

Kidney Activity

Key messages

- The number of patients registered on the kidney transplant list this year increased to 6,250
- The number of deceased kidney donors increased by 6% to 1,447
- Kidney transplants from living donors fell by 2% to 907, while transplants from deceased donors increased by 4% to 2,448
- 97 kidney transplants were made possible by the paired living kidney donation programme (17 2-way and 21 3-way exchanges)
- There were 48 non-directed altruistic living kidney donors, leading to 102 patients benefitting from a living donor transplant

5.1 Overview

The number of deceased kidney donors increased by 6% in 2023-2024 compared to 2022-2023 and the number of deceased donor kidney transplants increased by 4%. There were 6,250 patients waiting for a kidney transplant at 31 March 2024, with the number of patients on the national list increasing as more patients are reactivated on the list following the height of the COVID-19 pandemic.

A summary of activity for deceased donor kidney transplants and the transplant list at year end for the last ten years is shown in **Figure 5.1**. The number of patients registered on the active transplant list at 31 March 2024 for a kidney only or multi-organ kidney transplant has increased by 9% since 31 March 2015. These registrations include patients suspended on the kidney waiting list but active on the liver waiting list for a combined liver and kidney transplant.

On 11 September 2019, a new National Kidney Offering Scheme was introduced to offer kidneys from both donors after brain death and donors after circulatory death. This is a change from the previous system where kidneys from donors after circulatory death were offered under a different scheme than kidneys from donors after brain death. The scheme has two tiers with priority going to patients who are the most difficult to match or who have waited over 7 years for a transplant.

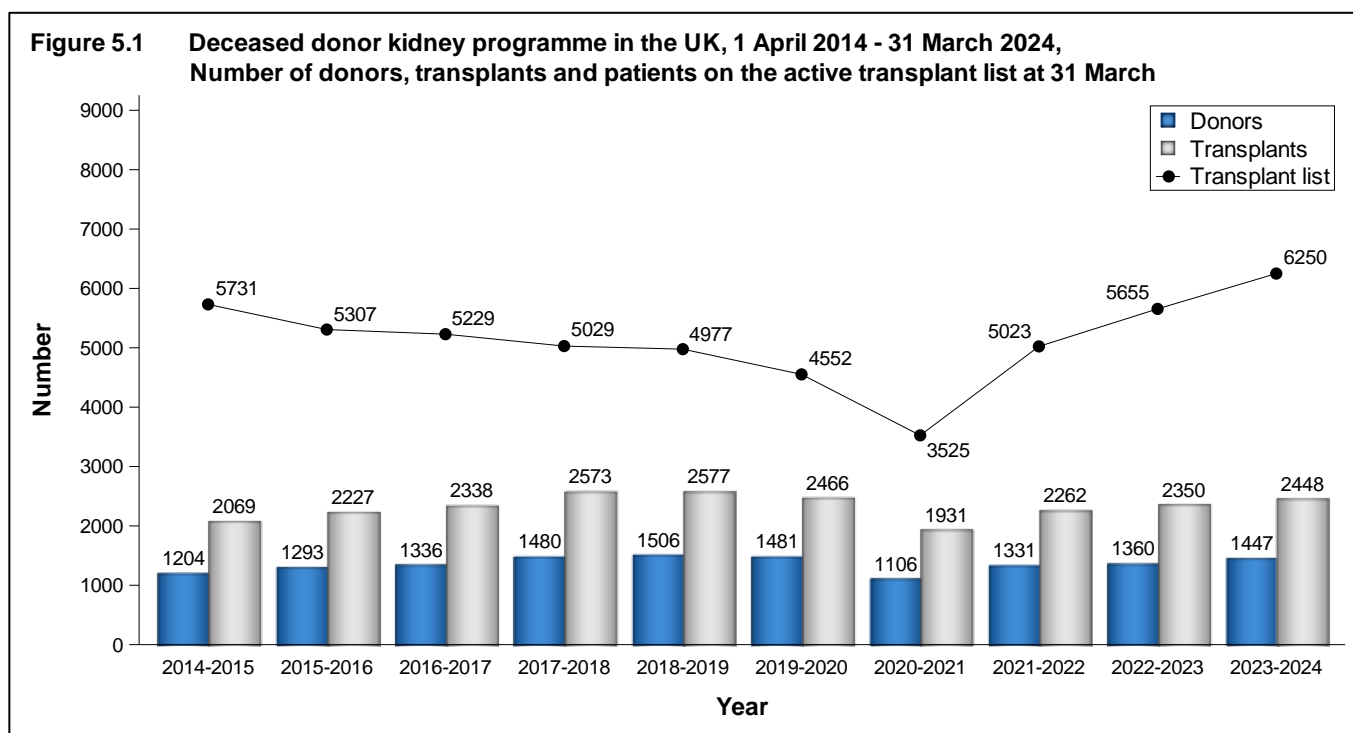


Table 5.1 shows the number of deceased and living donor kidney transplants carried out in 2022-2023 at each centre. Donation figures for centres in London are not reported individually as they have shared designated areas and donor populations. Multi-organ transplants including a kidney are included in the table.

The total number of deceased kidney donors increased to 1,447 in 2023-2024 from 1,360 in 2022-2023 and the number of transplants increased from 2,350 to 2,448. The number of kidney donors after circulatory death increased to 722 from 638 in 2022-2023 and the number of transplants from such donors increased by 13% to 1,188.

