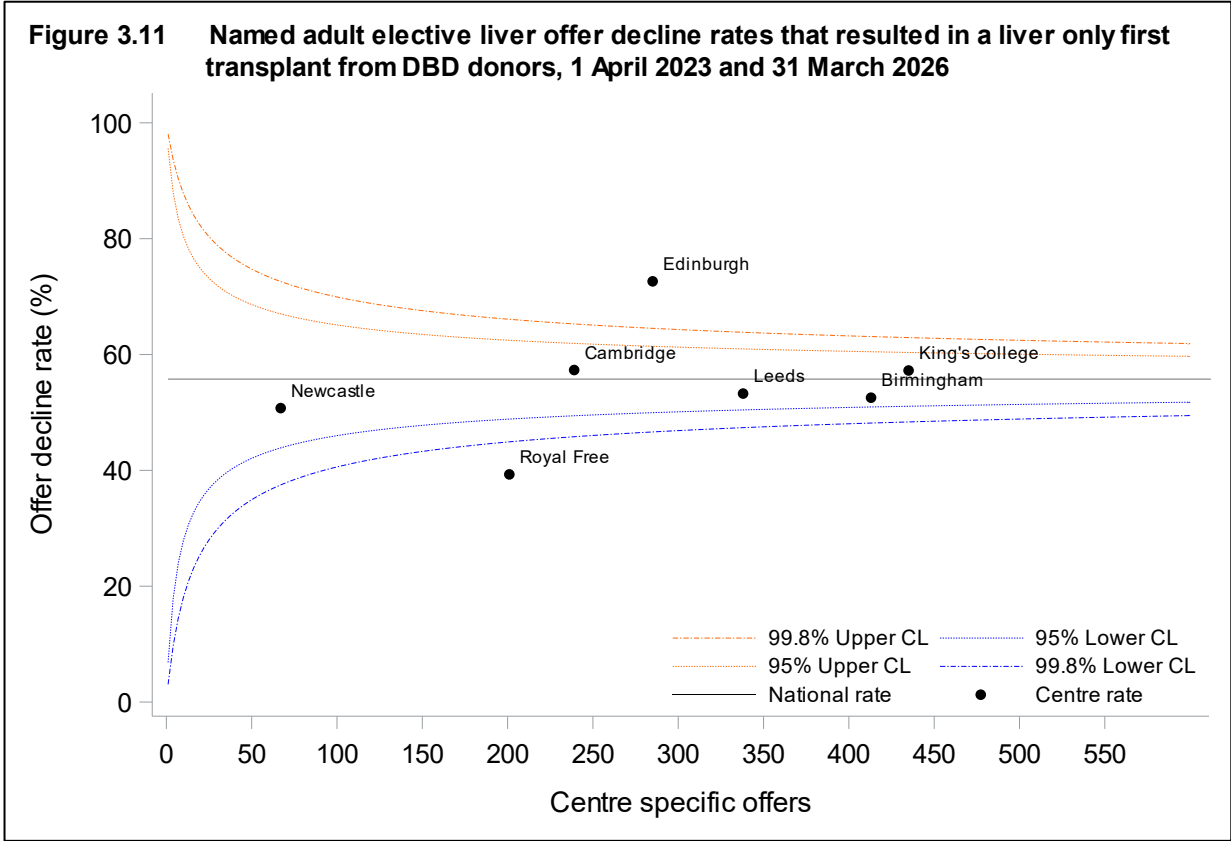


Figure 3.12 Adult elective liver offer decline rates that resulted in a liver only first transplant from DCD donors, 1 April 2023 and 31 March 2026

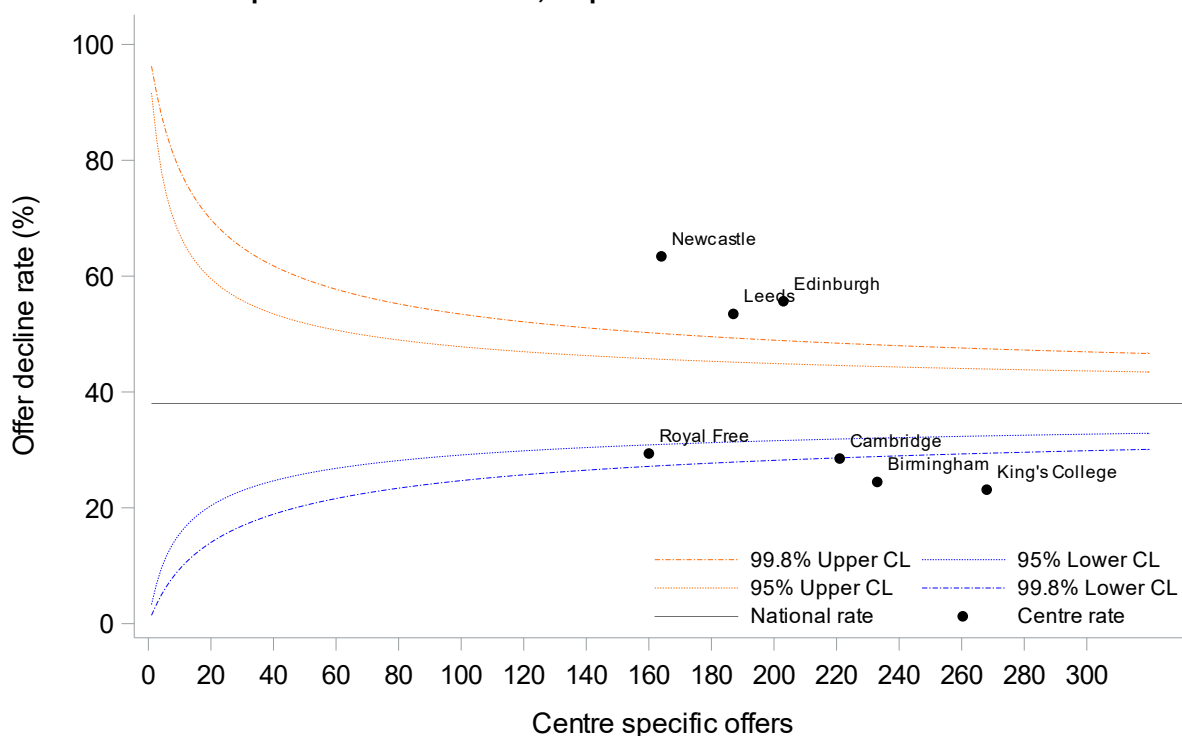


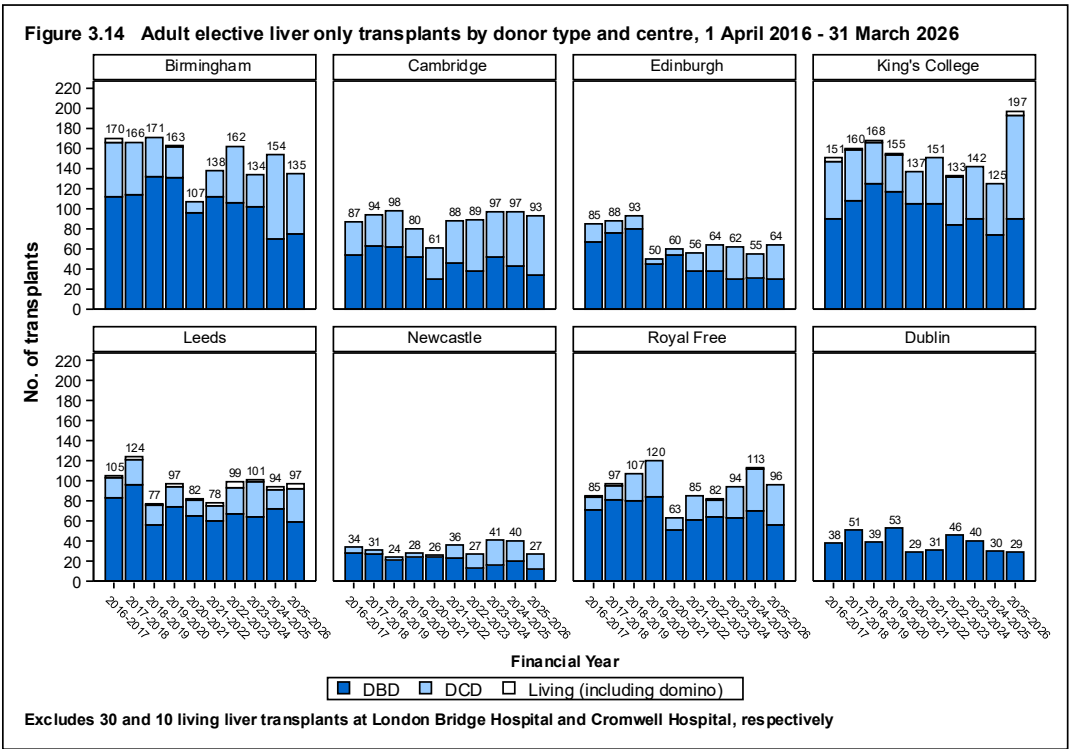
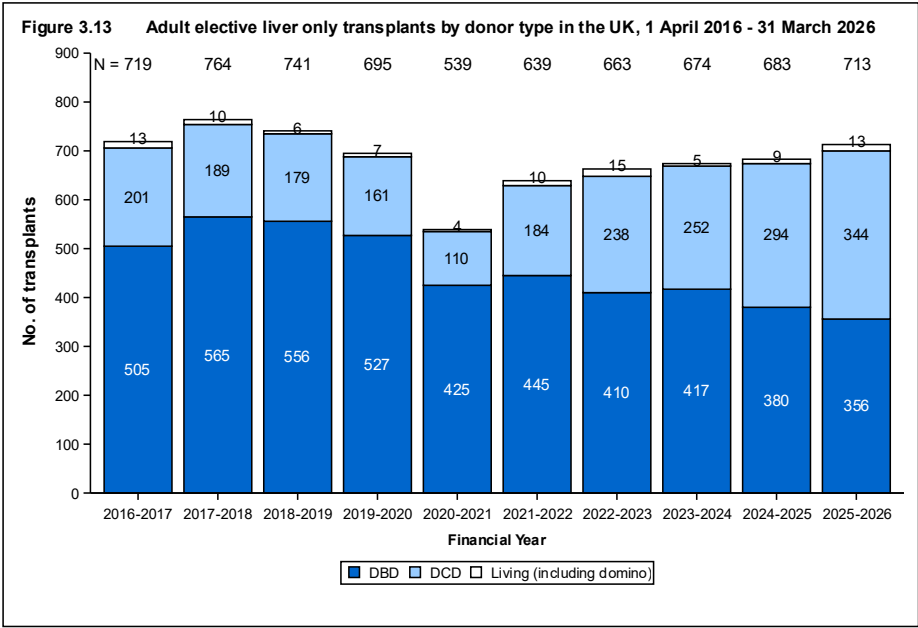
Table 3.3 Offer decline rates for each centre by offered organ and donor type
1 April 2023 and 31 March 2026

Centre	Whole Livers		DBD Donors Right Lobe		All Livers		DCD Donors Whole Livers	
	Offers	% Decline	Offers	% Decline	Offers	% Decline	Offers	% Decline
A. All donors								
Birmingham	364	51	49	65	413	53	233	24
Cambridge	209	56	30	63	239	57	221	29
Edinburgh	222	65	63	100	285	73	203	56
King's College	401	56	34	68	435	57	268	23
Leeds	294	51	44	66	338	53	187	53
Newcastle	56	41	11	100	67	51	164	63
Royal Free	172	34	29	72	201	39	160	29
Total	1718	53	260	76	1978	56	1436	38
B. DBD donors aged ≤ 65 years and DCD donors aged ≤ 60 years								
Birmingham	264	49	49	65	313	51	139	24
Cambridge	158	49	30	63	188	52	140	19
Edinburgh	157	64	63	100	220	75	130	55
King's College	265	53	34	68	299	55	156	25
Leeds	216	45	44	66	260	49	135	47
Newcastle	44	39	11	100	55	51	106	61
Royal Free	121	29	29	72	150	37	100	26
Total	1225	49	260	76	1485	54	906	36

3.2.2 Transplant activity

Figure 3.13 shows the number of first liver only transplants from deceased and living or domino donors performed in the last ten years, by type of donor. **Figure 3.14** shows the same information by centre. Dublin are included in **Figure 3.14** but not **Figure 3.13**. Please note that living liver transplants performed at London Bridge and Cromwell Hospitals are included in **Figure 3.13** but not in **Figure 3.14**.

All centres apart from Edinburgh, King's College and Leeds observed a decrease in the number of adult elective first liver only transplants performed in 2025/2026 compared with 2024/2025.



The demographic characteristics of 700 adult [elective](#) first deceased donor liver only transplant recipients in the UK, and 29 in Dublin, respectively, in the latest year are shown by centre and overall in **Table 3.4**. The profile of recipients is similar to those in **Table 3.2** which shows the demographics of patients registered. Donors were mostly white (88%), male (56%), [DBD](#) (59%) with a [median](#) age of 55 years and a median BMI of 27 kg/m². For some characteristics, due to rounding, percentages may not add up to 100.

Table 3.4 Demographic characteristics of adult elective first deceased donor liver only transplant recipients, 1 April 2025 - 31 March 2026

		Birmingham	Cambridge	Edinburgh	King's College	Leeds	Newcastle	Royal Free	UK	Dublin
		N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Number		135	93	64	193	92	27	96	700	29
Recipient sex	Male	83 (61)	58 (62)	39 (61)	116 (60)	54 (59)	15 (56)	65 (68)	430 (61)	21 (72)
	Female	52 (39)	35 (38)	25 (39)	77 (40)	38 (41)	12 (44)	31 (32)	270 (39)	8 (28)
Recipient ethnicity	White	111 (82)	82 (88)	62 (97)	159 (82)	81 (88)	26 (96)	79 (82)	600 (86)	28 (97)
	Asian	8 (6)	4 (4)	0	14 (7)	9 (10)	1 (4)	13 (14)	49 (7)	1 (3)
	Black	4 (3)	1 (1)	2 (3)	17 (9)	0	0	3 (3)	27 (4)	0
	Other	3 (2)	0	0	2 (1)	0	0	1 (1)	6 (1)	0
	Not reported	9 (7)	6 (6)	0	1 (1)	2 (2)	0	0	18 (3)	0
Indication	Acute on Chronic Liver Failure (ACLF)	5 (4)	5 (5)	2 (3)	6 (3)	3 (3)	1 (4)	3 (3)	25 (4)	0
	Cancer	7 (5)	16 (17)	11 (17)	22 (11)	27 (29)	7 (26)	11 (11)	101 (14)	7 (24)
	Hepatitis C	3 (2)	2 (2)	0	2 (1)	0	0	2 (2)	9 (1)	0
	Alcoholic liver disease	49 (36)	17 (18)	21 (33)	55 (28)	29 (32)	5 (19)	30 (31)	206 (29)	6 (21)
	Hepatitis B	2 (1)	0	0	5 (3)	1 (1)	0	2 (2)	10 (1)	1 (3)
	Primary sclerosing cholangitis	16 (12)	11 (12)	9 (14)	25 (13)	11 (12)	4 (15)	13 (14)	89 (13)	10 (34)
	Primary biliary cholangitis	7 (5)	9 (10)	6 (9)	13 (7)	6 (7)	1 (4)	9 (9)	51 (7)	3 (10)
	Autoimmune and cryptogenic disease	16 (12)	4 (4)	3 (5)	20 (10)	5 (5)	1 (4)	4 (4)	53 (8)	1 (3)
	Metabolic	16 (12)	20 (22)	9 (14)	21 (11)	5 (5)	3 (11)	9 (9)	83 (12)	1 (3)
	Other	14 (10)	9 (10)	3 (5)	24 (12)	5 (5)	5 (19)	13 (14)	73 (10)	0
Recipient HCV status	Negative	126 (93)	75 (81)	62 (97)	179 (93)	85 (92)	25 (93)	91 (95)	643 (92)	26 (90)
	Positive	8 (6)	6 (6)	1 (2)	4 (2)	4 (4)	1 (4)	5 (5)	29 (4)	1 (3)
	Not reported	1 (1)	12 (13)	1 (2)	8 (4)	3 (3)	1 (4)	0	26 (4)	2 (7)

Table 3.4 Demographic characteristics of adult elective first deceased donor liver only transplant recipients, 1 April 2025 - 31 March 2026

		Birmingham	Cambridge	Edinburgh	King's College	Leeds	Newcastle	Royal Free	UK	Dublin
Pre-transplant in-patient status	Out-patient	109 (81)	67 (72)	56 (88)	181 (94)	82 (89)	23 (85)	86 (90)	604 (86)	23 (79)
	In-patient	26 (19)	23 (25)	8 (13)	12 (6)	10 (11)	3 (11)	10 (10)	92 (13)	6 (21)
	Not reported	0	3 (3)	0	0	0	1 (4)	0	4 (1)	0
Ascites	Absence	49 (36)	33 (35)	29 (45)	75 (39)	52 (57)	10 (37)	52 (54)	300 (43)	16 (55)
	Presence	86 (64)	54 (58)	34 (53)	117 (61)	38 (41)	16 (59)	44 (46)	389 (56)	13 (45)
	Not reported	0	6 (6)	1 (2)	1 (1)	2 (2)	1 (4)	0	11 (2)	0
Encephalopathy	Absence	96 (71)	52 (56)	46 (72)	127 (66)	57 (62)	22 (81)	67 (70)	467 (67)	27 (93)
	Presence	37 (27)	35 (38)	16 (25)	64 (33)	29 (32)	4 (15)	27 (28)	212 (30)	2 (7)
	Not reported	2 (1)	6 (6)	2 (3)	2 (1)	6 (7)	1 (4)	2 (2)	21 (3)	0
Pre-transplant renal support	No	123 (91)	40 (43)	62 (97)	183 (95)	85 (92)	24 (89)	91 (95)	608 (87)	29 (100)
	Yes	12 (9)	8 (9)	2 (3)	10 (5)	2 (2)	1 (4)	5 (5)	40 (6)	0
	Not reported	0	45 (48)	0	0	5 (5)	2 (7)	0	52 (7)	0
Previous abdominal surgery	No	133 (99)	54 (58)	60 (94)	190 (98)	79 (86)	23 (85)	84 (88)	623 (89)	29 (100)
	Yes	2 (1)	27 (29)	3 (5)	3 (2)	12 (13)	3 (11)	12 (13)	62 (9)	0
	Not reported	0	12 (13)	1 (2)	0	1 (1)	1 (4)	0	15 (2)	0
Varices & shunt	Absence	63 (47)	17 (18)	9 (14)	69 (36)	32 (35)	5 (19)	6 (6)	201 (29)	13 (45)
	Presence without treatment	37 (27)	63 (68)	51 (80)	113 (59)	38 (41)	19 (70)	86 (90)	407 (58)	16 (55)
	Presence with surgical shunt	0	1 (1)	1 (2)	0	0	0	0	2 (0)	0
	Presence with TIPS	0	4 (4)	2 (3)	11 (6)	0	0	4 (4)	21 (3)	0
	Not reported	35 (26)	8 (9)	1 (2)	0	22 (24)	3 (11)	0	69 (10)	0
Lifestyle activity	Normal	37 (27)	5 (5)	8 (13)	31 (16)	30 (33)	4 (15)	38 (40)	153 (22)	4 (14)
	Restricted	58 (43)	34 (37)	21 (33)	41 (21)	43 (47)	7 (26)	33 (34)	237 (34)	11 (38)
	Self-care	36 (27)	34 (37)	29 (45)	108 (56)	16 (17)	14 (52)	17 (18)	254 (36)	9 (31)
	Confined	2 (1)	7 (8)	4 (6)	5 (3)	0	1 (4)	2 (2)	21 (3)	3 (10)
	Reliant	2 (1)	2 (2)	2 (3)	8 (4)	3 (3)	1 (4)	5 (5)	23 (3)	2 (7)
	Not reported	0	11 (12)	0	0	0	0	1 (1)	12 (2)	0
Graft appearance	Normal	118 (87)	60 (65)	57 (89)	123 (64)	75 (82)	27 (100)	82 (85)	542 (77)	24 (83)
	Abnormal	17 (13)	29 (31)	5 (8)	69 (36)	15 (16)	0	13 (14)	148 (21)	5 (17)
	Not reported	0	4 (4)	2 (3)	1 (1)	2 (2)	0	1 (1)	10 (1)	0
Recipient age (years)	Median (IQR)	54 (45,63)	59 (52,64)	59 (53,64)	57 (44,62)	60 (49,65)	59 (44,67)	54 (45,59)	57 (47,63)	53 (44,61)