Throughout this chapter, intestinal transplants involving a kidney are not included in the kidney transplant activity reported. Any kidneys retrieved and used for such transplants are however reported in the kidney donor activity. Intestinal transplant activity is reported in Chapter 9.

Table 5.1 Kidney donors and transplants, 1 April 2023 - 31 March 2024 (2022-2023) and transplant list at 31 March 2024 (2023) in the UK, by centre

Centre	Deceased kidney donors				Deceased donor transplants				Living donor transplants		Active transplant list	
	DBD		DCD		DBD		DCD					
Belfast	33	(33)	31	(21)	15	(28)	34	(35)	56	(63)	74	(73)
Birmingham	29	(33)	51	(57)	110	(95)	72	(63)	46	(42)	450	(392)
Bristol	34	(31)	39	(28)	44	(45)	43	(46)	46	(38)	222	(183)
Cambridge	21	(33)	45	(37)	58	(68)	96	(94)	22	(17)	203	(175)
Cardiff	24	(29)	15	(26)	43	(37)	44	(39)	42	(41)	150	(139)
Coventry ¹	14	(13)	9	(7)	27	(23)	28	(22)	20	(18)	139	(123)
Edinburgh	21	(11)	20	(25)	40	(43)	34	(23)	48	(38)	231	(185)
Glasgow	48	(42)	38	(26)	53	(50)	46	(43)	46	(58)	256	(239)
Leeds	49	(50)	55	(45)	50	(66)	65	(56)	43	(56)	440	(356)
Leicester	19	(17)	15	(22)	59	(41)	38	(43)	25	(28)	292	(233)
Liverpool	26	(25)	11	(19)	47	(50)	39	(23)	27	(25)	191	(177)
London ²	189	(193)	214	(156)	-	-	-	-	-	-	-	-
Great Ormond Street	-	-	-	-	5	(7)	4	(1)	16	(19)	20	(15)
Guy's	-	-	-	-	121	(112)	99	(80)	93	(86)	389	(394)
Royal Free	-	-	-	-	36	(70)	64	(34)	22	(33)	286	(260)
Royal London	-	-	-	-	76	(58)	67	(46)	34	(41)	376	(379)
St George's	-	-	-	-	62	(54)	49	(49)	45	(22)	297	(281)
WLRTC	-	-	-	-	61	(100)	61	(68)	32	(41)	385	(409)
Manchester	62	(74)	50	(41)	108	(105)	105	(86)	64	(76)	586	(531)
Newcastle	31	(28)	25	(19)	55	(44)	31	(41)	44	(50)	290	(247)
Nottingham	20	(19)	20	(22)	36	(26)	21	(18)	14	(19)	153	(151)
Oxford ¹	27	(38)	25	(32)	79	(75)	68	(73)	57	(58)	375	(322)
Plymouth	24	(12)	19	(8)	16	(28)	16	(15)	16	(18)	108	(114)
Portsmouth	35	(25)	23	(35)	39	(43)	33	(36)	32	(21)	205	(164)
Sheffield	19	(16)	17	(12)	20	(28)	31	(20)	14	(9)	132	(113)
TOTAL	725	(722)	722	(638)	1260	(1296)	1188	(1054)	907^{3,5}	(926^{4,6})	6250	(5655)

WLRTC - West London Renal and Transplant Centre

¹ As of 1 June 2016 Coventry and Oxford began working in partnership as a transplant network.

² Donor figures in this area cannot be linked to individual transplant centres due to shared retrieval areas.

³ Includes an additional 2 transplants performed at London, Cromwell Hospital and 1 transplant performed at London, London Bridge Hospital

⁴ Includes an additional 3 transplants performed at London, Cromwell Hospital and 6 transplants performed at London, London Bridge Hospital

⁵ Includes 1 domino donor

⁶ Includes 5 domino donors

5.2 Transplant list

The number of patients registered on the kidney or kidney and pancreas transplant list increased in the year: on 31 March 2024, 6,250 patients were registered as active, compared with 5,655 at the end of March 2023.

Of the 6,250 patients on the active transplant list at 31 March 2024, 314 required a kidney and pancreas/islet transplant (271 at 31 March 2023).

The outcome of patients registered on the UK kidney and kidney/pancreas transplant list at 1 April 2023, or subsequently registered during the financial year, is shown in **Table 5.2**. A total of 4,541 patients joined the kidney transplant list last year, while a further 227 joined the kidney/pancreas transplant list.

Table 5.2 Kidney transplant list and new registrations in the UK, 1 April 2023 - 31 March 2024						
Outcome of patient at 31 March 2024	Active and suspended patients at 1 April 2023		New registrations in 2023-2024¹		TOTAL	
	N	%	N	%	N	%
Kidney transplant list						
Remained active/suspended	5725	66	3541	78	9266	70
Transplanted	2196	25	944	21	3140	24
Removed ²	553	6	31	1	584	4
Died	233	3	25	1	258	2
TOTAL	8707		4541		13248	
Kidney/pancreas transplant list						
Remained active/suspended	295	64	203	89	498	72
Transplanted	115	25	16	7	131	19
Removed ³	31	7	5	2	36	5
Died	21	5	3	1	24	3
TOTAL	462		227		689	

¹ Includes re-registrations for second or subsequent transplants
² Includes 6 patients removed from kidney list and made active on kidney/pancreas list
³ Includes 6 patients removed from kidney/pancreas list and made active on kidney/islet list

Table 5.3 shows the active transplant list in the UK at 31 March 2024 and 2023 by country/NHS region of patient's residence. In 2024, the overall kidney transplant list rate was 92.5 pmp with rates across NHS regions ranging from 68.6 pmp to 139.3 pmp.

Table 5.3 Active kidney transplant list at 31 March, by Country/ NHS region of patient residence				
Country/ NHS region of residence	Kidney transplant list (pmp)			
	2024		2023	
North East and Yorkshire	866	(105.4)	732	(89.1)
North West	662	(88.0)	604	(80.3)
Midlands	1097	(100.1)	957	(87.3)
East of England	439	(68.6)	371	(58.0)
London	1236	(139.3)	1274	(143.6)
South East	698	(74.4)	621	(66.2)
South West	452	(78.5)	386	(67.0)
England	5450	(95.4)	4945	(86.6)
Isle of Man	4	(50.0)	8	(100.0)
Channel Islands	8	(47.1)	9	(52.9)
Wales	216	(69.0)	185	(59.1)
Scotland	485	(89.0)	422	(77.4)
Northern Ireland	78	(40.8)	76	(39.8)
TOTAL¹	6250	(92.5)	5655	(83.7)

¹Includes patients in 2024 (2023) residing in: Unspecified UK 8 (7); Overseas 1 (3)

An indication of outcomes for adult patients listed for a kidney only transplant is summarised in **Figure 5.2**. This shows the proportion of patients transplanted or still waiting one, three and five years after joining the list. It also shows the proportion removed from the transplant list (typically because they become too unwell for transplant) and those dying while on the transplant list. Only 37% of patients are transplanted within one year, while five years after listing 75% of patients have received a transplant.

The median (average) waiting time for a kidney only transplant has fallen from 509 days reported last year to 489 days for an adult patient and is shown by blood group in **Table 5.4** and patient ethnicity in **Table 5.5**. Because of the need to match donor and recipient blood groups and tissue types, waiting times to transplant differ according to patient blood groups and ethnicity due to differences between the donor pool and patients awaiting a kidney transplant. Note that these waiting times are not adjusted for other relevant factors which may be influential and which may differ across blood or ethnic groups.

Figure 5.2 Post-registration outcome for 3502 new adult kidney only registrations made in the UK, 1 April 2018 - 31 March 2019

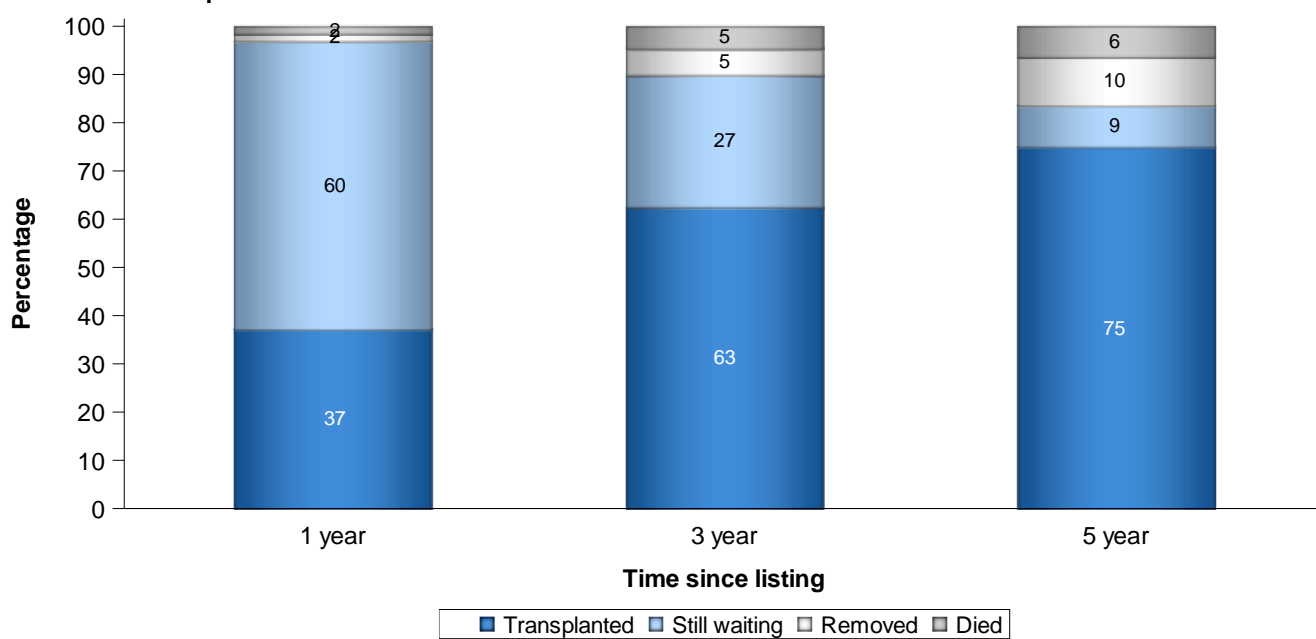


Table 5.4 Median waiting time to kidney only transplant in the UK, for patients registered 1 April 2017 - 31 March 2021