Table 3.4 Demographic characteristics of adult elective first deceased donor liver only transplant recipients, 1 April 2025 - 31 March 2026

		Birmingham	Cambridge	Edinburgh	King's College	Leeds	Newcastle	Royal Free	UK	Dublin
BMI (kg/m ²)	Median (IQR)	28 (25,33)	29 (25,33)	28 (24,32)	27 (23,30)	28 (24,32)	27 (24,32)	26 (23,30)	28 (24,32)	25 (21,30)
	Not reported	0	1	0	0	0	0	0	1	0
Serum bilirubin (umol/l)	Median (IQR)	64 (30,117)	39 (23,66)	46 (23,100)	36 (19,85)	62 (31,133)	29 (13,76)	52 (27,91)	47 (23,96)	51 (14,90)
	Not reported	0	4	0	2	1	0	0	7	0
Serum creatinine (umol/l)	Median (IQR)	72 (56,90)	72 (58,88)	85 (59,112)	68 (60,91)	67 (56,86)	69 (59,86)	83 (68,100)	73 (60,93)	74 (61,89)
	Not reported	0	3	0	2	2	0	0	7	0
Serum sodium (mmol/l)	Median (IQR)	137	138	136	137	138	138	137	137	137
	Not reported	(134,140)	(134,141)	(132,139)	(134,140)	(134,140)	(136,140)	(134,140)	(134,140)	(135,140)
Serum potassium (mmol/l)	Median (IQR)	4.1 (3.8,4.6)	4.2 (3.8,4.5)	4.4 (4.0,4.7)	4.1 (3.9,4.5)	4.1 (3.8,4.4)	4.1 (3.7,4.3)	4.3 (3.9,4.6)	4.2 (3.8,4.5)	4.1 (3.8,4.5)
	Not reported	2	3	1	2	2	0	0	10	0
INR	Median (IQR)	1.6 (1.4,1.8)	1.4 (1.2,1.7)	1.3 (1.1,1.6)	1.2 (1.1,1.4)	1.5 (1.2,1.8)	1.2 (1.1,1.6)	1.3 (1.1,1.5)	1.4 (1.2,1.7)	1.2 (1.0,1.3)
	Not reported	2	7	1	2	6	0	0	18	0
Serum albumin (g/l)	Median (IQR)	29 (24,34)	29 (25,32)	28 (24,33)	31 (27,35)	27 (22,31)	35 (30,40)	36 (32,40)	30 (25,35)	30 (24,36)
	Not reported	0	3	1	2	1	0	0	7	0
Total preservation time (hrs)	Median (IQR)	6 (5,9)	8 (6,10)	10 (9,11)	8 (6,9)	8 (6,10)	11 (10,12)	7 (6,9)	8 (6,10)	7 (5,8)
	Not reported	0	5	0	1	1	0	1	8	0
Time on list (days)	Median (IQR)	148 (21,398)	52 (16,139)	60 (21,257)	119 (35,311)	86 (26,211)	36 (13,139)	39 (11,124)	88 (18,239)	239 (121,377)
Donor sex	Male	81 (60)	55 (59)	37 (58)	106 (55)	54 (59)	17 (63)	63 (66)	413 (59)	15 (52)
	Female	54 (40)	38 (41)	27 (42)	87 (45)	38 (41)	10 (37)	33 (34)	287 (41)	7 (24)
	Not reported	0	0	0	0	0	0	0	0	7 (24)
Donor ethnicity	White	116 (86)	81 (87)	59 (92)	170 (88)	84 (91)	24 (89)	79 (82)	613 (88)	0
	Asian	4 (3)	1 (1)	0	6 (3)	6 (7)	0	7 (7)	24 (3)	0
	Black	3 (2)	4 (4)	0	6 (3)	1 (1)	1 (4)	1 (1)	16 (2)	0
	Other	2 (1)	1 (1)	1 (2)	4 (2)	0	1 (4)	5 (5)	14 (2)	0
	Not reported	10 (7)	6 (6)	4 (6)	7 (4)	1 (1)	1 (4)	4 (4)	33 (5)	29 (100)
Donor cause of death	Intracranial	125 (93)	74 (80)	58 (91)	174 (90)	81 (88)	24 (89)	87 (91)	623 (89)	0
	Trauma	1 (1)	4 (4)	0	8 (4)	2 (2)	1 (4)	1 (1)	17 (2)	0
	Others	9 (7)	15 (16)	6 (9)	11 (6)	9 (10)	2 (7)	8 (8)	60 (9)	29 (100)
Donor history of diabetes	No	119 (88)	80 (86)	56 (88)	162 (84)	86 (93)	24 (89)	76 (79)	603 (86)	0
	Yes	15 (11)	13 (14)	7 (11)	28 (15)	6 (7)	2 (7)	16 (17)	87 (12)	0
	Not reported	1 (1)	0	1 (2)	3 (2)	0	1 (4)	4 (4)	10 (1)	29 (100)

Table 3.4 Demographic characteristics of adult elective first deceased donor liver only transplant recipients, 1 April 2025 - 31 March 2026

		Birmingham	Cambridge	Edinburgh	King's College	Leeds	Newcastle	Royal Free	UK	Dublin
Donor type	Donor after brain death	75 (56)	34 (37)	30 (47)	90 (47)	59 (64)	12 (44)	56 (58)	356 (51)	29 (100)
	Donor after circulatory death	60 (44)	59 (63)	34 (53)	103 (53)	33 (36)	15 (56)	40 (42)	344 (49)	0
ABO match	Identical	130 (96)	87 (94)	60 (94)	190 (98)	90 (98)	23 (85)	93 (97)	673 (96)	26 (90)
	Compatible	4 (3)	6 (6)	4 (6)	3 (2)	2 (2)	3 (11)	3 (3)	25 (4)	0
	Not reported	1 (1)	0	0	0	0	1 (4)	0	2 (0)	3 (10)
Graft type	Whole	128 (95)	89 (96)	64 (100)	185 (96)	86 (93)	27 (100)	93 (97)	672 (96)	29 (100)
	Reduced	0	0	0	0	0	0	0	0	0
	Segmental	7 (5)	4 (4)	0	8 (4)	6 (7)	0	3 (3)	28 (4)	0
Donor age (years)	Median (IQR)	57 (46,65)	51 (39,63)	56 (46,66)	57 (44,67)	49 (39,62)	47 (33,61)	55 (44,67)	55 (42,65)	41 (32,60)
Donor BMI (kg/m ²)	Median (IQR)	27 (24,31)	29 (24,33)	27 (24,31)	27 (24,31)	27 (23,29)	25 (24,28)	26 (23,29)	27 (24,31)	25 (23,29)

3.2.3 Post-transplant survival

LONG-TERM PATIENT SURVIVAL

Table 3.5 shows one year [unadjusted](#) and [risk-adjusted patient survival](#) for 2107 of the 2619 transplants in the period, 1 April 2021 to 31 March 2025. Transplants were excluded if they were [auxiliary](#), or if survival information or [risk factors](#) were missing. The overall patient survival rate is 95.1% and, after risk adjustment, one centre reached the upper 95% [confidence limit](#), as shown in **Figure 3.15**.

Centre	Number of transplants	1-year survival % (95% CI)			
		Unadjusted		Risk-adjusted	
Newcastle	133	97.6	92.8 - 99.2	96.8	90.1 - 99.0
Leeds	239	92.4	88.1 - 95.1	92.2	87.7 - 95.1
Cambridge	274	95.4	92.0 - 97.4	95.8	92.5 - 97.6
Royal Free	329	94.4	91.3 - 96.4	93.8	90.2 - 96.1
King's College	522	96.9	94.9 - 98.1	96.7	94.6 - 98.0
Birmingham	394	94.4	91.5 - 96.2	95.0	92.5 - 96.7
Edinburgh	216	94.0	89.8 - 96.5	94.4	90.3 - 96.7
Total	2107	95.1	94.0 - 95.9		

	Centre has reached the lower 99.8% confidence limit
	Centre has reached the lower 95% confidence limit
	Centre has reached the upper 95% confidence limit
	Centre has reached the upper 99.8% confidence limit

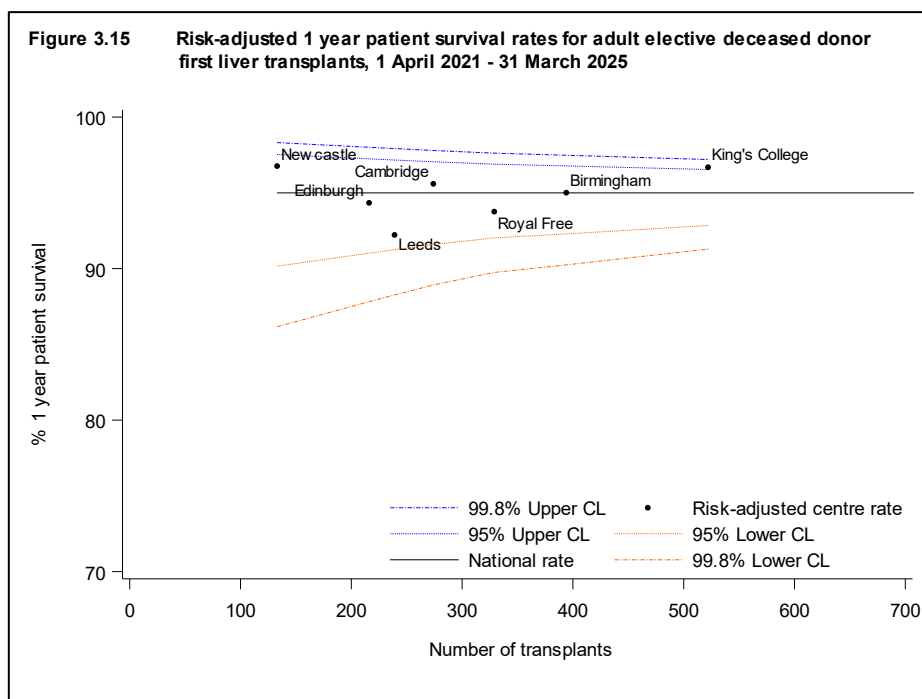


Table 3.6 shows the five year [unadjusted](#) and [risk-adjusted patient survival](#) for 2543 of the 2710 transplants in the period, 1 April 2017 to 31 March 2021. The national rate is 84.2% and all centres were within the 95% [confidence limits](#), as shown in **Figure 3.16**. The median number of days between the last known follow-up post-transplantation (for censored cases) and the time of analysis in **Table 3.6** and **Figure 3.16** ranges from 309 days for Birmingham to 757 days for Edinburgh. The medians for all other centres fall in between these extremes. Results should therefore be interpreted in that light.

Table 3.6 Five year patient survival for adult elective deceased donor first liver transplants, 1 April 2017 - 31 March 2021					
Centre	Number of transplants	5-year survival % (95% CI)			
		Unadjusted		Risk-adjusted	
Newcastle	101	83.7	74.7 - 89.7	85.3	76.0 - 91.0
Leeds	329	82.4	77.8 - 86.1	82.7	77.6 - 86.7
Cambridge	323	85.3	80.9 - 88.8	87.3	83.1 - 90.5
Royal Free	374	82.0	77.7 - 85.6	80.4	75.0 - 84.6
King's College	596	86.5	83.3 - 89.1	86.1	82.5 - 88.9
Birmingham	556	84.7	81.4 - 87.5	83.6	79.7 - 86.8
Edinburgh	277	83.2	77.6 - 87.4	84.5	78.9 - 88.7
Total	2556	84.3	82.8 - 85.7		
Centre has reached the lower 99.8% confidence limit Centre has reached the lower 95% confidence limit Centre has reached the upper 95% confidence limit Centre has reached the upper 99.8% confidence limit					

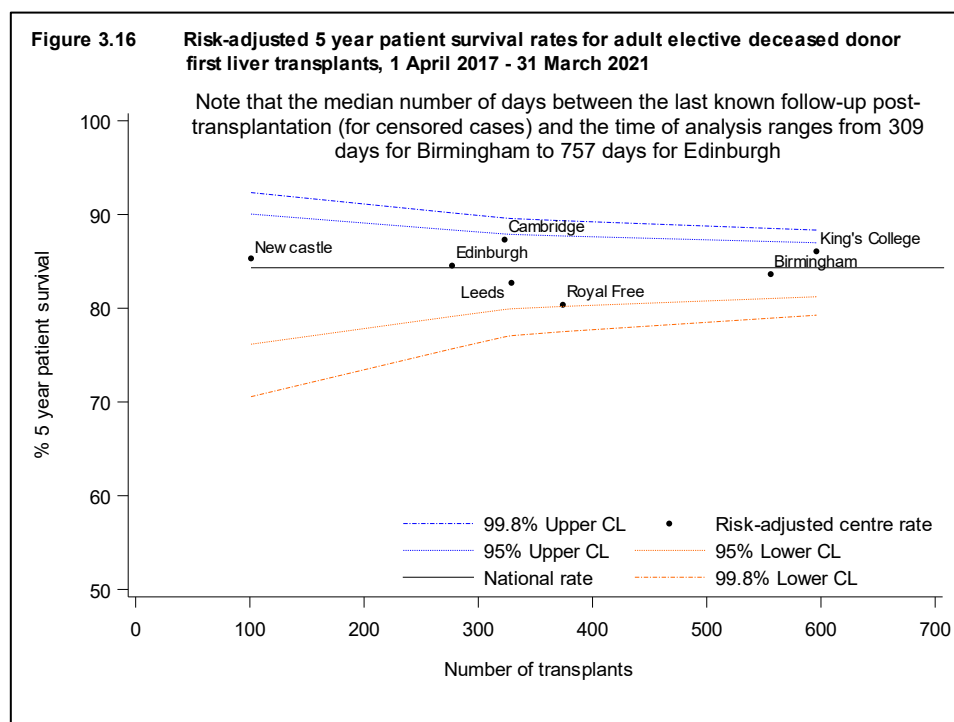


Table 3.7 shows one year [unadjusted](#) and [risk-adjusted patient survival](#), by primary disease group. The overall patient survival rate is 95.0% and, after risk adjustment, patients with primary biliary cirrhosis, metabolic disease or other liver disease had lower survival than the national rate.

Table 3.7 One year patient survival for adult elective deceased donor first liver transplants, 1 April 2021 - 31 March 2025				
Primary disease	Number of transplants	1-year survival % (95% CI)		
		Unadjusted		Risk adjusted
Cancer	285	94.2	(90.7 - 96.4)	95.4 (92.4 - 97.2)
Hepatitis B and C	105	93.2	(86.3 - 96.7)	95.7 (91.0 - 97.9)
Alcoholic liver disease	656	96.2	(94.4 - 97.5)	96.2 (94.3 - 97.4)
Primary sclerosing cirrhosis	295	96.5	(93.6 - 98.1)	96.0 (92.5 - 97.8)
Primary biliary cirrhosis	158	93.0	(87.7 - 96.0)	91.3 (84.2 - 95.2)
Autoimmune and cryptogenic	151	96.6	(92.1 - 98.6)	95.9 (90.0 - 98.3)
Metabolic	313	94.8	(91.6 - 96.8)	94.7 (91.4 - 96.8)
Other	144	90.8	(84.7 - 94.5)	89.6 (82.1 - 94.0)
Total	2107	95.1	(94.0 - 95.9)	

Table 3.8 shows five year [unadjusted](#) and [risk-adjusted patient survival](#), the overall patient survival rate is 84.3%. After risk adjustment, patients with cancer, primary sclerosing cirrhosis, autoimmune and cryptogenic, metabolic or other liver disease had lower survival than the national rate.

Table 3.8 Five year patient survival for adult elective deceased donor first liver transplants, 1 April 2017 - 31 March 2021				
Primary disease	Number of transplants	5-year survival % (95% CI)		
		Unadjusted		Risk adjusted
Cancer	500	77.3	(73.3 - 80.8)	81.8 (78.1 - 84.9)
Hepatitis B and C	119	93.0	(86.5 - 96.4)	92.9 (85.8 - 96.5)
Alcoholic liver disease	702	86.7	(83.9 - 89.1)	86.9 (83.9 - 89.4)
Primary sclerosing cirrhosis	314	85.3	(80.8 - 88.9)	82.8 (76.9 - 87.2)
Primary biliary cirrhosis	221	89.7	(84.8 - 93.1)	89.0 (83.3 - 92.7)
Autoimmune and cryptogenic	195	85.6	(79.7 - 89.9)	81.4 (72.9 - 87.3)
Metabolic	340	80.3	(75.5 - 84.3)	80.5 (75.1 - 84.8)
Other	165	86.1	(79.6 - 90.6)	83.4 (74.8 - 89.1)
Total	2556	84.3	(82.8 - 85.7)	

3.2.4 Survival from listing

Table 3.9A shows one year [unadjusted](#) and [risk-adjusted](#) survival from listing for patients aged 17 years or over registered for the first time for a liver transplant in the UK between 1 April 2021 to 31 March 2025. The overall one year survival from listing rate is 89.6% and, after risk adjustment. All centres lie within the 95% [confidence limits](#), as shown in **Figure 3.17**. Dublin are not included in **Table 3.9A** and **Figure 3.17**.

Table 3.9A 1 year patient survival rate from listing for adult elective first liver registrations, 1 April 2021 - 31 March 2025						
Centre	Number of registrations	Number at risk at 1 year	1 year patient survival % (95% CI)			
			Unadjusted		Risk-adjusted	
Newcastle	155	118	92.5	(86.9 - 95.8)	90.2	(87.0 - 92.7)
Leeds	494	387	87.5	(84.2 - 90.1)	88.7	(85.6 - 91.1)
Cambridge	421	297	90.6	(87.3 - 93.1)	90.5	(87.7 - 92.6)
Royal Free	435	324	92.0	(88.9 - 94.2)	90.4	(87.6 - 92.6)
King's College	749	607	91.3	(89.0 - 93.1)	90.2	(88.0 - 92.0)
Birmingham	725	572	89.0	(86.4 - 91.1)	89.3	(87.1 - 91.1)
Edinburgh	321	238	84.9	(80.5 - 88.4)	88.4	(84.6 - 91.3)
UK	3300	2543	89.6	(88.5 - 90.6)		

Centre has reached the lower 99.8% confidence limit
 Centre has reached the lower 95% confidence limit
 Centre has reached the upper 95% confidence limit
 Centre has reached the upper 99.8% confidence limit

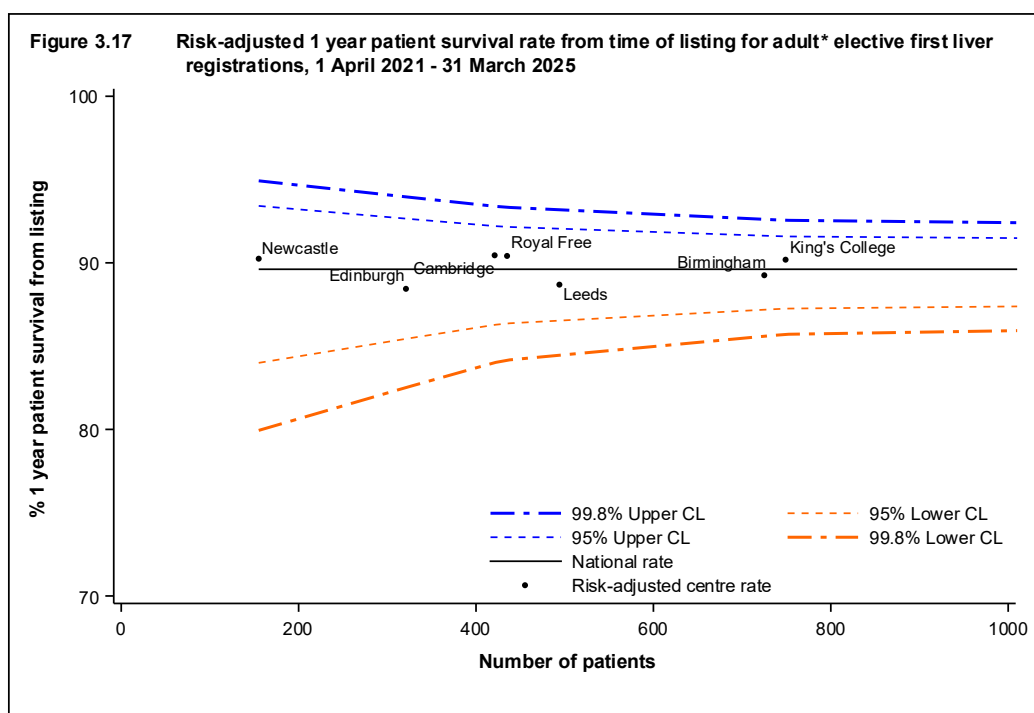
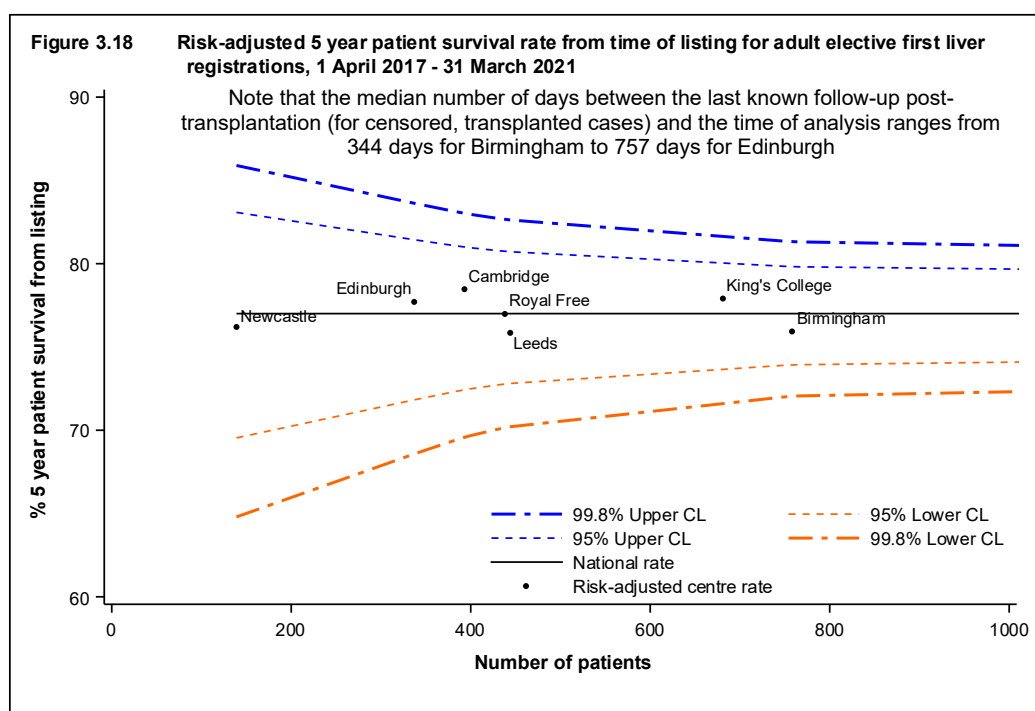


Table 3.9B shows five year [unadjusted](#) and [risk-adjusted](#) survival from listing for patients aged 17 years or over registered for the first time for a liver transplant in the UK between 1 April 2017 to 31 March 2021. The overall five year survival from listing rate is 77.0% and, after risk adjustment, all centres lie within the 95% [confidence limits](#), as shown in **Figure 3.18**. Dublin are not included in **Table 3.9B** and **Figure 3.18**.

Note, however, that the median number of days between the last known follow-up post-transplantation (for censored, transplanted cases) and the time of analysis in **Figure 3.18** ranges from 344 days for Birmingham to 757 days for Edinburgh. The medians for all other centres fall in between these extremes. Results should therefore be interpreted in that light.

Centre	Number of registrations	Number at risk at 5 year	5 year patient survival % (95% CI)			
			Unadjusted		Risk-adjusted	
Newcastle	139	67	70.9	(62.3 - 77.8)	76.2	(71.4 - 80.2)
Leeds	444	245	73.8	(69.2 - 77.8)	75.8	(71.4 - 79.6)
Cambridge	393	174	78.7	(74.0 - 82.6)	78.5	(73.9 - 82.3)
Royal Free	438	260	77.2	(72.8 - 81.0)	77.0	(73.7 - 79.9)
King's College	681	388	79.8	(76.4 - 82.7)	77.9	(74.5 - 80.8)
Birmingham	758	451	76.1	(72.8 - 79.1)	75.9	(72.3 - 79.1)
Edinburgh	337	151	77.9	(72.6 - 82.2)	77.7	(73.9 - 80.9)
UK	3190	1736	77.0	(75.4 - 78.5)		

	Centre has reached the lower 99.8% confidence limit
	Centre has reached the lower 95% confidence limit
	Centre has reached the upper 95% confidence limit
	Centre has reached the upper 99.8% confidence limit



Adult Liver Transplantation Super-Urgent Patients

3.3.1 Transplant list

Table 3.10 shows the [median waiting time](#) to deceased donor liver only transplant for adult [super-urgent](#) patients. The national median waiting time to transplant is two days. Four of the seven centres have median waiting time of two days.

Table 3.10 Median waiting time to liver only transplant in the UK, for adult super urgent patients registered 1 April 2023 - 31 March 2025			
Transplant centre	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Adult			
Cambridge	27	2	1 - 3
King's College	30	2	1 - 3
Birmingham	36	2	1 - 3
Edinburgh	24	2	1 - 3
Newcastle	13	3	2 - 4
Leeds	29	3	2 - 4
Royal Free	28	3	2 - 4
UK	187	2	2 - 2
Dublin	9	4	3 - 5

The demographic characteristics of 101 adult [super-urgent](#) registrations in the UK, and 3 in Dublin, in the last financial year are shown by centre and overall in **Table 3.11**. Of patients listed for a super-urgent liver in the UK, 50% were male and the median age was 44 years with a median BMI of 27 kg/m². For some characteristics, due to rounding, percentages may not add up to 100.

Table 3.11 Demographic characteristics of adult super urgent liver patients registered from 1 April 2025 - 31 March 2026

		Birmingham	Cambridge	Edinburgh	King's college	Leeds	Newcastle	Royal Free	UK	Dublin
		N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Number		13	20	15	16	18	4	15	101	3
Recipient sex	Male	7 (54)	7 (35)	12 (80)	6 (38)	10 (56)	2 (50)	6 (40)	50 (50)	1 (33)
	Female	6 (46)	13 (65)	3 (20)	10 (63)	8 (44)	2 (50)	9 (60)	51 (50)	2 (67)
Recipient ethnicity	White	9 (69)	18 (90)	11 (73)	13 (81)	14 (78)	4 (100)	9 (60)	78 (77)	3 (100)
	Asian	2 (15)	0 (0)	1 (7)	0 (0)	2 (11)	0 (0)	4 (27)	9 (9)	0 (0)
	Black	2 (15)	1 (5)	3 (20)	2 (13)	1 (6)	0 (0)	1 (7)	10 (10)	0 (0)
	Other	0 (0)	0 (0)	0 (0)	0 (0)	1 (6)	0 (0)	1 (7)	2 (2)	0 (0)
	Not reported	0 (0)	1 (5)	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)	2 (2)	0 (0)
Recipient HCV	No	13 (100)	20 (100)	15 (100)	16 (100)	18 (100)	4 (100)	15 (100)	101 (100)	3 (100)
	Yes	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Encephalopathy	Absence	3 (23)	3 (15)	1 (7)	1 (6)	1 (6)	1 (25)	9 (60)	19 (19)	0 (0)
	Presence	10 (77)	15 (75)	9 (60)	14 (88)	16 (89)	2 (50)	4 (27)	70 (69)	2 (67)
	Not reported	0 (0)	2 (10)	5 (33)	1 (6)	1 (6)	1 (25)	2 (13)	12 (12)	1 (33)
Renal support	No	8 (62)	9 (45)	4 (27)	3 (19)	6 (33)	1 (25)	5 (33)	36 (36)	3 (100)
	Yes	5 (38)	11 (55)	11 (73)	12 (75)	12 (67)	3 (75)	10 (67)	64 (63)	0 (0)
	Not reported	0 (0)	0 (0)	0 (0)	1 (6)	0 (0)	0 (0)	0 (0)	1 (1)	0 (0)
Age (years)	Median (IQR)	40 (27, 51)	33 (23, 46)	50 (29, 60)	38 (26, 52)	52 (27, 61)	44 (29.5, 55)	59 (45, 63)	44 (27, 58)	57 (44, 57)
BMI (kg/m ²)	Median (IQR)	24 (21, 27)	27 (22, 31)	27 (22, 31)	26 (22, 29)	26.5 (24, 32)	28.5 (27, 30.5)	26 (24, 31)	27 (23, 30)	32 (26, 44)
Serum bilirubin (umol/l)	Median (IQR)	182 (109, 402)	114 (54, 225)	74 (42, 480)	231 (124, 357)	217 (115, 357)	205 (46.5, 403)	87 (30, 301)	135 (70, 358)	470 (420, 529)
	Not reported	0	1	0	0	1	0	0	2	0
Serum creatinine (umol/l)	Median (IQR)	64 (48, 101)	82 (59, 208)	213 (92, 250)	101 (55, 110)	83.5 (52, 156)	314 (99, 375)	108 (81, 147)	96.5 (63, 178)	85 (66, 104)
	Not reported	1	5	0	4	0	1	0	11	1
Serum sodium (mmol/l)	Median (IQR)	138 (132, 140)	139 (135, 143)	138 (132, 149)	130 (137, 143)	138 (131, 140)	139 (134, 145)	138 (133, 142)	139 (135, 142)	135 (135, 135)
	Not reported	0	1	0	0	0	0	0	1	0
Serum potassium (mmol/l)	Median (IQR)	4 (3.6, 4.5)	4.5 (3.8, 4.6)	4.9 (3.9, 5.5)	4.5 (4.3, 5)	4.2 (3.8, 4.4)	4.4 (4, 4.8)	4.6 (4.4, 5.1)	4.4 (4, 4.9)	3.5 (3.3, 4.1)
	Not reported	0	1	0	0	0	0	0	1	0

Table 3.11 Demographic characteristics of adult super urgent liver patients registered from 1 April 2025 - 31 March 2026

		Birmingham N (%)	Cambridge N (%)	Edinburgh N (%)	King's college N (%)	Leeds N (%)	Newcastle N (%)	Royal Free N (%)	UK N (%)	Dublin N (%)
INR	Median (IQR)	2.9 (2.3, 5.1)	6.4 (2.4, 10.5)	1.7 (1.6, 5.9)	3 (2.3, 4.5)	4 (2.4, 8.8)	5.1 (3.9, 6.2)	2.4 (1.5, 3.6)	3 (2, 6.4)	2.2 (1.2, 2.4)
	Not reported	0	1	0	0	0	2	0	3	0
Serum albumin (g/l)	Median (IQR)	22 (18, 25)	22 (20, 24)	24 (22, 26)	24 (20, 27)	25 (21, 31)	27 (27, 28)	30 (25, 33)	24 (20, 27)	19 (16, 19)
	Not reported	0	1	0	0	1	0	0	2	0

3.2.2 Transplant activity

Figure 3.19 shows the number of UK adult [super-urgent](#) first liver only transplants from deceased and living donors performed in the UK in the last ten years, by type of donor. There have been 12 DCD super-urgent transplants during the ten year period and no adult super-urgent liver only transplants from living donors. Dublin are not included.

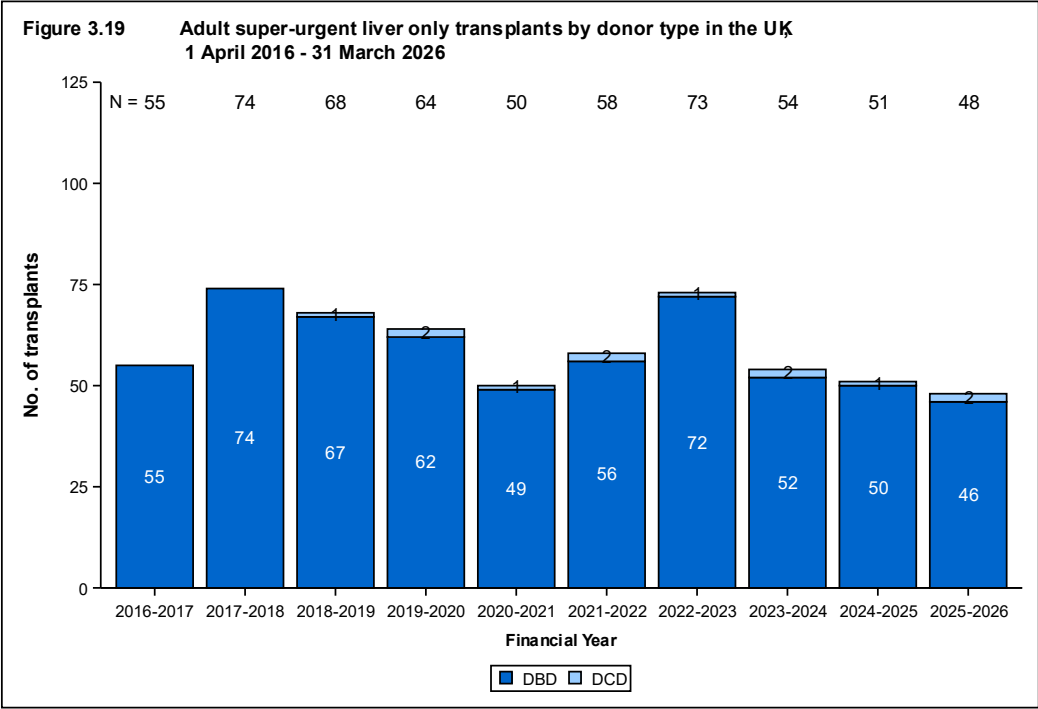
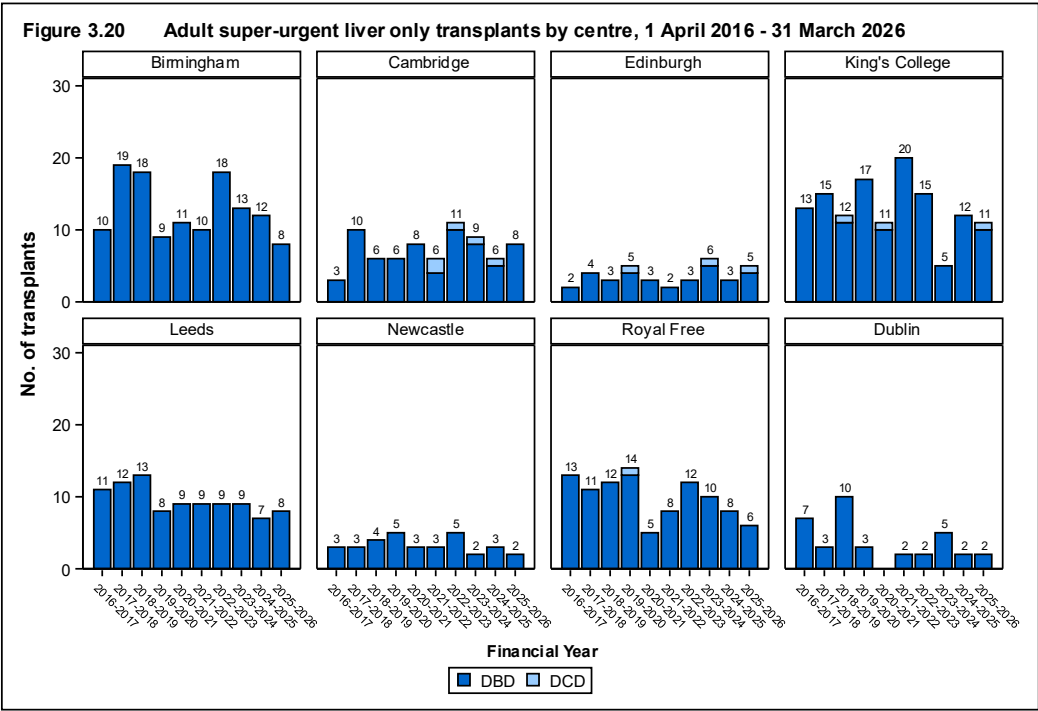


Figure 3.20 shows the number of adult [super-urgent](#) first liver only transplants from deceased and living donors performed in the last ten years, by type of donor and UK and Rol transplant centre.