Blood group	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Adult			
O	4889	697	674 - 720
A	3815	283	269 - 297
B	1624	821	770 - 872
AB	496	153	128 - 178
TOTAL	10824	489	474 - 504
Paediatric			
O	136	360	239 - 481
A	86	231	142 - 320
B	45	650	571 - 729
AB	17	127	80 - 174
TOTAL	284	337	281 - 393

Table 5.5 Median waiting time to kidney only transplant in the UK, for patients registered 1 April 2017 - 31 March 2021

Ethnicity	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Adult			
White	7229	448	432 - 464
Asian	1843	586	548 - 624
Black	1108	612	561 - 663
Other	489	521	447 - 595
TOTAL¹	10824	489	474 - 504
Paediatric			
White	152	234	175 - 293
Asian	76	558	361 - 755
Black	32	360	314 - 406
Other	15	748	699 - 797
TOTAL²	284	337	281 - 393

¹ Includes 155 patients whose ethnicity was not reported

² Includes 9 patients whose ethnicity was not reported

5.3 Donor and organ supply

Of the 772 organ donors after brain death in the UK in 2023-2024, 725 (94%) were kidney donors. From these donors, 1,438 kidneys were retrieved. There were 722 kidney donors after circulatory death in 2023-2024. From these donors, 1,427 kidneys were retrieved. **Table 5.6** shows this activity by donor country/NHS region of donor's residence. No adjustments have been made for potential demographic differences in populations.

The overall rate for kidney donors after brain death is 10.7 pmp, with rates across NHS regions ranging from 7.2 to 12.9 pmp. The number of kidneys retrieved from donors after brain death in the UK is 21.3 pmp and varies from 14.4 to 25.7 pmp.

The overall rate for kidney donors after circulatory death is 10.7 pmp, with rates across NHS regions ranging from 6.6 to 14.2 pmp. The number of kidneys retrieved from donors after circulatory death is 21.1 pmp and varies from 13.0 to 28.3 pmp.

Table 5.6 Kidney donation and retrieval rates for deceased donors in the UK, 1 April 2023 - 31 March 2024, by Country/ NHS region								
Country/ NHS region of residence	Kidney donors (pmp)				Kidneys retrieved (pmp)			
	DBD		DCD		DBD		DCD	
North East and Yorkshire	106	(12.9)	102	(12.4)	211	(25.7)	202	(24.6)
North West	67	(8.9)	50	(6.6)	132	(17.6)	98	(13.0)
Midlands	82	(7.5)	95	(8.7)	161	(14.7)	187	(17.1)
East of England	62	(9.7)	91	(14.2)	123	(19.2)	181	(28.3)
London	64	(7.2)	78	(8.8)	128	(14.4)	152	(17.1)
South East	105	(11.2)	98	(10.4)	207	(22.1)	192	(20.5)
South West	68	(11.8)	70	(12.2)	135	(23.4)	139	(24.1)
England	554	(9.7)	584	(10.2)	1097	(19.2)	1151	(20.2)
Isle of Man	1	(12.5)	0	(0.0)	2	(25.0)	0	(0.0)
Channel Islands	0	(0.0)	0	(0.0)	0	(0.0)	0	(0.0)
Wales	36	(11.5)	24	(7.7)	72	(23.0)	48	(15.3)
Scotland	60	(11.0)	48	(8.8)	120	(22.0)	96	(17.6)
Northern Ireland	34	(17.8)	30	(15.7)	68	(35.6)	60	(31.4)
TOTAL¹	725	(10.7)	722	(10.7)	1438	(21.3)	1427	(21.1)

¹ Includes 64 donors with unknown UK postcode (40 DBD and 36 DCD)

5.4 Transplants

The number of kidney transplants by recipient country/NHS region of residence is shown in **Table 5.7**. No adjustments have been made for potential demographic differences in populations. The deceased donor transplant rate ranged from 25.7 to 53.1 pmp across NHS regions and overall was 34.0 pmp. The living donor transplant rate ranged from 8.9 to 15.6 pmp across NHS regions and overall was 13.3 pmp.

Country/ NHS region of residence	DBD		DCD		TOTAL		Living	
	N	(pmp)	N	(pmp)	N	(pmp)	N	(pmp)
North East and Yorkshire	115	(14.0)	122	(14.8)	237	(28.8)	104	(12.7)
North West	119	(15.8)	121	(16.1)	240	(31.9)	81	(10.8)
Midlands	232	(21.2)	155	(14.1)	387	(35.3)	102	(9.3)
East of England	82	(12.8)	126	(19.7)	208	(32.5)	57	(8.9)
London	251	(28.3)	220	(24.8)	471	(53.1)	124	(14.0)
South East	149	(15.9)	137	(14.6)	286	(30.5)	146	(15.6)
South West	71	(12.3)	77	(13.4)	148	(25.7)	83	(14.4)
England	1019	(17.8)	958	(16.8)	1977	(34.6)	697	(12.2)
Isle of Man	3	(37.5)	2	(25.0)	5	(62.5)	0	(0.0)
Channel Islands	4	(23.5)	6	(35.3)	10	(58.8)	0	(0.0)
Wales	46	(14.7)	47	(15.0)	93	(29.7)	53	(16.9)
Scotland	85	(15.6)	76	(13.9)	161	(29.5)	94	(17.2)
Northern Ireland	15	(7.9)	34	(17.8)	49	(25.7)	53	(27.7)
TOTAL^{1,2}	1173	(17.4)	1125	(16.6)	2298	(34.0)	899	(13.3)