The demographic characteristics of 48 adult [super-urgent](#) transplant recipients in the UK and 2 in Dublin in the last financial year are shown by centre and overall in **Table 3.12**. Of UK recipients, 56% were female and the [median](#) age was 40 years with a median BMI of 27 kg/m². All but two super-urgent transplants were performed in this time period from a [DBD](#) donor. For some characteristics, due to rounding, percentages may not add up to 100.

Table 3.12 Demographic characteristics of adult super-urgent deceased donor liver transplant recipients, 1 April 2025 - 31 March 2026

		Birmingham	Cambridge	Edinburgh	King's College	Leeds	Newcastle	Royal Free	UK	Dublin
		N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Number		8	8	5	11	8	2	6	48	2
Recipient sex	Male	5 (63)	2 (25)	4 (80)	3 (27)	4 (50)	2 (100)	1 (17)	21 (44)	1 (50)
	Female	3 (38)	6 (75)	1 (20)	8 (73)	4 (50)	0	5 (83)	27 (56)	1 (50)
Recipient ethnicity	White	5 (63)	8 (100)	5 (100)	10 (91)	4 (50)	2 (100)	2 (33)	36 (75)	2 (100)
	Asian	1 (13)	0	0	0	2 (25)	0	3 (50)	6 (13)	0
	Black	2 (25)	0	0	1 (9)	1 (13)	0	0	4 (8)	0
	Other	0	0	0	0	1 (13)	0	1 (17)	2 (4)	0
Recipient HCV status	Negative	8 (100)	7 (88)	4 (80)	11 (100)	7 (88)	2 (100)	6 (100)	45 (94)	1 (50)
	Positive	0	0	1 (20)	0	0	0	0	1 (2)	0
	Not reported	0	1 (13)	0	0	1 (13)	0	0	2 (4)	1 (50)
Pre-transplant in-patient status	Out-patient	0	0	0	0	0	1 (50)	0	1 (2)	1 (50)
	In-patient	8 (100)	7 (88)	5 (100)	11 (100)	8 (100)	1 (50)	6 (100)	46 (96)	1 (50)
	Not reported	0	1 (13)	0	0	0	0	0	1 (2)	0
Ascites	Absence	2 (25)	3 (38)	4 (80)	8 (73)	5 (63)	2 (100)	2 (33)	26 (54)	0
	Presence	6 (75)	4 (50)	1 (20)	3 (27)	3 (38)	0	4 (67)	21 (44)	2 (100)
	Not reported	0	1 (13)	0	0	0	0	0	1 (2)	0
Encephalopathy	Absence	2 (25)	1 (13)	1 (20)	2 (18)	0	0	2 (33)	8 (17)	0
	Presence	4 (50)	6 (75)	4 (80)	9 (82)	8 (100)	2 (100)	4 (67)	37 (77)	2 (100)
	Not reported	2 (25)	1 (13)	0	0	0	0	0	3 (6)	0
Pre-transplant renal support	No	3 (38)	0	1 (20)	0	3 (38)	0	3 (50)	10 (21)	2 (100)
	Yes	5 (63)	7 (88)	4 (80)	11 (100)	5 (63)	2 (100)	3 (50)	37 (77)	0
	Not reported	0	1 (13)	0	0	0	0	0	1 (2)	0
Previous abdominal surgery	No	8 (100)	4 (50)	5 (100)	11 (100)	8 (100)	2 (100)	5 (83)	43 (90)	2 (100)
	Yes	0	0	0	0	0	0	1 (17)	1 (2)	0
	Not reported	0	4 (50)	0	0	0	0	0	4 (8)	0
Varices & shunt	Absence	3 (38)	4 (50)	2 (40)	8 (73)	1 (13)	1 (50)	0	19 (40)	2 (100)
	Presence without treatment	1 (13)	1 (13)	3 (60)	2 (18)	4 (50)	1 (50)	6 (100)	18 (38)	0
	Not reported	4 (50)	3 (38)	0	1 (9)	3 (38)	0	0	11 (23)	0

Table 3.12 Demographic characteristics of adult super-urgent deceased donor liver transplant recipients, 1 April 2025 - 31 March 2026

		Birmingham	Cambridge	Edinburgh	King's College	Leeds	Newcastle	Royal Free	UK	Dublin
		N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Lifestyle activity	Normal	0	0	0	0	2 (25)	0	0	2 (4)	0
	Restricted	0	0	0	0	1 (13)	0	1 (17)	2 (4)	0
	Self-care	1 (13)	0	0	0	0	0	1 (17)	2 (4)	0
	Confined	5 (63)	0	1 (20)	1 (9)	2 (25)	1 (50)	0	10 (21)	1 (50)
	Reliant	2 (25)	7 (88)	4 (80)	10 (91)	3 (38)	1 (50)	4 (67)	31 (65)	1 (50)
	Not reported	0	1 (13)	0	0	0	0	0	1 (2)	0
Graft appearance	Normal	8 (100)	5 (63)	4 (80)	5 (45)	6 (75)	2 (100)	6 (100)	36 (75)	2 (100)
	Abnormal	0	2 (25)	1 (20)	6 (55)	2 (25)	0	0	11 (23)	0
	Not reported	0	1 (13)	0	0	0	0	0	1 (2)	0
Recipient age (years)	Median (IQR)	46 (32,52)	33 (27,45)	43 (26,50)	37 (28,39)	52 (33,61)	55 (51,59)	52 (45,59)	40 (30,54)	57 (57,57)
BMI (kg/m ²)	Median (IQR)	24 (23,28)	28 (25,32)	29 (27,31)	23 (19,26)	27 (26,31)	30 (29,32)	28 (25,30)	27 (23,30)	29 (26,32)
Serum bilirubin (umol/l)	Median (IQR)	274 (140,354)	177 (94,346)	131 (91,450)	331 (195,393)	224 (122,392)	414 (363,464)	283 (132,343)	286 (132,378)	501 (429,572)
	Not reported	0	1	0	0	0	0	0	1	0
Serum creatinine (umol/l)	Median (IQR)	58 (48,73)	71 (48,93)	74 (65,185)	91 (71,125)	64 (51,149)	235 (227,242)	100 (69,109)	80 (55,125)	175 (125,224)
	Not reported	0	1	0	0	0	0	0	1	0
Serum sodium (mmol/l)	Median (IQR)	137 (131,147)	147 (141,151)	145 (132,148)	141 (138,146)	141 (133,144)	134 (131,136)	142 (133,145)	141 (135,146)	136 (134,137)
	Not reported	0	1	0	0	0	0	0	1	0
Serum potassium (mmol/l)	Median (IQR)	4.0 (3.8,4.2)	4.2 (4.2,4.3)	4.9 (3.8,5.1)	4.4 (4.1,4.9)	4.0 (3.9,4.4)	5.1 (4.5,5.7)	3.9 (3.2,4.6)	4.2 (3.8,4.6)	3.6 (3.3,3.9)
	Not reported	0	1	0	0	0	0	0	1	0
INR	Median (IQR)	2.0 (1.5,3.1)	2.9 (2.7,5.8)	2.4 (2.1,2.6)	2.6 (2.2,4.7)	2.8 (1.8,4.8)	5.2 (3.9,6.5)	2.6 (1.5,4.1)	2.6 (1.8,4.4)	1.2 (1.1,1.2)
	Not reported	0	1	0	0	0	0	0	1	0
Serum albumin (g/l)	Median (IQR)	27 (24,29)	20 (18,23)	24 (23,25)	23 (21,27)	20 (17,24)	27 (26,27)	28 (26,32)	24 (20,27)	18 (16,20)
	Not reported	0	1	0	0	0	0	0	1	0
Time on list (days)	Median (IQR)	4 (3,7)	4 (2,8)	4 (4,4)	2 (2,7)	3 (2,3)	2 (1,2)	2 (1,3)	3 (2,5)	3 (2,3)
Donor sex	Male	4 (50)	6 (75)	4 (80)	5 (45)	2 (25)	0	4 (67)	25 (52)	1 (50)
	Female	4 (50)	2 (25)	1 (20)	6 (55)	6 (75)	2 (100)	2 (33)	23 (48)	1 (50)

Table 3.12 Demographic characteristics of adult super-urgent deceased donor liver transplant recipients, 1 April 2025 - 31 March 2026

		Birmingham	Cambridge	Edinburgh	King's College	Leeds	Newcastle	Royal Free	UK	Dublin
		N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Donor ethnicity	White	7 (88)	8 (100)	4 (80)	11 (100)	6 (75)	2 (100)	3 (50)	41 (85)	2 (100)
	Asian	1 (13)	0	0	0	2 (25)	0	1 (17)	4 (8)	0
	Other	0	0	0	0	0	0	1 (17)	1 (2)	0
	Not reported	0	0	1 (20)	0	0	0	1 (17)	2 (4)	0
Donor cause of death	Intracranial	7 (88)	7 (88)	4 (80)	11 (100)	8 (100)	2 (100)	6 (100)	45 (94)	2 (100)
	Others	1 (13)	1 (13)	1 (20)	0	0	0	0	3 (6)	0
Donor history of diabetes	No	8 (100)	7 (88)	4 (80)	11 (100)	8 (100)	2 (100)	6 (100)	46 (96)	2 (100)
	Yes	0	1 (13)	0	0	0	0	0	1 (2)	0
	Not reported	0	0	1 (20)	0	0	0	0	1 (2)	0
Donor type	DBD	8 (100)	8 (100)	4 (80)	10 (91)	8 (100)	2 (100)	6 (100)	46 (96)	2 (100)
	DCD	0	0	1 (20)	1 (9)	0	0	0	2 (4)	0
ABO match	Identical	7 (88)	5 (63)	5 (100)	8 (73)	6 (75)	2 (100)	4 (67)	37 (77)	0
	Compatible	1 (13)	2 (25)	0	3 (27)	2 (25)	0	2 (33)	10 (21)	2 (100)
	Incompatible	0	1 (13)	0	0	0	0	0	1 (2)	0
Graft type	Whole	8 (100)	8 (100)	5 (100)	10 (91)	8 (100)	2 (100)	6 (100)	47 (98)	2 (100)
	Segmental	0	0	0	1 (9)	0	0	0	1 (2)	0
Donor age (years)	Median (IQR)	38 (35,52)	47 (39,60)	67 (56,68)	47 (33,64)	65 (41,72)	44 (41,47)	49 (41,55)	48 (38,61)	44 (17,71)
Donor BMI (kg/m ²)	Median (IQR)	25 (24,28)	24 (23,27)	27 (25,29)	28 (25,31)	24 (21,27)	32 (23,41)	30 (22,36)	26 (23,30)	24 (23,25)

3.3.3 Post-transplant survival

LONG-TERM PATIENT SURVIVAL

Table 3.13 shows one year [unadjusted](#) and [risk-adjusted patient survival](#) for 159 of the 236 transplants in the period 1 April 2021 to 31 March 2025. Transplants were excluded if they were [auxiliary](#) or if survival information or [risk factors](#) were missing. The overall patient survival rate is 91.2% and, after risk adjustment, all centre rates were within the [confidence limits](#), as shown in **Figure 3.21**.

Centre	Number of transplants	1-year survival % (95% CI)			
		Unadjusted		Risk-adjusted	
Newcastle	11	81.8	44.7 - 95.1	77.1	8.4 - 94.3
Leeds	19	89.2	63.1 - 97.2	87.9	51.8 - 97.0
Cambridge	20	95.0	69.5 - 99.3	93.9	56.8 - 99.1
Royal Free	34	88.2	71.6 - 95.4	90.0	73.4 - 96.3
King's College	44	95.5	83.0 - 98.8	94.2	76.7 - 98.5
Birmingham	19	94.7	68.1 - 99.2	91.3	38.3 - 98.8
Edinburgh	12	83.3	48.2 - 95.6	93.5	74.0 - 98.4
Total	159	91.2	85.5 - 94.7		

	Centre has reached the lower 99.8% confidence limit
	Centre has reached the lower 95% confidence limit
	Centre has reached the upper 95% confidence limit
	Centre has reached the upper 99.8% confidence limit

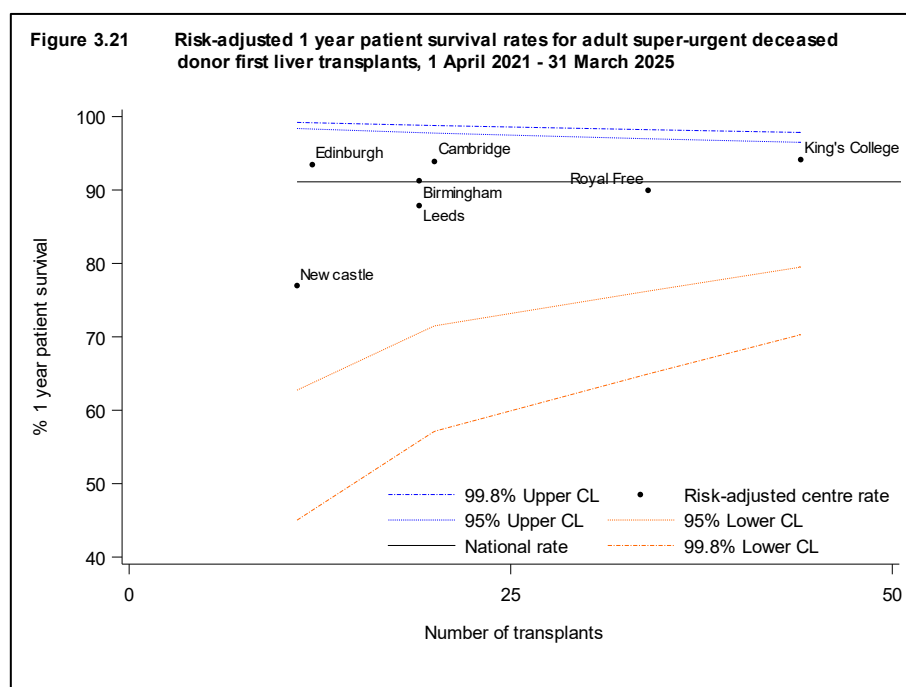
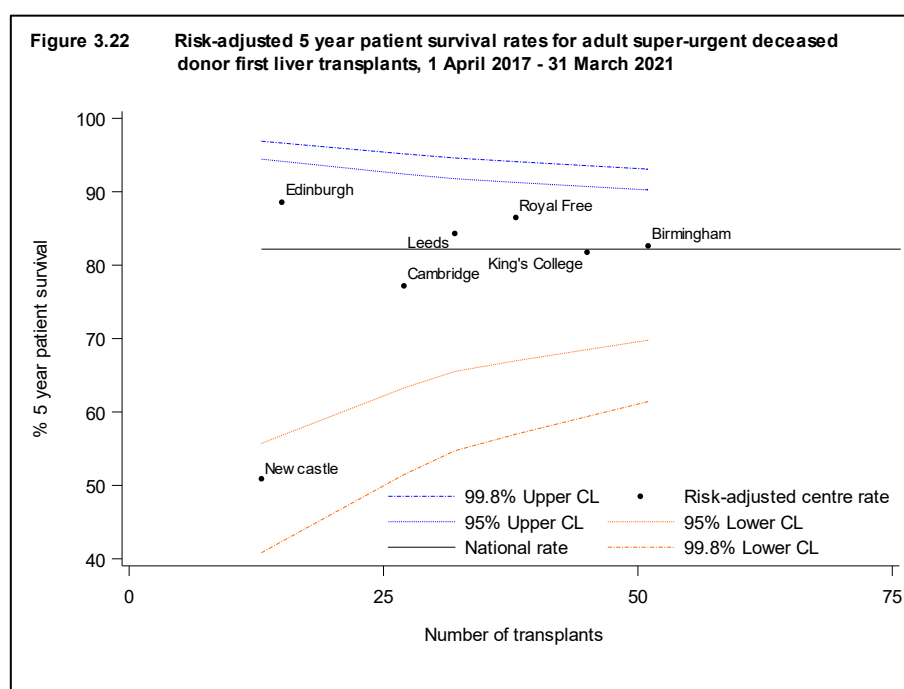


Table 3.14 shows the five year [unadjusted](#) and [risk-adjusted patient survival](#) for 221 of the 255 transplants in the period, 1 April 2017 to 31 March 2021. The national rate is 82.3% and one centre had a lower survival rate after risk adjustment than the 95% confidence limit, as shown in **Figure 3.22**. Caution should be taken in interpreting the survival rates due to small number of transplants at Newcastle and Edinburgh.

The median number of days between the last known follow-up post-transplantation (for censored recipients) and the time of analysis in **Table 3.14** and **Figure 3.22** ranges from 308 days for Edinburgh to 685 days for Cambridge. The medians for all other centres fall in between these extremes.

Table 3.14 Five year patient survival for adult super-urgent deceased donor first liver transplants, 1 April 2017 - 31 March 2021					
Centre	Number of transplants	5-year survival % (95% CI)			
		Unadjusted		Risk-adjusted	
Newcastle	13	69.2	37.3 - 87.2	50.9	0.0 - 81.6
Leeds	32	83.7	65.1 - 92.9	84.3	62.4 - 93.5
Cambridge	27	79.8	57.7 - 91.1	77.6	46.2 - 90.7
Royal Free	38	84.2	68.2 - 92.6	86.5	70.0 - 94.0
King's College	45	77.0	61.5 - 86.9	81.8	66.2 - 90.2
Birmingham	51	88.1	75.4 - 94.5	82.7	61.5 - 92.2
Edinburgh	15	85.1	52.3 - 96.1	88.8	55.2 - 97.2
Total	221	82.3	76.5 - 86.8		

	Centre has reached the lower 99.8% confidence limit
	Centre has reached the lower 95% confidence limit
	Centre has reached the upper 95% confidence limit
	Centre has reached the upper 99.8% confidence limit



Adult Liver Transplantation

Form return rates

Form return rates as at 28 September 2026 are reported in **Table 3.15** for the liver transplant record, three month and one year follow up forms, along with lifetime follow up (after the first year). These include all adult [elective and super-urgent](#) deceased donor transplants between 1 January 2025 and 31 December 2025 for the transplant record, and all requests for follow-up forms issued in this time period.

Table 3.15 Form return rates for adult liver transplants, 1 January 2025 to 31 December 2025, as at 30 July 2026

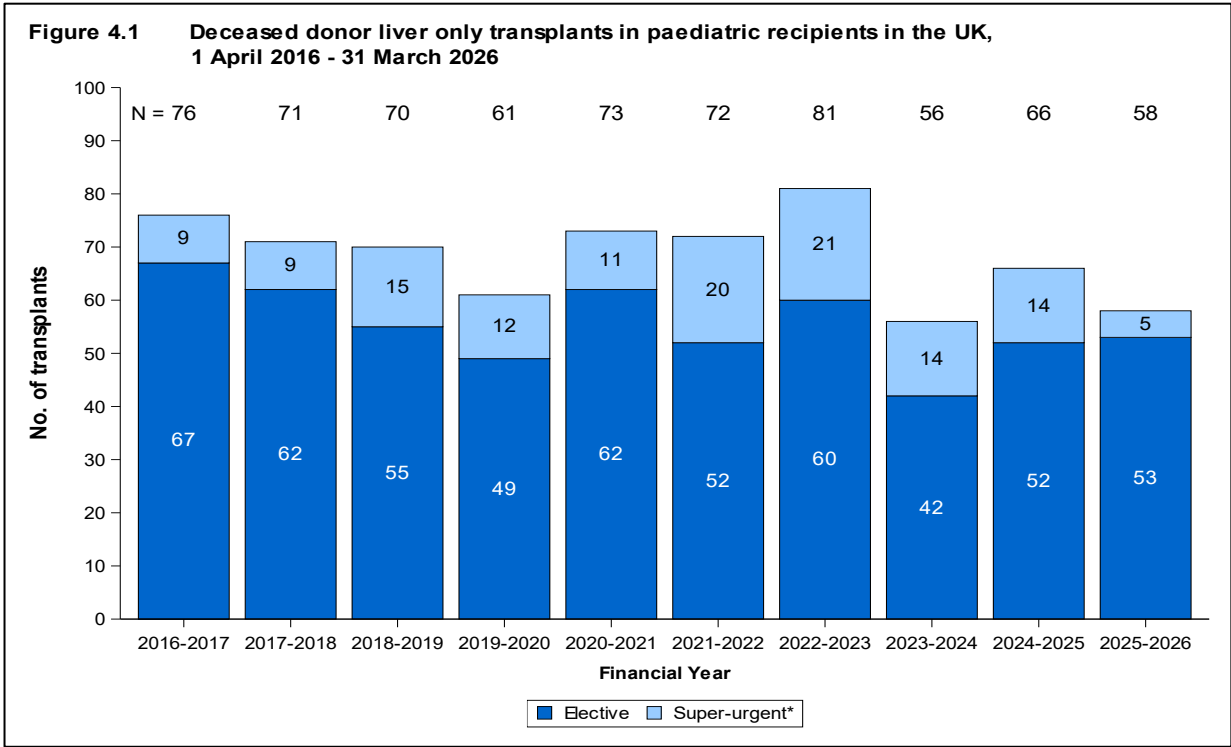
Centre	Transplant record		3 month follow-up		1 year follow-up		Lifetime follow-up	
	N	Returned %	N	Returned %	N	Returned %	N	Returned %
Newcastle	27	100	26	100	35	97	218	80
Leeds	107	100	107	100	94	100	636	56
Cambridge	100	100	106	100	98	57	604	45
Royal Free	106	100	111	100	117	98	634	97
King's College	191	100	198	100	135	94	1032	94
Birmingham	145	100	141	100	156	100	1057	95
Edinburgh	62	100	65	100	51	100	448	51
Total	738	100	754	100	686	92	4629	78
Dublin	26	100	25	100	30	100	283	99

Paediatric Liver Transplantation

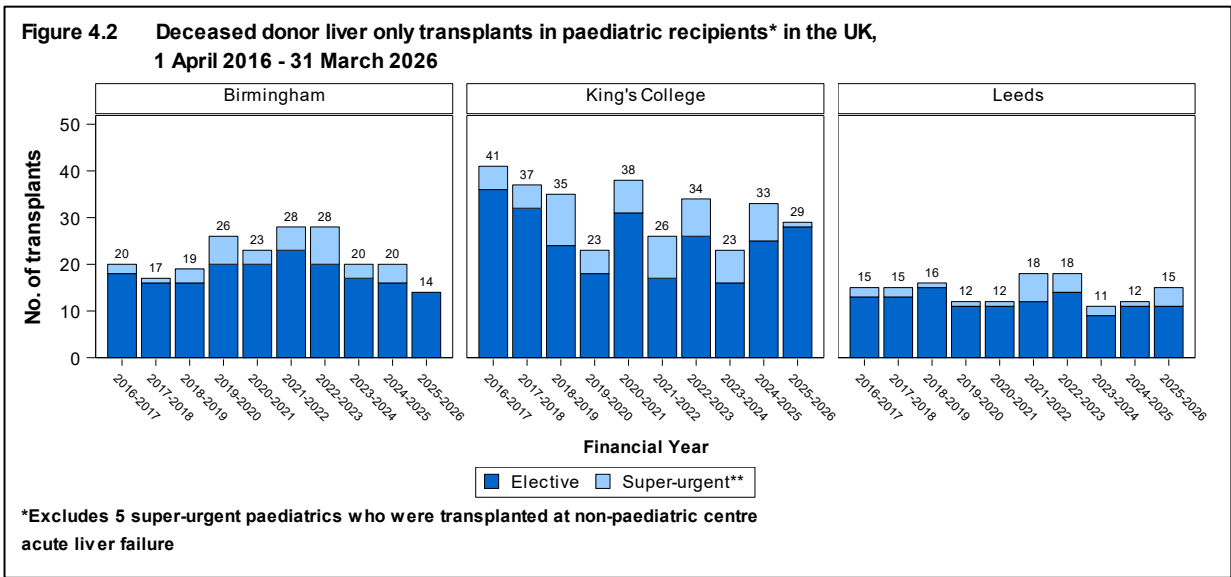


4.1 Overview

The number of deceased donor liver only transplants performed in the UK for paediatric recipients in the last ten years is shown overall and by centre in **Figures 4.1 and 4.2**, respectively. One paediatric elective transplant was performed in Dublin in 2018. See **Appendix 1** for further details.



In the last year, 56 transplants in paediatric recipients were performed. Fifty-three (91%) of these transplants were for patients on the [elective](#) list and five (9%) for patients on the [super-urgent](#) list.



The overall [median](#) total preservation time (TPT) for paediatric transplant recipients are shown by financial year in **Figure 4.3** for [DBD](#) and [DCD](#) donors, respectively. The national median total preservation time for transplants from DBD donors has decreased slightly from 8.9 hours in 2016/17 to 7.0 hours in 2025/26. The corresponding national median for DCD donor transplants has decreased over the ten year period, from 7.7 hours in 2016/17 to 3.4 hours in 2025/26. It should be noted the number of DCD paediatric transplants ranged between 0 and 7 per financial year with 4 in 2025/26.

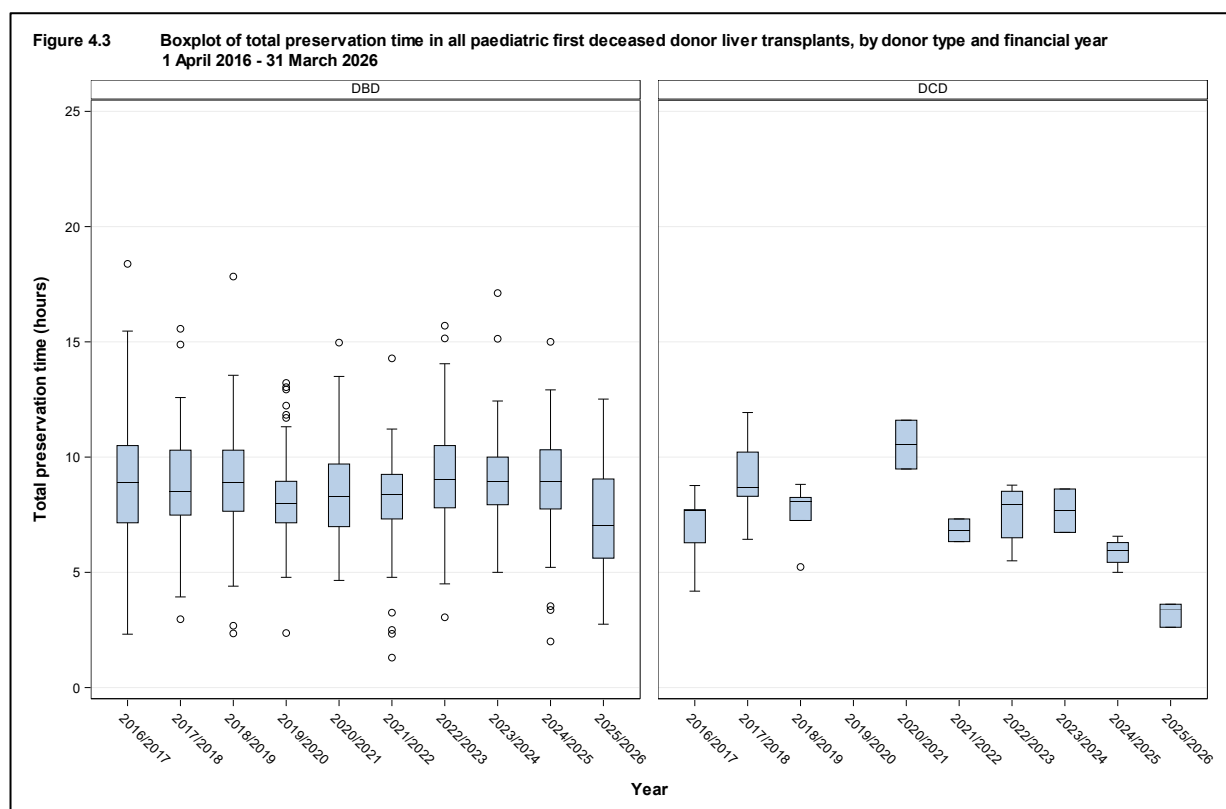


Figure 4.4 shows boxplots of total preservation time (TPT) for paediatric transplant recipients by centre in the latest financial year (2025/2026) while **Figure 4.5** and **Figure 4.6** show the equivalent information by centre and donor type over the last ten financial years for [DBD](#) and [DCD](#) donors, respectively. The median (IQR) total preservation time for DBD in the last financial year were 5.9 (5.0, 6.8) hours at Birmingham, 7.1 (5.4, 9.3) hours at King's College and 8.3 (6.9, 10.1) hours at Leeds.

The total preservation time used is as reported on the liver transplant record form and may include periods of machine perfusion; no adjustment has been made for this. 33 (57%) of the paediatric deceased donor first liver only transplants performed in the latest financial year were reported to have involved machine perfusion.

Figure 4.4 Boxplot of total preservation time in all paediatric first deceased donor liver transplants, by donor type and transplant centre
1 April 2025 - 31 March 2026

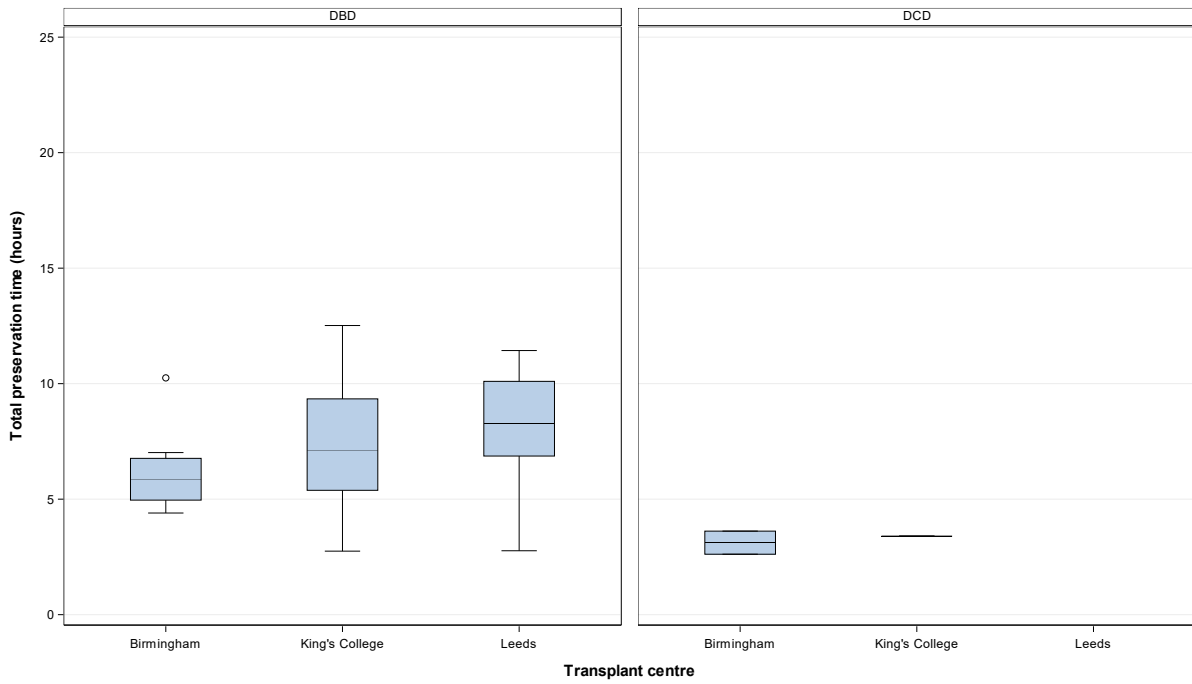
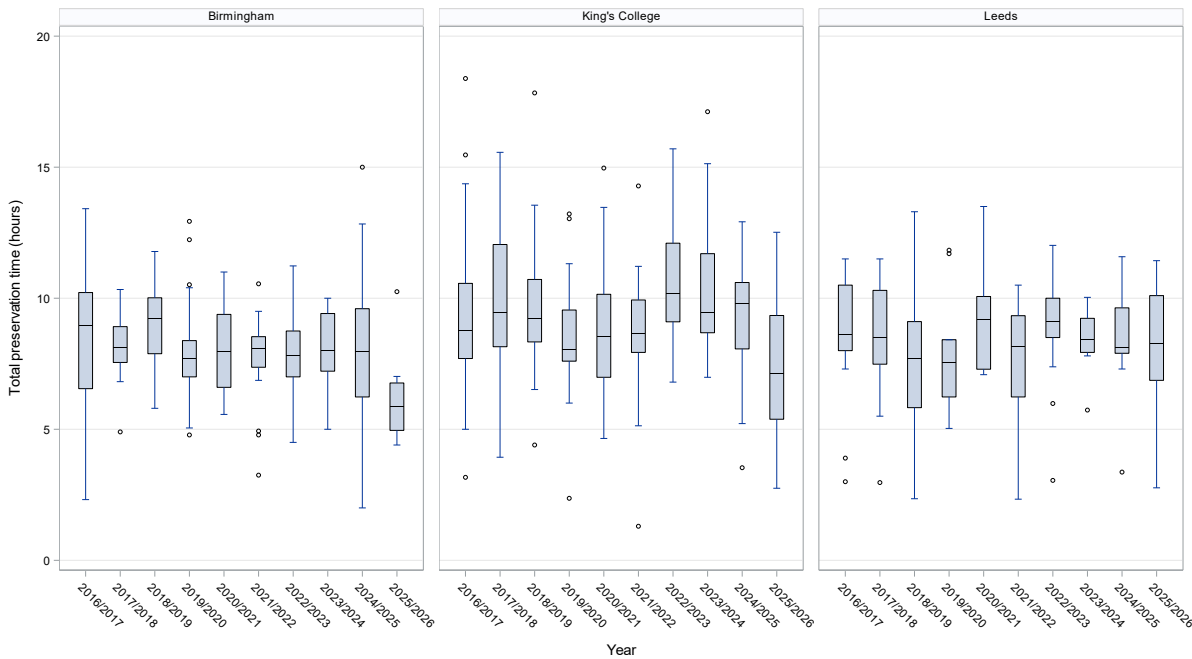
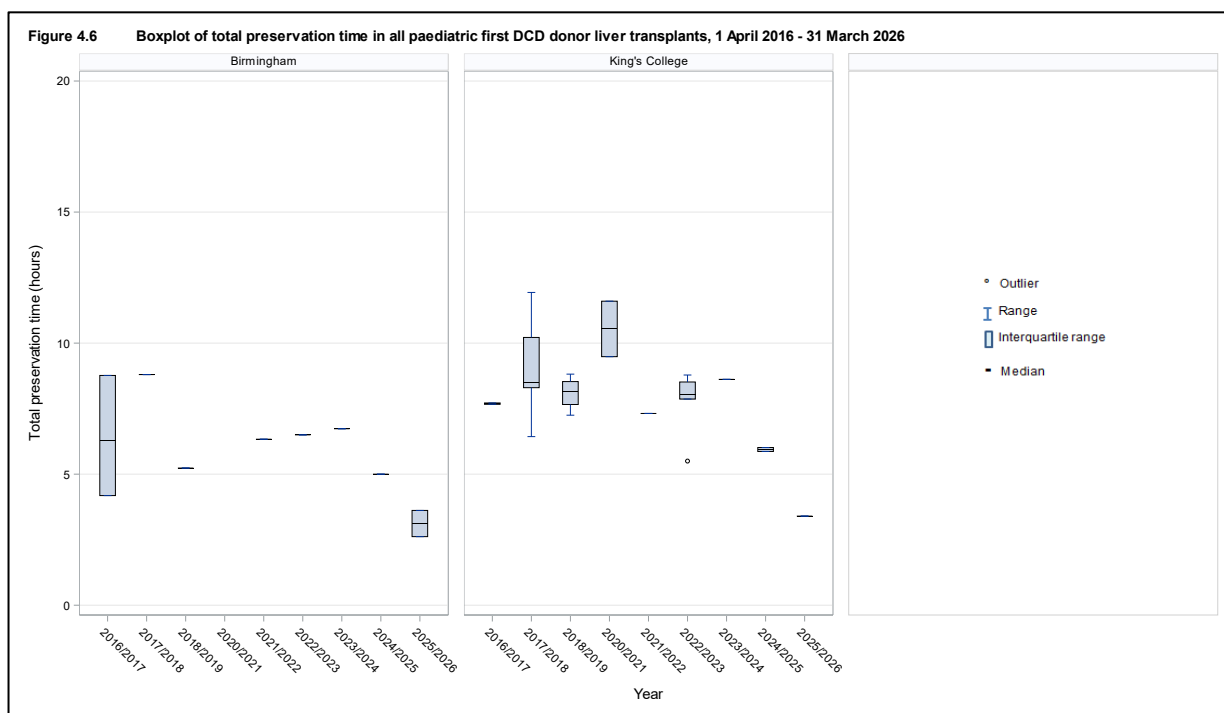


Figure 4.5 Boxplot of total preservation time in all paediatric first DBD donor liver transplants, 1 April 2016 - 31 March 2026





The demographic characteristics of 100 paediatric registrations and 66 paediatric transplant recipients in the latest year are shown by centre and nationally in **Table 4.1**. Of the patients registered for a liver transplant, 53% were male, 34% were between one and four years old and 22% were registered as super-urgent. Of the transplant recipients, 55% were male, 39% were aged between one and four years old and 21% were of [super-urgent](#) status. For some characteristics, due to rounding, percentages may not add up to 100.