¹ Excludes 10 recipients of a kidney who reside outside of the UK (2 DBD, 1 DCD and 7 living)
² Includes 5 recipient with an unknown UK postcode (1DBD, 2 DCD and 1 living)

The number of kidney only transplants at each transplant centre is shown in **Table 5.8** for adult patients only. Kidney transplants from donors after brain death include 1 en bloc kidneys and 14 double kidney transplants in 2023-2024 (2 and 12 in 2022-2023, respectively). Kidney transplants from donors after circulatory death include 1 en bloc and 19 double kidney transplants in 2023-2024 (3 and 11 in 2022-2023, respectively). This table excludes multi-organ transplants: 10 (8) kidney and liver, 127 (121) kidney and pancreas, and 10 (5) kidney and islets in 2023-2024 (2022-2023).

**Table 5.8 Adult kidney only transplants in the UK,
1 April 2022 - 31 March 2024, by transplant centre**

Transplant centre	2022-2023				2023-2024			
	DBD	DCD	Living donor	TOTAL	DBD	DCD	Living donor	TOTAL
Belfast	28	35	60	123	14	34	53	101
Birmingham	85	58	35	178	101	71	40	212
Bristol	41	45	34	120	40	43	40	123
Cambridge	56	87	17	160	52	82	21	155
Cardiff	33	36	41	110	35	40	42	117
Coventry ¹	23	22	18	63	27	28	20	75
Edinburgh	31	17	37	85	32	30	48	110
Glasgow	47	41	52	140	53	45	43	141
Guy's	89	71	75	235	106	91	82	279
Leeds	63	56	49	168	49	65	36	150
Leicester	41	43	28	112	59	38	24	121
Liverpool	50	23	25	98	47	39	27	113
Manchester	84	81	66	231	85	92	53	230
Newcastle	39	38	48	125	49	28	40	117
Nottingham	25	18	13	56	33	21	10	64
Oxford ¹	52	64	58	174	56	50	55	161
Plymouth	28	15	18	61	16	16	16	48
Portsmouth	43	36	21	100	39	33	32	104
Sheffield	28	20	9	57	20	31	14	65
St George's	54	49	22	125	62	49	45	156
The Royal Free	70	34	33	137	34	64	22	120
The Royal London	58	46	40	144	76	67	33	176
WLRTC	96	66	41	203	57	59	32	148
TOTAL	1164	1001	849²	3014²	1142	1116	831³	3089³

WLRTC - West London Renal and Transplant Centre

¹ As of 1 June 2016 Coventry and Oxford began working in partnership as a transplant network.

² Includes 3 transplants performed at London Cromwell Hospital and 6 transplants performed at London Bridge Hospital

³ Includes 2 transplants performed at London Cromwell Hospital and 1 transplant performed at London Bridge Hospital

Living donor kidney only transplants fell by 2% to 907 in 2023-2024, representing 27% of the total kidney transplant programme. The total number of living donor adult transplants performed by each transplant centre is shown in **Table 5.9**. Also shown is the number as a percentage of patients listed at the end of the year, to indicate the size of the living donor programme relative to the centre's transplant list.

Most living donor transplants are 'directed'. This means that a kidney is donated to a specific recipient known to the donor - a close family member or friend. There has been a 7% increase in these transplants. In addition, there are a number of 'non-directed' living donor transplants (also known as altruistic donor transplants). Last year 48 such donors donated a kidney to a recipient, 46 of which were transplanted into an adult recipient. Of the 48 non-directed altruistic donors, 32 donated into an altruistic donor chain (10 short (2 transplants each) and 22 long chains (3 transplants each)), benefiting 54 patients in the paired/pooled scheme. The kidneys from the paired donors of these recipients led to 32 adult patients on the deceased donor transplant list receiving a transplant. Thus 48 non-directed altruistic donors created chains benefiting 102 patients in total (100 adult and 2 paediatric patients).

When a potential living donor and recipient are biologically incompatible (blood group or tissue type), they may consider joining a list of others in the same situation with the hope that an exchange of kidneys between them can lead to a compatible living donor transplant. The scheme also includes compatible pairs that would like a better match. This type of exchange is known as paired donation and most exchanges are between two pairs (i.e. two donors and their respective incompatible recipients), or between three pairs. In 2023-2024, there were 97 paired living kidney donor transplants (95 adult and 2 paediatric recipients).

As a percentage of the number of patients on the active transplant list at 31 March 2024, the number of living donor adult transplants in the year was 14% nationally and ranged from 7% to 72% at individual transplant centres.

Table 5.9 Adult living donor kidney transplants in the UK, 1 April 2023 - 31 March 2024, and percentage of active transplant list at 31 March, by transplant centre/region

Transplant centre	Directed	Non-directed (altruistic) to waiting list	Paired/pooled exchanges	Altruistic donor chain	TOTAL	
					N	% list
Belfast	44	1	3	5	53	72
Birmingham	33	1	3	3	40	9
Bristol	29	0	6	5	40	19
Cambridge	18	0	2	1	21	10
Cardiff	37	1	3	1	42	28
Coventry ¹	15	1	3	1	20	14
Edinburgh	41	0	5	2	48	21
Glasgow	29	2	9	3	43	17
Guy's	62	2	9	9	82	22
Leeds	21	1	7	7	36	8
Leicester	18	0	1	5	24	8
Liverpool	21	1	3	2	27	14
Manchester	48	0	2	3	53	9
Newcastle	29	1	5	5	40	14
Nottingham	4	1	3	2	10	7
Oxford ¹	40	1	8	6	55	15
Plymouth	8	0	4	4	16	15
Portsmouth	25	0	4	3	32	16
Sheffield	11	0	2	1	14	11
St George's	32	0	8	5	45	15
The Royal Free	18	1	2	1	22	8
The Royal London	29	3	0	1	33	9
WLRTC	20	0	3	9	32	8
TOTAL²	635	17³	95	84	831	14

¹ As of 1 June 2016 Coventry and Oxford began working in partnership as a transplant network.

² Includes 2 directed transplants performed at London Cromwell and 1 at London Bridge

³ Includes 1 domino donor transplant

Non-directed, altruistic donor kidneys are matched to a suitable recipient on a national basis and thus are rarely used in the transplant centre responsible for the 'work-up' of the donor. The number of non-directed donors according to donor hospital (rather than transplant hospital) and whether the altruistic donor donated as part of a chain within the paired/ pooled scheme or directly to the deceased donor list is shown in **Table 5.10**.

Table 5.10 Non-directed altruistic kidney donors in the UK, 1 April 2022 - 31 March 2024, by donor centre										
Donor centre	Transplant list	2022-2023 Donation to			%	Transplant list	2023-2024 Donation to			%
		Chain	Total				Chain	Total		
Belfast	7	4	11	13	7	10	17	35		
Birmingham	1	2	3	4	1	3	4	8		
Bristol	1	2	3	4	0	1	1	2		
Cambridge	0	0	0	0	1	0	1	2		
Cardiff	1	3	4	5	0	0	0	0		
Coventry ¹	0	1	1	1	1	0	1	2		
Edinburgh	1	1	2	2	1	1	2	4		
Glasgow	2	3	5	6	0	1	1	2		
Guy's	4	6	10	12	0	3	3	6		
Leeds	4	4	8	10	0	1	1	2		
Leicester	1	0	1	1	0	0	0	0		
Liverpool	0	0	0	0	1	2	3	6		
Manchester	1	1	2	2	0	2	2	4		
Newcastle	0	4	4	5	0	0	0	0		
Nottingham	1	3	4	5	1	1	2	4		
Oxford ¹	2	2	4	5	2	2	4	8		
Plymouth	4	1	5	6	0	0	0	0		
Portsmouth	2	8	10	12	0	1	1	2		
Sheffield	1	2	3	4	0	0	0	0		
St George's	1	0	1	1	0	1	1	2		
The Royal Free	0	0	0	0	0	0	0	0		
The Royal London	0	2	2	2	1	3	4	8		
WLRTC	0	0	0	0	0	0	0	0		
Total donors	34	49	83	100	16	32	48	100		

WLRTC - West London Renal and Transplant Centre
¹ As of 1 June 2016 Coventry and Oxford began working in partnership as a transplant network.

The number of deceased donor and living donor transplants in paediatric patients (<18 years) performed by each paediatric transplant centre is shown in **Table 5.11**. There were 76 living donor transplants and 43 deceased donor transplants in paediatric patients in 2023-2024. The paediatric transplant list has increased by 19% from 104 patients at 31 March 2023 to 124 at the end of March 2024.

Table 5.11 Paediatric kidney only transplants in the UK, 1 April 2022 - 31 March 2024, by transplant centre								
Transplant centre	2022-2023				2023-2024			
	DBD	DCD	Living donor	TOTAL	DBD	DCD	Living donor	TOTAL
Belfast	0	0	3	3	1	0	3	4
Birmingham	10	5	7	22	9	1	6	16
Bristol	4	1	4	9	4	0	6	10
Glasgow	3	2	6	11	0	1	3	4
Great Ormond Street	7	1	19	27	5	4	16	25
Guy's	6	0	11	17	6	2	11	19
Leeds	3	0	7	10	1	0	7	8
Manchester	5	1	10	16	4	1	11	16
Newcastle	0	0	2	2	0	1	4	5
Nottingham	1	0	6	7	3	0	4	7
Adult centres	1	0	2	3	0	0	5	5
TOTAL	40	10	77¹	127	33	10	76²	119

¹ Includes 2 non-directed donor transplants, 1 paired living donor transplant and 5 altruistic donor chain (4 as a patient on transplant list at end of chain)

² Includes 2 paired living donor transplants and 2 altruistic donor chain

At 31 March 2024, there were approximately 44,900 recipients with a functioning kidney transplant (including multi-organ transplants) being followed-up as reported to the UK Transplant Registry.

Rates of pre-emptive kidney only transplantation are shown in **Table 5.12**. Of the 3,208 kidney only transplant recipients in 2023-2024, dialysis status at time of transplant was reported for 3,039 (95%). Of these 3,039 transplants, 559 (18%) were carried out in pre-dialysis patients.

Pre-emptive transplants accounted for 25% of all paediatric kidney only transplants with reported dialysis status, compared with 18% of those in adults. Living donor transplants are more likely to be carried out before the need for dialysis than deceased donor transplants: 36% and 12% respectively. This is because a living donor transplant can often be carried out more quickly than a deceased donor kidney transplant as the latter often necessitates a long waiting time.