Table 4.1 Demographic characteristics of paediatric registrations and deceased donor liver transplant recipients, 1 April 2025 - 31 March 2026

		Birmingham N (%)		King's College N (%)		Leeds N (%)		TOTAL N (%)	
		Registration	Transplant	Registration	Transplant	Registration	Transplant	Registration	Transplant
Number		14	14	35	29	20	15	71 (100)	58 (100)
Recip age years	<1	1 (7)	1 (7)	11 (31)	8 (28)	9 (45)	6 (40)	21 (30)	15 (26)
	1-4	8 (57)	7 (50)	9 (26)	10 (34)	3 (15)	3 (20)	20 (28)	20 (35)
	5-12	3 (21)	2 (14)	10 (29)	6 (21)	4 (20)	4 (27)	17 (24)	12 (21)
	13-16	2 (14)	4 (29)	5 (14)	5 (17)	4 (20)	2 (13)	13 (18)	11 (19)
Recipient sex	Male	9 (64)	11 (79)	21 (60)	14 (48)	14 (70)	10 (67)	44 (62)	35 (60)
	Female	5 (36)	3 (21)	14 (40)	15 (52)	6 (30)	5 (33)	27 (38)	23 (40)
Indication	Super Urgent	0 (0)	0	2 (6)	1 (3)	5 (25)	4 (27)	8 (11)	5 (9)
	Biliary Atresia	4 (29)	6 (43)	12 (34)	14 (48)	4 (20)	4 (27)	20 (28)	24 (41)
	Other Cholestatic	0 (0)	0	1 (3)	2 (7)	0 (0)	0	1 (1)	2 (3)
	Metabolic	2 (14)	2 (14)	3 (9)	2 (7)	2 (10)	3 (20)	7 (10)	7 (12)
	Other	8 (57)	6 (43)	17 (49)	10 (34)	9 (45)	4 (27)	35 (49)	20 (35)
Pre-transplant in-patient status	Out-patient	-	12 (86)	-	22 (76)	-	7 (47)	-	41 (71)
	In-patient	-	2 (14)	-	7 (24)	-	8 (53)	-	17 (29)
Pre-transplant renal support	No	-	13 (93)	-	26 (90)	-	11 (73)	-	50 (86)
	Yes	-	1 (7)	-	2 (7)	-	3 (20)	-	6 (10)
	Not reported	-	0	-	1 (3)	-	1 (7)	-	2 (3)
Ascites	Absence	-	9 (64)	-	19 (66)	-	10 (67)	-	38 (66)
	Presence	-	5 (36)	-	10 (34)	-	2 (13)	-	17 (29)
	Not reported	-	0	-	0	-	3 (20)	-	3 (5)
Previous abdominal surgery	No	9 (64)	3 (21)	14 (40)	23 (79)	8 (40)	11 (73)	32 (45)	37 (64)
	Yes	5 (36)	7 (50)	19 (54)	6 (21)	7 (35)	4 (27)	31 (44)	17 (29)
	Not reported	0 (0)	4 (29)	2 (6)	0	5 (25)	0	8 (11)	4 (7)
	Not collected for super-urgent	0 (0)	-	0 (0)	-	0 (0)	-	0 (0)	-
INR	<=1.0	2 (14)	2 (14)	11 (31)	5 (17)	4 (20)	2 (13)	17 (24)	9 (16)
	1.1-1.5	11 (79)	4 (29)	15 (43)	16 (55)	9 (45)	5 (33)	35 (49)	25 (43)
	1.6-3.0	1 (7)	0	7 (20)	7 (24)	3 (15)	6 (40)	13 (18)	13 (22)
	>3.0	0 (0)	0	2 (6)	1 (3)	4 (20)	2 (13)	6 (8)	3 (5)
	Not reported	0 (0)	8 (57)	0 (0)	0	0 (0)	0	0 (0)	8 (14)
Serum sodium mmol/l	<135	2 (14)	3 (21)	6 (17)	6 (21)	6 (30)	2 (13)	14 (20)	11 (19)
	>=135	12 (86)	11 (79)	29 (83)	23 (79)	14 (70)	13 (87)	57 (80)	47 (81)
	Not reported	0 (0)		0 (0)		0 (0)		0 (0)	

Table 4.1 Demographic characteristics of paediatric registrations and deceased donor liver transplant recipients, 1 April 2025 - 31 March 2026									
		Birmingham N (%)		King's College N (%)		Leeds N (%)		TOTAL N (%)	
		Registration	Transplant	Registration	Transplant	Registration	Transplant	Registration	Transplant
Donor age years	<5	-	1 (7)	-	3 (10)	-	0	-	4 (7)
	5-16	-	1 (7)	-	5 (17)	-	1 (7)	-	7 (12)
	17-30	-	2 (14)	-	3 (10)	-	8 (53)	-	13 (22)
	>=31	-	10 (71)	-	18 (62)	-	6 (40)	-	34 (59)
Donor sex	Male	-	10 (71)	-	13 (45)	-	7 (47)	-	30 (52)
	Female	-	4 (29)	-	16 (55)	-	8 (53)	-	28 (48)
Donor type	DBD	-	12 (86)	-	28 (97)	-	15 (100)	-	55 (95)
	DCD	-	2 (14)	-	1 (3)	-	0	-	3 (5)
Graft appearance	Normal	-	13 (93)	-	29 (100)	-	15 (100)	-	57 (98)
	Abnormal	-	1 (7)	-	0	-	0	-	1 (2)
Graft type	Whole		6 (43)		6 (21)		1 (7)		13 (22)
	Reduced		1 (7)		3 (10)		8 (53)		12 (21)
	Split		7 (50)		20 (69)		6 (40)		33 (57)
Urgency Status	Elective	14 (100)	14 (100)	33 (94)	28 (97)	15 (75)	11 (73)	63 (89)	53 (91)
	Super Urgent	0 (0)	0	2 (6)	1 (3)	5 (25)	4 (27)	8 (11)	5 (9)

Paediatric Liver Transplantation Elective Patients



4.2.1 Transplant list

Figure 4.7 shows the number of paediatric [elective](#) patients on the liver only transplant list at 31 March each year between 2017 and 2026. The number of patients on the [active](#) liver only transplant list decreased between 2017 and 2022 but increased from 28 on 31 March 2022 to 72 on 31 March 2025. Sixty-four paediatric patients were active on the UK elective liver only transplant list on 31 March 2026.

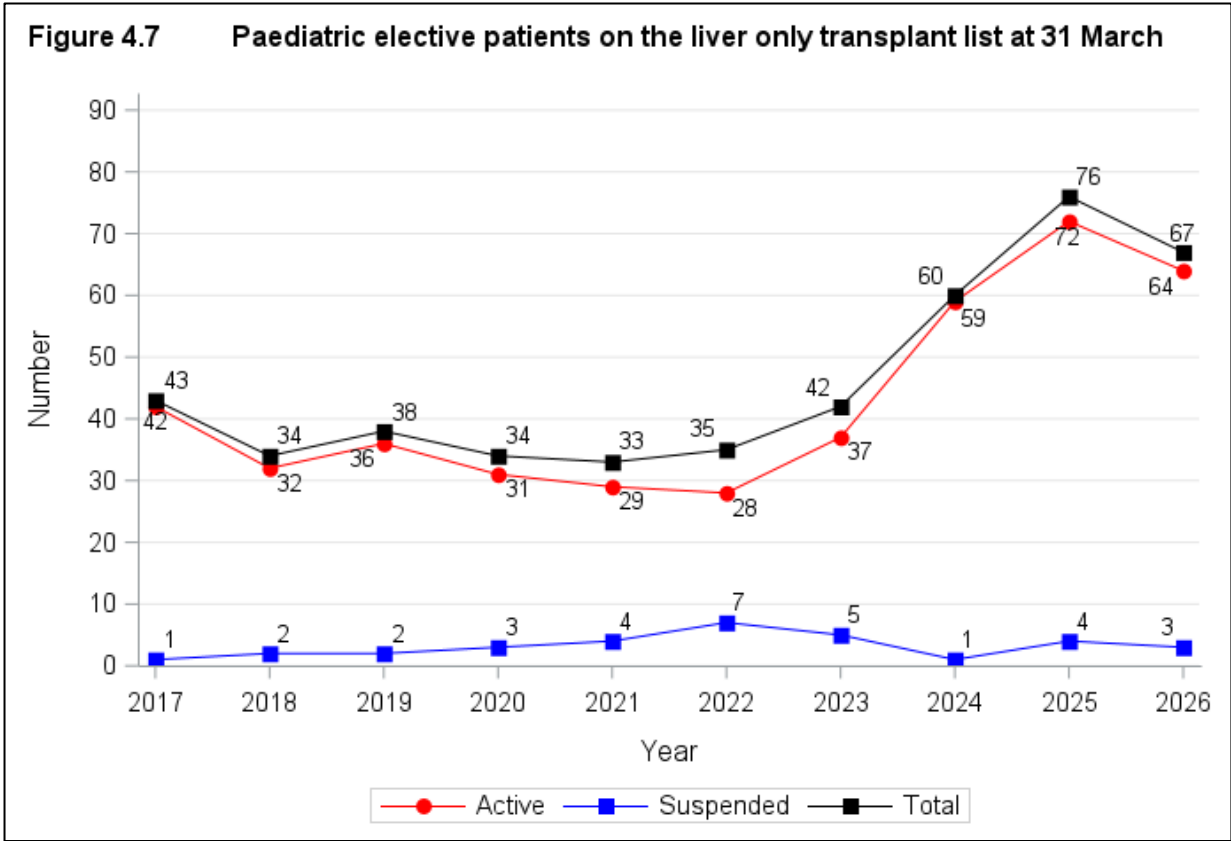
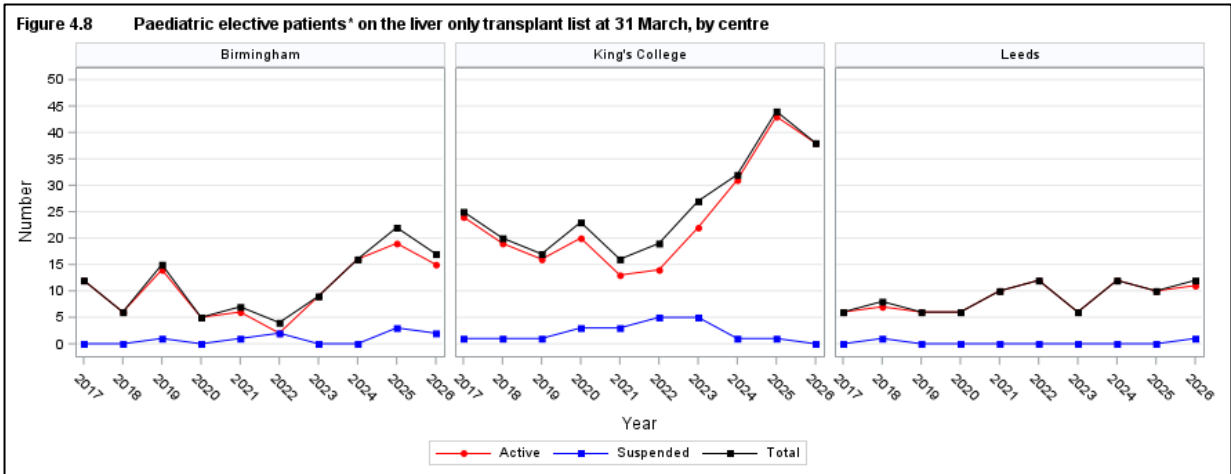


Figure 4.8 shows the number of [elective](#) patients on the transplant list at 31 March each year between 2017 and 2026 for each transplant centre and shows the number of patients at Birmingham and Kings College have increased.



An indication of outcomes for paediatrics listed for a liver transplant is summarised in **Figure 4.9**. This shows the proportion of paediatrics transplanted or still waiting six months, one and two years after joining the list. After six months, 47% of paediatrics have had a liver transplant, and 49% were still waiting.

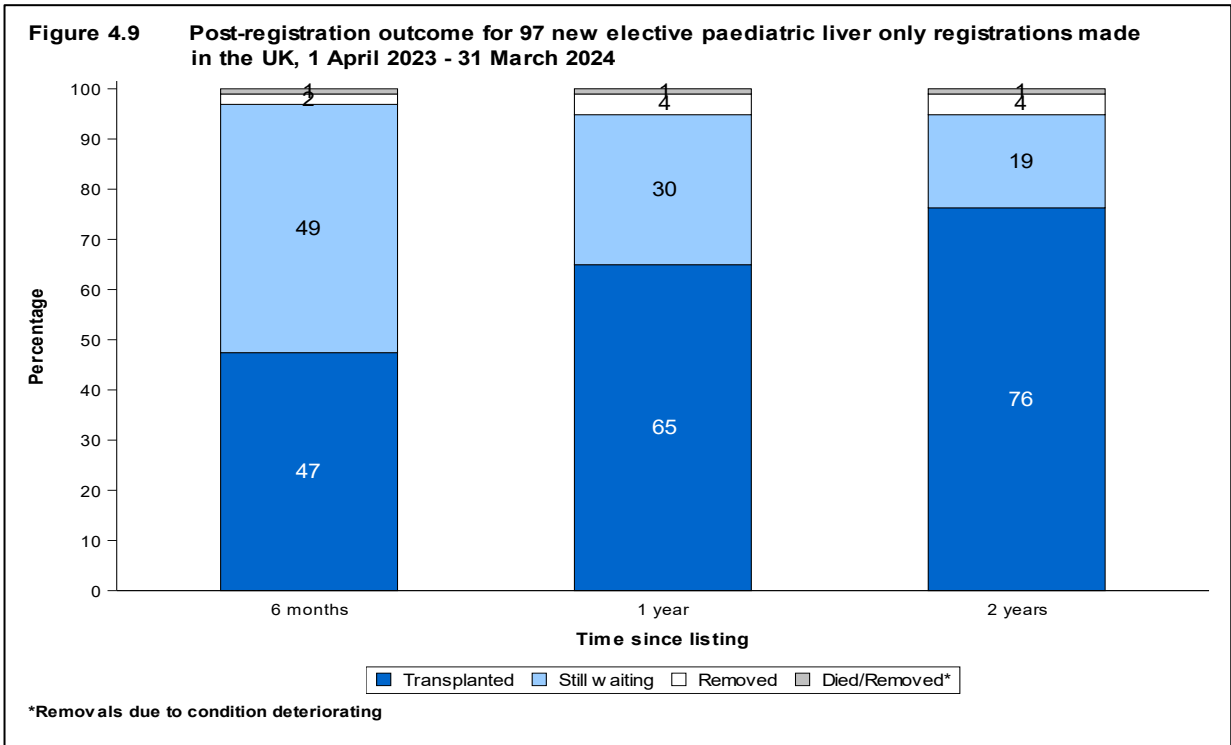


Figure 4.10 shows the proportion of patients transplanted, removed, died while waiting, or still waiting on the list at six months after joining the list at each transplant centre. The proportion of patients transplanted six months after listing at each centre ranges from 39% at Birmingham to 68% at Leeds.

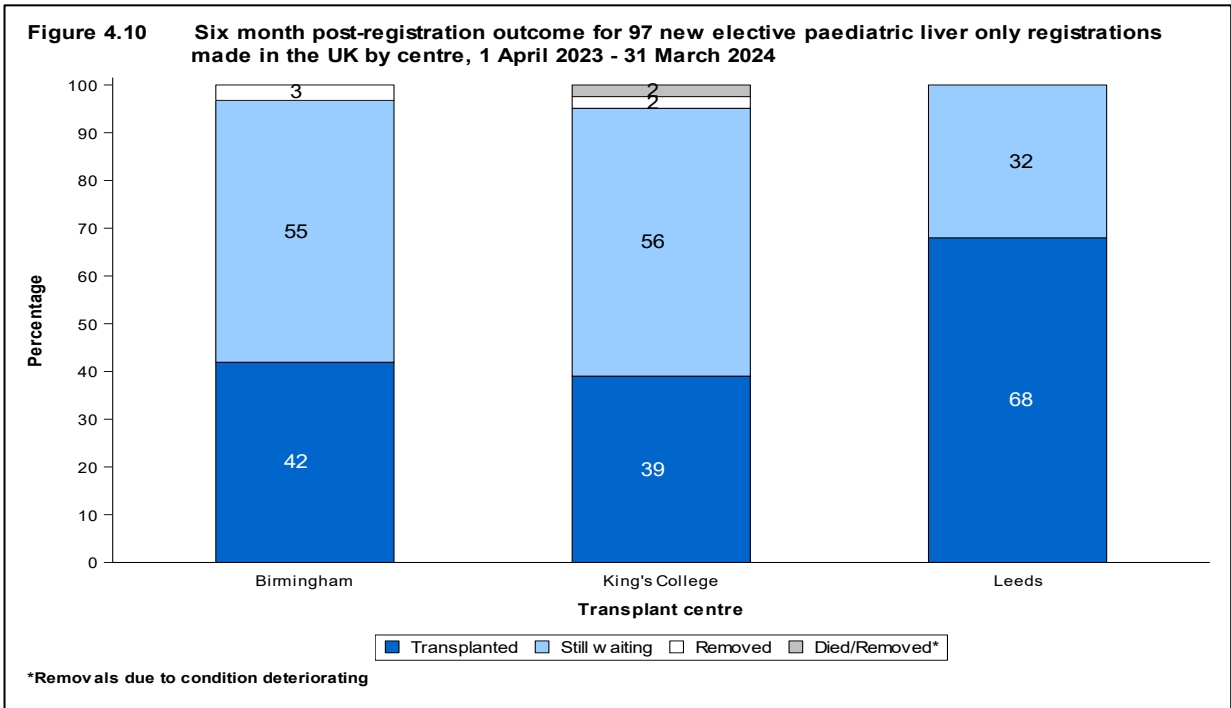
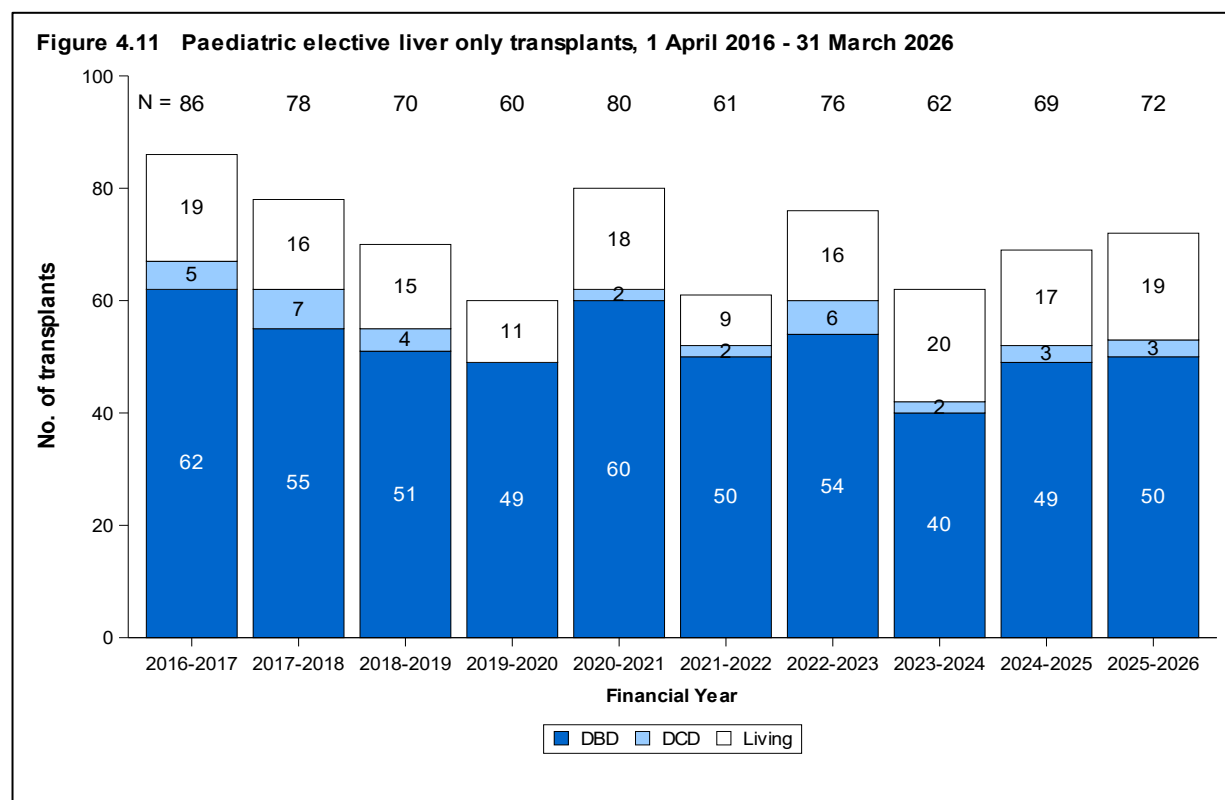