Table 5.12 Pre-emptive kidney only transplants in the UK, 1 April 2023 - 31 March 2024

	Number of kidney only transplants	Number of transplants with known dialysis status at transplant (% of all)	Percentage of patients transplanted prior to the need for dialysis (of those with known status)
Adult			
Deceased donor transplant	2258	2155 (95.4)	(11.8)
Living donor transplant	831	775 (93.3)	(35.7)
Paediatric			
Deceased donor transplant	43	40 (93.0)	(7.5)
Living donor transplant	76	69 (90.8)	(34.8)

The length of time that elapses between a kidney being removed from the donor to its transplantation into the recipient is called total preservation time. Generally, the shorter this time, the more likely the kidney is to work immediately and the better the long-term outcome. The factors which determine this time include a) transportation of the kidney 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 kidney 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. Median total preservation times are shown in addition to inter-quartile ranges in **Table 5.13**.

Table 5.13 Median total preservation time for kidney only transplants in the UK, 1 April 2023 - 31 March 2024

	Number of kidney only transplants ¹	Median (hours)	Inter-quartile range ²	
			Q1	Q3
Adult				
DBD donor transplant	1142	13.3	10.0	17.7
DCD donor transplant	1116	13.4	10.5	17.7
Total	2258	13.4	10.3	17.7
Paediatric				
DBD donor transplant	33	11.7	10.4	14.3
DCD donor transplant	10	11.6	9.8	13.8
Total	43	11.7	10.2	14.3
TOTAL	2301	13.4	10.3	17.7

¹ Not all cold ischaemia times are reported

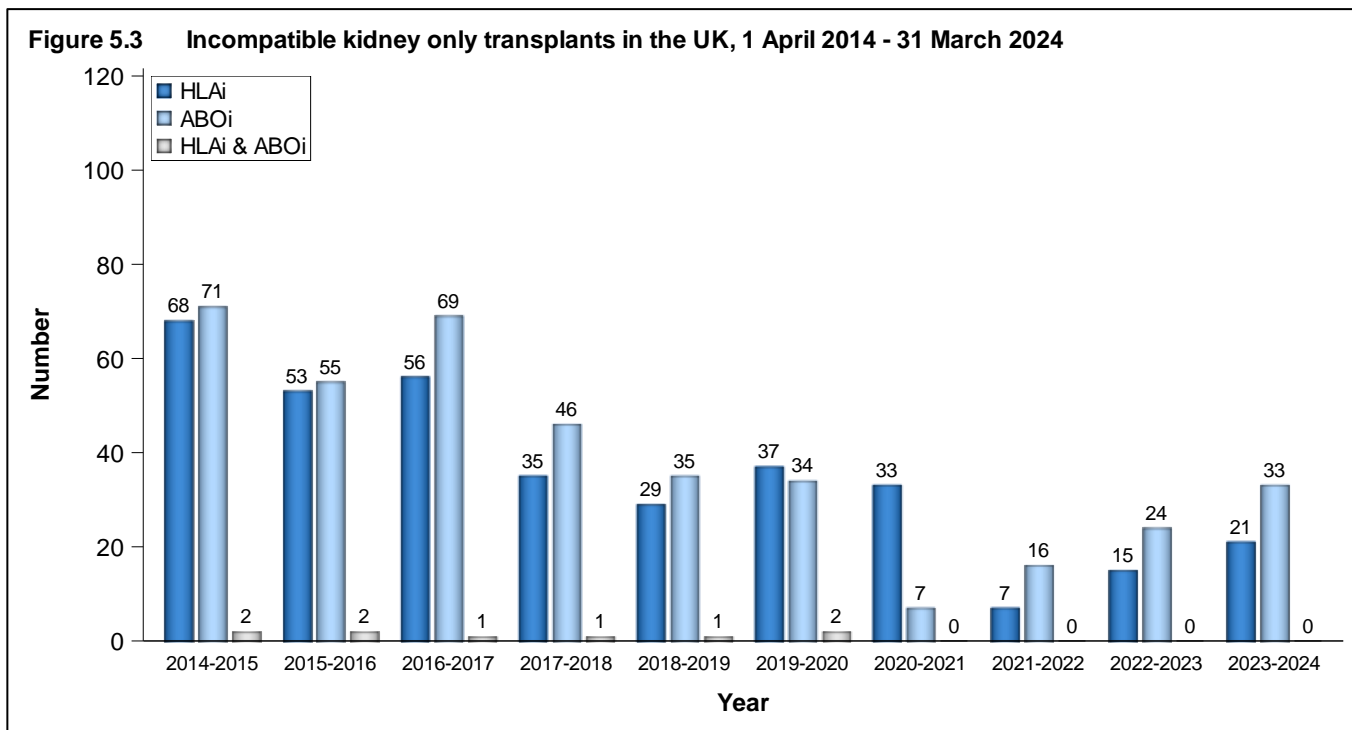
² 25% of times are shorter than Q1, 25% are longer than Q3

Kidneys from donors after brain death and some kidneys from donors after circulatory death are allocated on the basis of a national Kidney Offering Scheme which incorporates HLA matching between donor and recipient. These HLA matches are based on four levels which are described in **Table 5.14**. Prior to 11 September 2019 patients with 000 HLA-A, B, DR mismatch (Level 1) were prioritised in the scheme, whereas kidneys were rarely transplanted as a Level 4 mismatch. Under the new scheme, Level 4 mismatches are only permitted for difficult to match patients. More information about the allocation scheme can be found at www.odt.nhs.uk. **Table 5.15** gives the HLA mismatch group for adult and paediatric patients for DBD donor transplants but also for DCD and living donor transplants. For living donor transplantation, many transplants have a poorer HLA match between donor and recipient than deceased donor transplantation. Very often there is no genetic relationship between donor and recipient.

Table 5.14 HLA mismatch groups		
Level	HLA mismatch summary	HLA mismatch combinations included
1	000	000
2	[0 DR and 0/1 B]	100, 010, 110, 200, 210, 001, 101, 201
3	[0 DR and 2 B] or [1 DR and 0/1 B]	020, 120, 220, 011, 111, 211
4	[1 DR and 2 B] or [2 DR]	021, 121, 221, 002, 102, 202, 012, 112, 212, 022, 122, 222

Table 5.15 HLA matching for kidney only transplants in the UK, 1 April 2023 - 31 March 2024						
	DBD		DCD		Living	
	N	%	N	%	N	%
Adult						
Level 1 (Best match)	26	(2)	24	(2)	53	(8)
Level 2	299	(26)	246	(22)	106	(17)
Level 3	528	(46)	559	(50)	288	(45)
Level 4	289	(25)	286	(26)	191	(30)
Not reported	0	-	1	-	193	-
Paediatric						
Level 1 (Best match)	2	(6)	1	(10)	0	(0)
Level 2	22	(67)	7	(70)	18	(31)
Level 3	5	(15)	1	(10)	40	(69)
Level 4	4	(12)	1	(10)	0	(0)
Not reported	0	-	0	-	18	-

Often potential living donors and their recipients are HLA or blood group incompatible. Increasingly it is possible to proceed with transplantation across the incompatibilities with appropriate management. The number of HLA and ABO blood group incompatible transplants over the last ten years is shown in **Figure 5.3**. Of the 354 HLA incompatible (HLAi) transplants performed; 171 were deceased donor transplants and 183 were living donor transplants, whilst the vast majority of ABO incompatible (ABOi) transplants were living donor transplants (386 of 390). Due to the nature of reporting HLA incompatible transplants, the numbers presented may be subject to change over time.



5.5 Demographic characteristics

The age group, sex, ethnicity and blood group of deceased donors, transplant recipients and patients on the transplant list are shown in **Table 5.16** and for living donors and transplants in **Table 5.17**. Note that all percentages quoted are based only on data where relevant information was available.

Table 5.16 Demographic characteristics of deceased kidney donors and transplant recipients, 1 April 2023 - 31 March 2024, and transplant list patients at 31 March							
		Donors		Transplant recipients		Active transplant list patients	
		N	(%)	N	(%)	N	(%)
Age (years)	0-17	38	(3)	43	(2)	124	(2)
	18-34	180	(12)	298	(12)	681	(11)
	35-49	324	(22)	585	(24)	1758	(28)
	50-59	357	(25)	637	(26)	1766	(28)
	60-69	369	(26)	620	(25)	1471	(24)
	70+	179	(12)	265	(11)	450	(7)
	mean (SD)	52	(16)	52	(15)	51	(14)
Sex	Male	863	(60)	1532	(63)	3791	(61)
	Female	584	(40)	916	(37)	2441	(39)
	Unknown	0	-	0	-	18	-
Ethnicity	White	1330	(94)	1487	(63)	3824	(64)
	Asian	48	(3)	487	(21)	1250	(21)
	Black	17	(1)	317	(13)	712	(12)
	Other	14	(1)	83	(3)	197	(3)
	Unknown	38	-	74	-	267	-
Blood group	O	713	(49)	1071	(44)	3319	(53)
	A	523	(36)	891	(36)	1634	(26)
	B	143	(10)	339	(14)	1172	(19)
	AB	63	(4)	147	(6)	125	(2)
	Unknown	5	-	0	-	0	-
Graft number	First graft	-	-	2072	(85)	5118	(82)
	Re-graft	-	-	376	(15)	1132	(18)
TOTAL		1447	(100)	2448	(100)	6250	(100)

Table 5.17 Demographic characteristics of living kidney donors and transplant recipients, 1 April 2023 - 31 March 2024

		Donors		Transplant recipients	
		N	(%)	N	(%)
Age (years)	0-17	0	(0)	76	(8)
	18-34	143	(16)	188	(21)
	35-49	339	(37)	266	(29)
	50-59	253	(28)	205	(23)
	60-69	139	(15)	133	(15)
	70+	33	(4)	39	(4)
	Mean (SD)	48	(12)	44	(17)
Sex	Male	432	(48)	552	(61)
	Female	475	(52)	351	(39)
	Unknown	0	-	4	-
Ethnicity	White	789	(87)	728	(84)
	Asian	68	(8)	80	(9)
	Black	27	(3)	39	(4)
	Other	22	(2)	22	(3)
	Unknown	1	-	38	-
Blood group	O	523	(58)	404	(45)
	A	292	(32)	376	(41)
	B	85	(9)	105	(12)
	AB	7	(1)	22	(2)
Graft number	First graft	-	-	794	(88)
	Re-graft	-	-	113	(12)
TOTAL		907	(100)	907	(100)