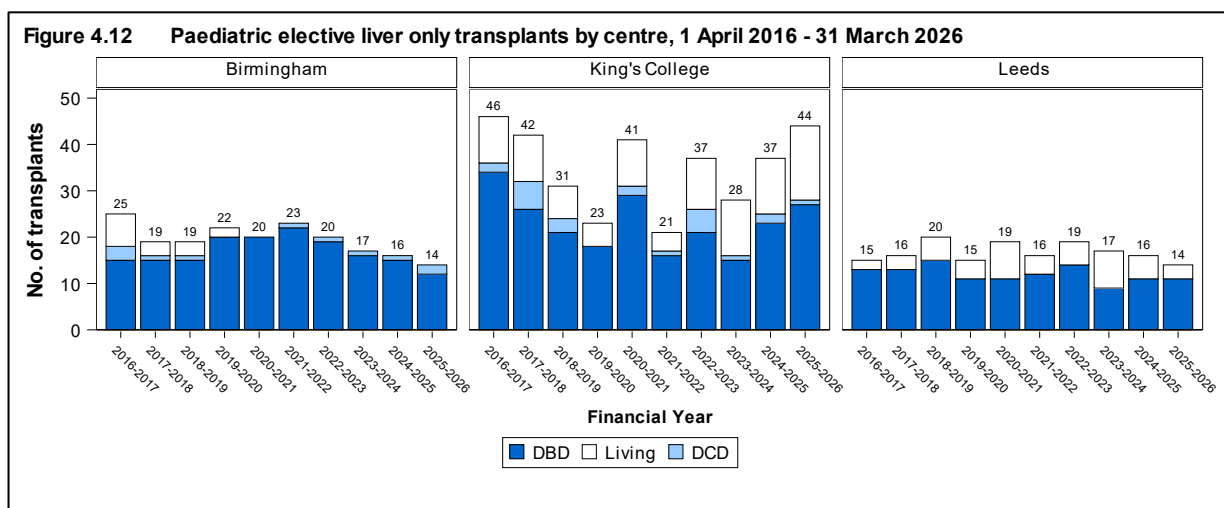
Table 4.2 shows the [median waiting time](#) to deceased donor liver only transplant for paediatric [elective](#) patients. The median waiting time to transplant is longest at King's College at 389 days, and shortest at Leeds, at 153 days. The national median waiting time to transplant is 244 days.

Table 4.2 Median waiting time to liver only transplant in the UK, for paediatric elective patients registered 1 April 2023 - 31 March 2025			
Transplant centre	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Leeds	24	153	112 - 194
Birmingham	56	155	0 - 322
King's College	67	389	201 - 577
UK	147	244	150 - 338

4.2.2 Transplant activity

Figure 4.11 shows the number of first paediatric [elective](#) liver only transplants from deceased and living donors performed in the last ten years, by type of donor. **Figure 4.12** shows the same information by centre.





4.2.3 Post-transplant survival

Table 4.3 shows the [unadjusted](#) one year paediatric [patient survival](#) for 206 deceased donor transplants (excluding [auxiliary](#) transplants) from 1 April 2021 to 31 March 2025, nationally and by centre. Note that these survival rates should be interpreted with caution as known one-year patient follow-up ranges between 59% and 95%.

Centre	Number of transplants	N (%) with known 1 year survival	1-year survival % (95% CI)	
Leeds	46	27 (59%)	92.4	(77.6 - 97.5)
King's College	84	75 (89%)	98.8	(91.8 - 99.8)
Birmingham	76	72 (95%)	94.7	(86.5 - 98.0)
Total	206	174 (84%)	96.0	(92.1 – 98.0)

Table 4.4 shows the [unadjusted](#) five year paediatric [patient survival](#) for 226 deceased donor transplants (excluding [auxiliary](#) transplants) from 1 April 2017 to 31 March 2021, nationally and by centre. Note that these survival rates should be interpreted with caution as known five-year patient follow-up ranges between 58% and 84%.

Centre	Number of transplants	N (%) with known 5 year survival	5-year survival % (95% CI)	
Leeds	50	29 (58%)	90.2	(75.2 - 96.3)
King's College	104	87 (84%)	91.3	(83.9 - 95.4)
Birmingham	72	61 (84%)	84.6	(74.0 - 91.2)
Total	226	177 (78%)	89.2	(84.3 - 92.6)

Paediatric Liver Transplantation Super-Urgent Patients



4.3.1 Transplant list

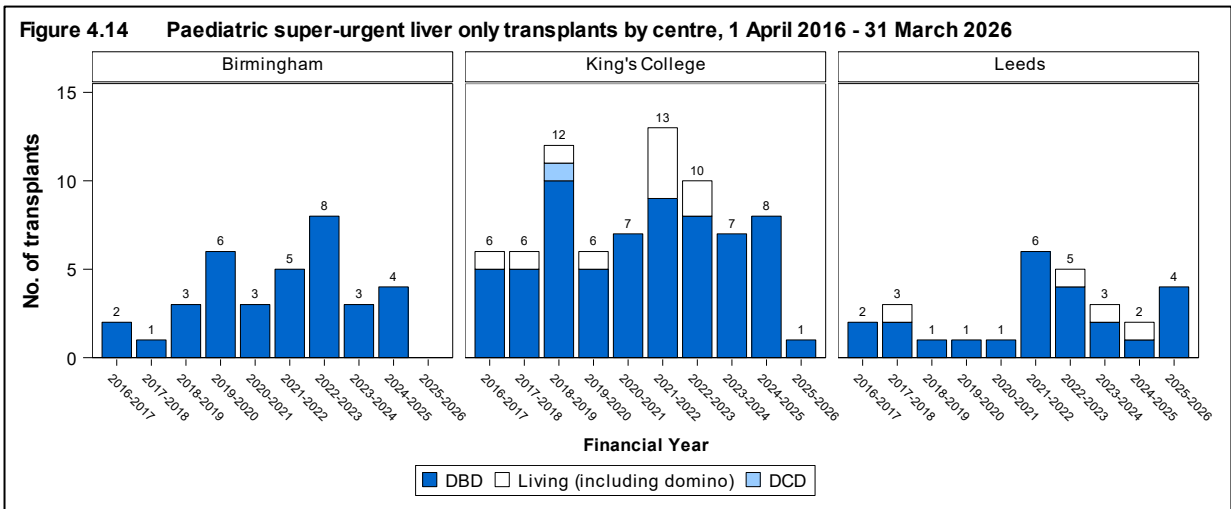
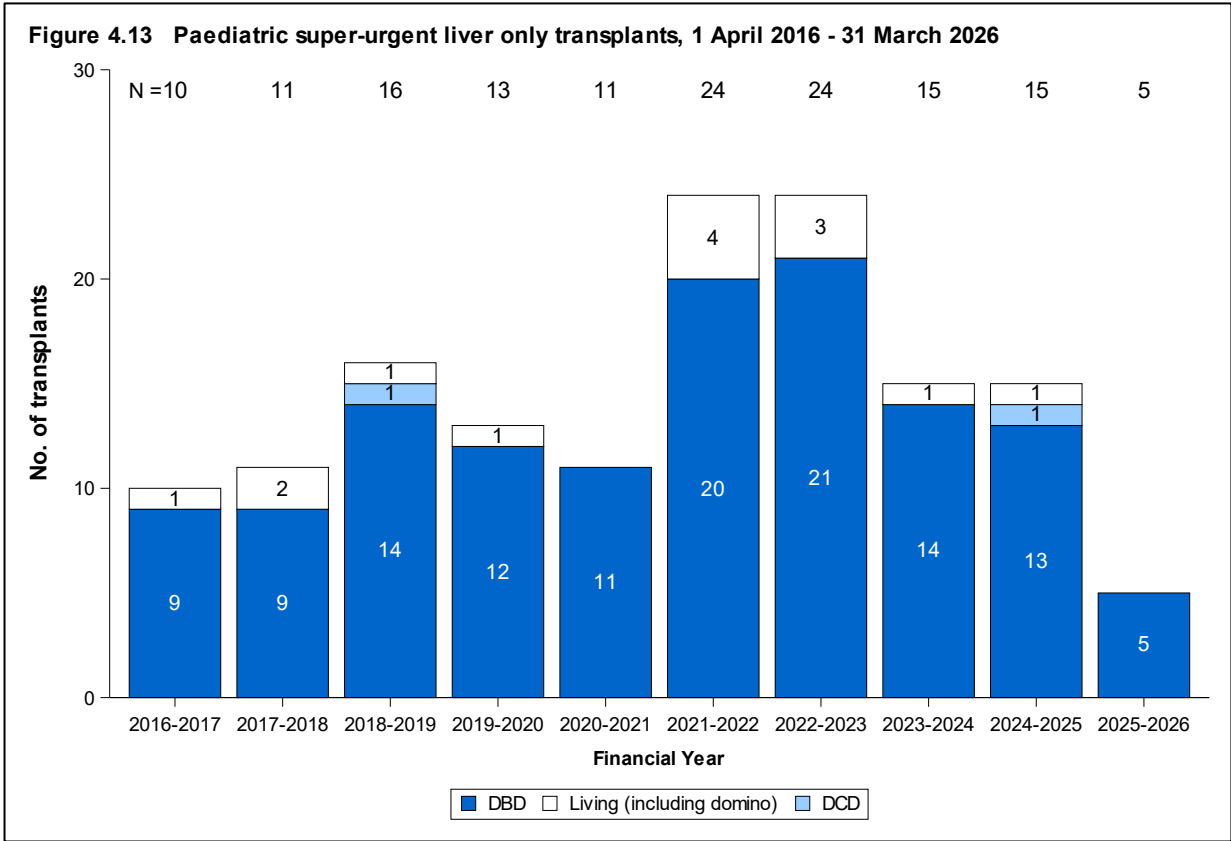
Table 4.5 shows the [median waiting time](#) to deceased donor liver only transplant for paediatric [super-urgent](#) patients. The national median waiting time to transplant is four days.

Table 4.5 Median waiting time to liver only transplant in the UK for, paediatric super urgent patients registered 1 April 2023 - 31 March 2025			
Transplant centre	Number of patients registered	Waiting time (days) Median	95% Confidence interval
Paediatric			
Birmingham	12	3	1 - 5
King's College	19	6	3 - 9
Leeds	5	7	-
UK*	40	4	2 – 6
* Includes 4 patients registered at a non-paediatric centre			
- 95% confidence interval cannot be estimated due to insufficient numbers of patients transplanted			

Table 4.5 includes registrations for re-transplants. Of the 40 registrations for the UK in the time period, 32 led to transplants (all during this time period). Four of the 32 transplants performed in the time period were re-transplants, hence, the difference between the *first* deceased donor liver only transplants reported in **Figure 4.13** for the period 1 April 2023 – 31 March 2025 and **Table 4.5**. Note that **Figure 4.13** also includes living donor transplants.

4.3.2 Transplant activity

Figure 4.13 shows the number of paediatric [super-urgent](#) first liver only transplants from deceased and living (including domino) donors performed in the last ten years, by type of donor. **Figure 4.14** shows the same information by transplant centre. Five super-urgent paediatric transplants occurred in non-paediatric centres between 1 April 2016 and 31 March 2026; two in Newcastle, one in Cambridge and two in Edinburgh. See **Appendix 1** for further details.



4.3.3 Post-transplant survival

One year [unadjusted patient survival](#) for 64 transplants (excluding [auxiliary](#) transplants) between 1 April 2021 and 31 March 2025 is shown in **Table 4.6**. Note that these survival rates should be interpreted with caution due to small numbers as well as known one-year survival ranging between 92% and 100%.

Table 4.6 One year unadjusted patient survival for paediatric super-urgent deceased donor first liver transplants, 1 April 2021 - 31 March 2025				
Centre	Number of transplants	N (%) with known 1 year survival	1-year survival % (95% CI)	
Leeds	13	12 (92%)	91.7	(53.9 - 98.8)
King's College	27	28 (96%)	81.5	(61.1 - 91.8)
Birmingham	20	20 (100%)	75.0	(50.0 - 88.7)
Total*	64	62 (97%)	81.2	(69.3 - 88.9)

* Includes 4 patients transplanted at a non-paediatric centre

Table 4.7 shows the [unadjusted](#) five year paediatric [patient survival](#) for 33 deceased donor transplants (excluding [auxiliary](#) transplants) from 1 April 2017 to 31 March 2021, nationally and by centre. Note that these survival rates should be interpreted with caution due to small numbers as well as known five-year patient follow-up ranging between 60% and 85%.

Table 4.7 Five year unadjusted patient survival for paediatric super-urgent deceased donor first liver transplants, 1 April 2017 - 31 March 2021				
Centre	Number of transplants	N (%) with known 5 year survival	5-year survival % (95% CI)	
Leeds	5	3 (60%)	100.0	-
King's College	14	11 (79%)	78.6	(47.2 - 92.5)
Birmingham	13	11 (85%)	76.9	(44.2 - 91.9)
Total*	33	26 (79%)	81.8	(63.9 - 91.4)

* Includes 1 patient transplanted at a non-paediatric centre

Paediatric Liver Transplantation

Form return rates



Form return rates are reported in **Table 4.8** for the liver transplant record, three month and one year follow up forms, along with lifetime follow-up (after the first year). These include all paediatric [elective and super-urgent](#) deceased donor transplants between 1 January 2025 and 31 December 2025 for the transplant record, and all requests for follow-up forms issued in this time period.

Table 4.8 Form Return rates 1 January 2025 - 31 December 2025 as at 30 July 2026								
Centre	Transplant Record		3 Month follow-up		1 year follow-up		Lifetime follow-up	
	N	% returned	N	% returned	N	% returned	N	% returned
Leeds	12	100	11	100	12	33	98	29
King's College	28	100	33	100	34	94	220	92
Birmingham	17	100	15	100	15	93	150	98
Total	57	100	59	100	61	82	468	81

Appendix



A1 Data

Data were obtained from the UK Transplant Registry for the ten year time period, 1 April 2016 to 31 March 2026 and include NHS Group 2 transplants, [auxiliary](#) transplants, liver only transplants for intestinal failure patients and exclude all other transplants involving the liver for intestinal failure patients.

Geographical variation analysis

Registration rates

All NHS group 1 patients who were registered onto the liver transplant list with an active status between 1 April 2025 and 31 March 2026 were extracted from the UK Transplant Registry on 10 July 2026 (numerator). Patients registered for an intestinal transplant requiring a liver were excluded. Patients were assigned to NHS regions in England using their postcode of residence, as reported at registration. The number of registrations per million population (pmp) by NHS region was obtained using mid-2025 population estimates based on the Office for National Statistics (ONS) 2021 Census figures (denominator). No NHS region age- or sex-specific standardisation of rates was performed.

The registration rates pmp were categorised into four groups – low, low-medium, medium-high and high – based on the quartiles of their distribution and visualised in a map using contrasting colours.

Transplant rates

Transplant rates pmp were obtained as the number of liver transplants on NHS group 1 recipients between 1 April 2025 and 31 March 2026 (numerator), divided by the mid-2025 population estimates from the ONS (denominator). Patients who received an intestinal transplant containing a liver were excluded. Transplant rates pmp were categorised and visualised in a map as done for the registration rates.

Systematic component of variation

Only registrations or transplants in England between 1 April 2025 and 31 March 2026 were included. If a patient was re-registered during the time period, only the first registration was considered. If a patient underwent more than one liver transplant in the time period, only the first transplant was considered.

Adult and paediatric analysis

The adult and paediatric sections are limited to first liver only transplants, and survival is only estimated for deceased donor transplants, excluding [auxiliary](#) transplants.

Table A1.1 shows the total number of adult transplants in the three time periods defined in the report, including atypical donor, [multi-organ](#) and re-transplants. **Table A1.2** shows the number of adult deceased donor first liver only transplants.

Table A1.1 Number of adult liver transplants in each time period, by transplant centre and urgency status						
Transplant centre	Latest year		Last 3 years		Last 10 years	
	April 2025-March 2026		April 2025-March 2026		April 2016-March 2026	
	Elective	Super-urgent	Elective	Super-urgent	Elective	Super-urgent
Newcastle	28	2	112	15	337	44
Leeds	100	9	306	29	1018	122
Cambridge	101	12	306	34	966	109
Royal Free	106	13	323	36	994	136
King's College	227	15	527	39	1715	167
Birmingham	152	12	461	45	1662	170
Edinburgh	69	10	192	29	724	74
UK	787¹	73	2239²	227	7457³	822
Dublin	31	2	103	10	426	44

¹ Includes 3 and 1 transplants performed at London Bridge Hospital and Cromwell Hospital, respectively
² Includes 9 and 3 transplants performed at London Bridge Hospital and Cromwell Hospital, respectively
³ Includes 31 and 10 transplants performed at London Bridge Hospital and Cromwell Hospital, respectively

Table A1.2 Number of deceased donor adult first liver only transplants in each time period, by transplant centre and urgency status						
Transplant centre	Latest year		Last 3 years		Last 10 years	
	April 2025-March 2026		April 2025-March 2026		April 2016-March 2026	
	Elective	Super-urgent	Elective	Super-urgent	Elective	Super-urgent
Newcastle	27	2	108	7	314	33
Leeds	92	8	282	24	925	95
Cambridge	93	8	287	23	884	73
Royal Free	96	6	302	24	937	99
King's College	193	11	460	28	1506	131
Birmingham	135	8	423	33	1495	128
Edinburgh	64	5	181	14	677	36
UK	700	48	2043	153	6738	595
Dublin	29	2	99	9	386	36

Table A1.3 shows the total number of paediatric transplants in the three time periods defined in the report, including atypical donor, [multi-organ](#) and re-transplants. **Table A1.4** shows the number of paediatric deceased donor first liver only transplants.

Table A1.3 Number of paediatric liver transplants in each time period, by transplant centre and urgency status						
Transplant centre	Latest year		Last 3 years		Last 10 years	
	April 2025-March 2026		April 2025-March 2026		April 2016-March 2026	
	Elective	Super-urgent	Elective	Super-urgent	Elective	Super-urgent
Newcastle	0	0	0	1	0	2
Leeds	15	4	52	9	180	32
Cambridge	0	0	0	1	0	1
Royal Free	0	0	0	0	0	0
King's College	47	1	121	19	378	90
Birmingham	17	0	52	8	219	44
Edinburgh	0	0	0	1	0	2
UK	79	5	225	39	778¹	171
Dublin	0	0	0	0	1	0

¹ Includes 1 transplant performed at Cromwell Hospital

Table A1.4 Number of deceased donor paediatric first liver only transplants in each time period, by transplant centre and urgency status						
Transplant centre	Latest year		Last 3 years		Last 10 years	
	April 2025-March 2026		April 2025-March 2026		April 2016-March 2026	
	Elective	Super-urgent	Elective	Super-urgent	Elective	Super-urgent
Newcastle	0	0	0	1	0	2
Leeds	11	4	31	7	120	24
Cambridge	0	0	0	1	0	1
Royal Free	0	0	0	0	0	0
King's College	28	1	69	16	253	66
Birmingham	14	0	47	7	180	35
Edinburgh	0	0	0	1	0	2
UK	53	5	147	33	553	130
Dublin	0	0	0	0	1	0

A2 Methods

Waiting time to transplant

Waiting time is calculated from date of registration to date of either transplant, removal, death on the list or last known date for patients registered for a liver. Patients who are registered for another organ within the timeframe are excluded and only deceased donor transplants are included. Registrations for a re-transplant are included. [Kaplan-Meier](#) estimates are used to calculate waiting time, where patients who are removed or died on the waiting list are censored at the date of the event. Patients who are still actively waiting for a transplant are censored at that time. Any periods of suspension are not included in the waiting time.

Geographical variation analysis

For a given individual who is a resident in a given NHS region registration to the transplant list is modelled as a Bernoulli trial. At the whole area level, this becomes a Binomial process which can be approximated by a Poisson distribution when rare events are modelled. Transplant counts follow similar assumptions.

To allow for the possibility that, even after allowing for area-specific Poisson rates, area differences remain, introduce an additional multiplicative rate factor which varies from area to area. Postulate a non-parametric distribution for the multiplicative factor, with variance σ^2 . If the factor is one for all areas, then area differences are fully explained by the area-specific Poisson rate. If the factor varies with a nonzero variance, σ^2 , then we conclude that there are unexplained area differences.

The systematic component of variation (SCV; McPherson et al., N Engl J Med 1982, 307: 1310-4) is the moment estimator of σ^2 . Under the null hypothesis of homogeneity across areas, the SCV would be zero. The SCV, therefore, allows us to detect variability across areas beyond that expected by chance; the larger the SCV, the greater the evidence of systematic variation across areas.

A one-sided p-value for the hypothesis that the SCV is greater than zero versus the null hypothesis that the SCV is equal to zero was derived using a parametric bootstrap where data were simulated from the Poisson distribution that would be consistent with the null hypothesis (multiplicative rate factor is equal to one in all areas and σ^2 equal to zero). The observed SCV was then compared against this simulated data to calculate the probability that an SCV of at least this size would be observed due to chance if the null hypothesis were true.

10,000 bootstrap samples of size 7 (number of areas) were simulated, where the registration/transplant count in each area was drawn from a Poisson distribution with its expected value being the area-specific expected count (the rate of transplants/registrations in the total population multiplied by the population of the area). The SCV was then calculated in each of the 10,000 samples and a bootstrap p-value for the SCV in the observed data was estimated as:

$$P_{boot} = \frac{1 + \#\{SCV_{sim} \geq SCV_{obs}\}}{10000 + 1}$$

where $\#\{SCV_{sim} \geq SCV_{obs}\}$ is the number of SCV values in the simulated datasets which are greater than or equal to the SCV in the observed data. This follows the simulation method given in Ibanez et al., BMC Health Services Research, 2009, 9:60. No adjustment was made for area-specific demographic characteristics that may impact the rates of registration to the transplant list and transplantation such as age and sex.

Unadjusted survival rates

[Unadjusted patient survival](#) and [graft function](#) rates were estimated using [Kaplan-Meier](#) methods. Patient survival rates are based on the number of patients transplanted and the number and timing of those that die within the post-transplant period of interest. Patients can be included in this method of analysis irrespective of the length of follow-up recorded. If a patient is alive at the end of the follow-up, then information about the survival of the patient is censored at the time of analysis. Death, irrespective of whether the graft is still functioning or not, is classed as an event. Estimates of graft function follow similar principles but the event of interest is graft failure in living post-transplant recipients instead of recipient death.

Risk-adjusted survival rates

A [risk-adjusted survival rate](#) is an estimate of what the survival rate at a centre would have been if they had the same mix of patients as the one seen nationally. The risk-adjusted rate therefore presents estimates for which differences in the patient mix across centres have been removed as much as possible. For that reason, it is valid to only compare centres using risk-adjusted rather than unadjusted rates, as differences among the latter can be attributed to differences in the patient mix.

Risk-adjusted survival estimates were obtained through indirect standardisation. A [Cox Proportional Hazards model](#) was used to determine the probability of survival for each patient based on their individual risk factor values. The sum of these probabilities for all patients at a centre gives the number, E , of patients or grafts expected to survive at least one year or five years after transplant at that centre. The number of patients who actually survive the time period of interest is given by O . The risk-adjusted estimate is then calculated by multiplying the ratio O/E by the overall unadjusted survival rate across all centres. The risk-adjustment models used were based on results from previous studies that looked at factors affecting the survival rates of interest. The factors included in the **survival post transplantation** models are shown in **Tables A3.1 and A3.2** below.

The [funnel plot](#) is a graphical method to show how consistent the survival rates of the different transplant centres are compared to the national rate. The graph shows for each centre, a survival rate plotted against the number of transplants undertaken, with the national rate and [confidence limits](#) around this national rate superimposed. In this report, 95% and 99.8% confidence limits were used. Units that lie within the confidence limits have survival rates that are statistically consistent with the national rate. When a unit is close to or outside the limits, this is an indication that the centre may have a rate that is considerably different from the national rate.

A fundamentally similar method was used to conduct the **survival from listing** analysis. The [risk factors](#) used are shown in **Table A3.3**.

A3 Risk models

Table A3.1 Risk factors and categories used in the adult elective risk adjusted survival models post transplantation	
Recipient sex	Male Female
Recipient ethnicity	White Asian Black Other
Indication	Cancer HCV ALD HBV PSC PBC AID Metabolic Other Acute hepatic failure
Recipient HCV status	Negative Positive
Pre-transplant in-patient status	Out-patient In-patient
Ascites	Absence Presence
Encephalopathy	Absence Presence
Pre-transplant renal support	No Yes
Previous abdominal surgery	No Yes
Varices & shunt	Absence Presence without treatment Presence with surgical shunt Presence with TIPS
Life style activity	Normal Restricted Self-care Confined Reliant
Graft appearance	Normal Abnormal
Recipient age years	Per 1 year increase
BMI kg/m ²	Per 1 kg/m ² increase
Serum Bilirubin µmol/l	≤30 31-50 51-70 71-90 ≥91
Serum Creatinine µmol/l	≤70 71-90 91-110 111-130 ≥131

Table A3.1 Risk factors and categories used in the adult elective risk adjusted survival models post transplantation

Serum sodium mmol/l	Per 10 mmol/l increase
Serum potassium mmol/l	Per 1 mmol/l increase
INR	Per 1 unit increase
Serum Albumin g/l	Per 5g/l increase
Cold Ischaemia time	Per 1 hour increase
Time on transplant list	Per 1 month increase
Donor sex	Male Female
Donor ethnicity	White Asian Black Other
Donor cause of death	Trauma CVA Others
Donor history of diabetes	No Yes
Donor type	Donor after brain death Donors after circulatory death
ABO match	Identical Compatible Incompatible
Graft type	Whole Segmental
Donor age years	Per 1 year increase
Donor BMI kg/m ²	Per 1 kg/ m ² increase

Table A3.2 Risk factors and categories used in the adult super-urgent risk adjusted survival models post transplantation	
Recipient sex	Male Female
Recipient ethnicity	White Asian Black Other
Recipient HCV status	Negative Positive
Pre-transplant in-patient status	Out-patient In-patient
Ascites	Absence Presence
Encephalopathy	Absence Presence
Pre-transplant renal support	No Yes
Previous abdominal surgery	No Yes
Varices & shunt	Absence Presence without treatment Presence with surgical shunt Presence with TIPS
Life style activity	Normal Restricted Self-care Confined Reliant
Graft appearance	Normal Abnormal
Recip age years	Per 1 year increase
BMI kg/m ²	Per 1 kg/m ² increase
Serum Bilirubin µmol/l	≤100 101-200 201-300 301-400 ≥401
Serum Creatinine µmol/l	≤100 101-130 131-160 161-190 ≥191
Serum sodium mmol/l	Per 10 mmol/l increase
Serum potassium mmol/l	Per 1 mmol/l increase
INR	Per 1 unit increase
Serum Albumin g/l	Per 5g/l increase
Cold Ischaemia time	Per 1 hour increase
Time on transplant list	Per 1 day increase
Donor sex	Male Female
Donor ethnicity	White Asian Black Other
Donor cause of death	Trauma CVA Others

Table A3.2 Risk factors and categories used in the adult super-urgent risk adjusted survival models post transplantation	
Donor history of diabetes	No Yes
Donor type	Donor after brain death Donors after circulatory death
ABO match	Identical Compatible Incompatible
Graft type	Whole Segmental
Donor age years	Per 1 year increase
Donor BMI kg/m ²	Per 1 kg/m ² increase

Table A3.3 Risk factors and categories used in the adult elective risk adjusted survival models post registration	
Recipient sex	Male Female
Recipient ethnicity	White Non-white
Recipient age at registration years	Per 1 year increase
Recipient BMI kg/m ²	Per 1 kg/m ² increase
Recipient blood group	O A B AB
Indication	Cancer HCV ALD HBV PSC PBC AID Metabolic Other
Serum sodium mmol/l	Per 10 mmol/l increase
Serum creatinine µmol/l	Per 10 µmol/l increase
Serum bilirubin µmol/l	Per 10 µmol/l increase
INR	Per 1 unit increase

A4 Glossary of terms

Active transplant list

When a patient is registered for a transplant, they are registered on what is called the 'active' transplant list. This means that when a donor organ becomes available, the patient is included among those who are matched against the donor to determine whether or not the organ is suitable for them. It may sometimes be necessary to take a patient off the transplant list, either temporarily or permanently. This may be done, for example, if someone becomes too ill to receive a transplant. The patient is told about the decision to suspend them from the list and is informed whether the suspension is temporary or permanent. If a patient is suspended from the list, they are not included in the matching of any donor organs that become available. Permanent suspension is known as a removal from the waiting list and is not included in suspended figures.

Auxiliary transplant

An auxiliary liver transplant involves surgically attaching part of a donor liver to the whole liver of the recipient without removal. The donor liver supports the native liver until it recovers. The donor liver can then be removed or left attached.

Case mix

The types of patients treated at a unit for a common condition. This can vary across units depending on the facilities available at the unit as well as the types of people in the catchment area of the unit. The definition of what type of patient a person is depends on the patient characteristics that influence the outcome of the treatment.

Total Preservation Time (TPT)

The length of time that elapses between an organ being removed from the donor to its transplantation into the recipient. Generally, the shorter this time, the more likely the organ is to work immediately and the better the long-term outcome. The factors which determine TPT include a) transportation of the organ from the retrieval hospital to the hospital where the transplant is performed, b) the need to tissue type the donor and cross-match the donor and potential recipients, c) the occasional necessity of moving the organ to another hospital if a transplant cannot go ahead, d) contacting and preparing the recipient for the transplant and e) access to the operating theatre. In cases where organ maintenance systems were used not all of this time duration is ischaemic, and no adjustment has been made for this in this report.

Confidence interval (CI)

When an estimate of a quantity such as a survival rate is obtained from data, the value of the estimate depends on the set of patients whose data were used. If, by chance, data from a different set of patients had been used, the value of the estimate may have been different. There is therefore some uncertainty linked with any estimate. A confidence interval is a range of values whose width gives an indication of the uncertainty or precision of an estimate. The number of transplants or patients analysed influences the width of a confidence interval. Smaller data sets tend to lead to wider confidence intervals compared to larger data sets. Estimates from larger data sets are therefore more precise than those from smaller data sets. Confidence intervals are calculated with a stated probability, usually 95%. We then say that there is a 95% chance that the confidence interval includes the true value of the quantity we wish to estimate.

Confidence limit

The upper and lower bounds of a [confidence interval](#).

Cox Proportional Hazards model

A statistical model that relates the instantaneous risk (hazard) of an event occurring at a given time point to the [risk factors](#) that influence the length of time it takes for the event to occur. This model can be used to compare the hazard of an event of interest, such as graft failure or patient death, across different groups of patients.

Donor type

Liver donors can be of different types.

Donor after brain death (DBD) means donation which takes place following the diagnosis of death using neurological criteria.

Donor after circulatory death (DCD) means donation which takes place following the diagnosis of death using circulatory criteria.

Living donor. A donor who is a living person and who is usually, but not always, a relative of the transplant patient. For example, a parent may donate part of their liver to their child.

Domino donor. A donor with a certain type of rare degenerative liver disease who receives a liver transplant to treat their condition. This donor gives their liver to another recipient in a domino liver transplant, because the liver still functions well for other recipients.

Elective and super-urgent patients

Separate selection criteria to join the liver transplant list have been devised for those patients requiring emergency transplantation (super-urgent) compared to those who require a routine procedure (elective transplantation). The two groups have a different range of aetiologies with markedly different short-term prognoses; different criteria are required to define that prognosis. Similarly, processes to allocate a donor liver are different for super-urgent and elective transplantation, reflecting those patient groups with a different risk of death without transplantation.

Funnel plot

A graphical method that shows how consistent the rates, such as survival rates or decline rates, of the different transplant units are compared to the national rate. For survival rates, the graph shows for each unit, a survival rate plotted against the number of transplants undertaken, with the national rate and [confidence limits](#) around this national rate superimposed. In this report, 95% and 99.8% confidence limits were used. Units that lie within the confidence limits have survival rates that are statistically consistent with the national rate. When a unit is close to or outside the limits, this is an indication that the centre may have a rate that is considerably different from the national rate.

Graft function

The percentage of patients who are alive with a functioning graft. This is usually specified for a given time period after transplant. For example, a 90 day graft function rate is the percentage of patients alive with a functioning graft 90 days after transplant.

Inter-quartile range (IQR)

The values between which the middle 50% of the data fall. The lower boundary is the lower quartile, the upper boundary the upper quartile.

Kaplan-Meier method

A method that allows patients with incomplete follow-up information to be included in estimating survival rates. For example, in a cohort for estimating one year [patient survival](#) rates, a patient was followed up for only nine months before they relocated. If we calculated a crude survival estimate using the number of patients who survived for at least a year, this patient would have to be excluded as it is not known whether or not the patient was still alive at one year after transplant. The Kaplan-Meier method allows information about such patients to be used for the length of time that they are followed-up, when this information would otherwise be discarded. Such instances of incomplete follow-up are not uncommon and the Kaplan-Meier method allows the computation of estimates that are more meaningful in these cases.

Median

The midpoint in a series of numbers, so that half the data values are larger than the median, and half are smaller.

Multi-organ transplant

A transplant in which the recipient receives more than one organ. For example, a patient may undergo a transplant of a liver and kidney.

Patient survival rate

The percentage of patients who are still alive (whether the graft is still functioning or not). This is usually specified for a given time period after first transplant. For example, a five-year patient survival rate is the percentage of patients who are still alive five years after their first transplant.

***p* value**

In the context of comparing survival rates across centres, the *p* value is the probability that the differences observed in the rates across centres occurred by chance. As this is a probability, it takes values between 0 and 1. If the *p* value is small, say less than 0.05, this implies that the differences are unlikely to be due to chance and there may be some identifiable cause for these differences. If the *p* value is large, say greater than 0.1, then it is quite likely that any differences seen are due to chance.

Risk-adjusted survival rate

Some transplants have a higher chance than others of failing at any given time. The differences in expected survival times arise due to differences in certain factors, the [risk factors](#), among patients. A risk-adjusted survival rate for a centre is the expected survival rate for that centre given the [case mix](#) of their patients. Adjusting for case mix in estimating centre-specific survival rates allows valid comparison of these rates across centres and to the national rate.

Risk factors

These are the characteristics of a patient, transplant or donor that influence the length of time that a graft is likely to function or a recipient is likely to survive following a transplant. For example, when all else is equal, a transplant from a younger donor is expected to survive longer than that from an older donor and so donor age is a risk factor.

Unadjusted survival rate

Unadjusted survival rates do not take account of [risk factors](#) and are based only on the number of transplants at a given centre and the number and timing of those that fail within the post-transplant period of interest. In this case, unlike for [risk-adjusted rates](#), all transplants are assumed to be equally likely to fail at any given time.

However, some centres may have lower unadjusted survival rates than others simply because they tend to undertake transplants that have increased risks of failure.

Comparison of unadjusted survival rates across centres and to the national rate is therefore inappropriate.

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