

Intestinal Activity

Key messages

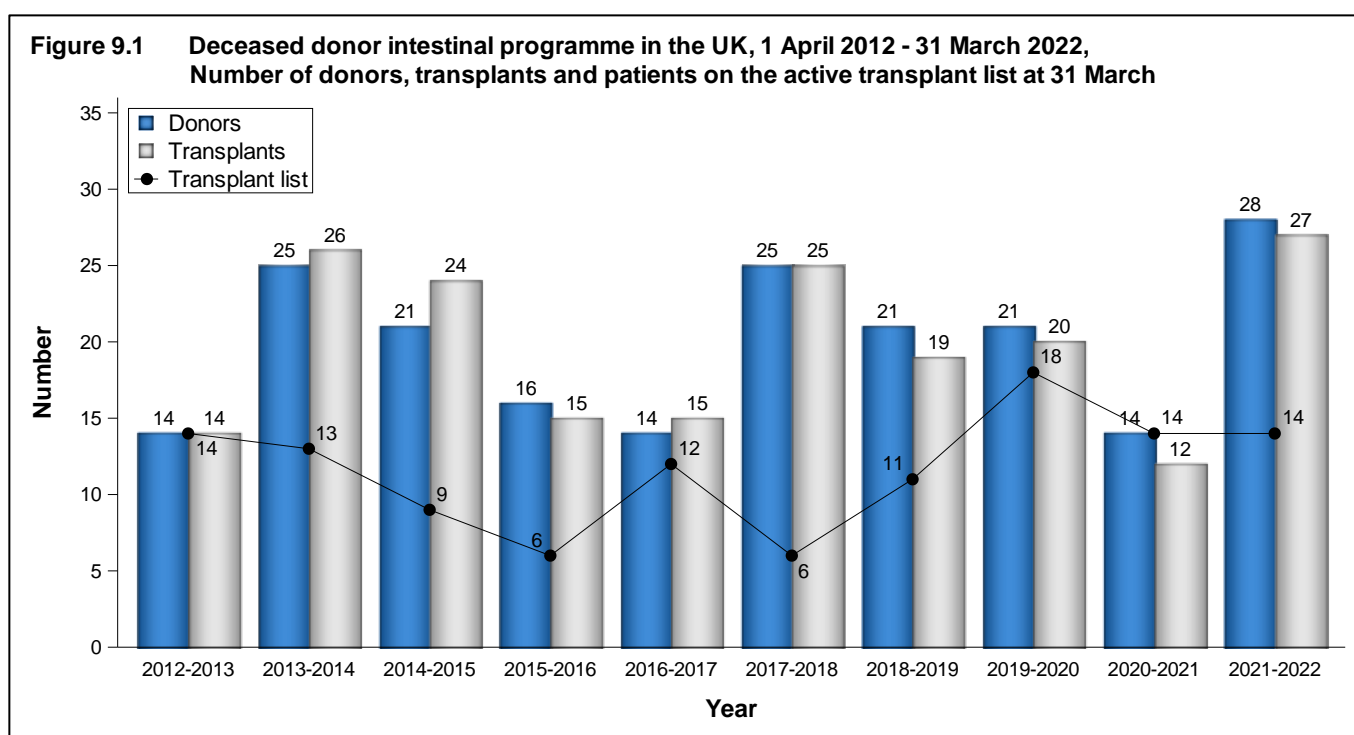
- There were 14 patients on the active intestinal transplant list at 31 March 2022 in total
- There were 34 registrations for an intestinal transplant during 2021-2022
- 27 intestinal transplants were carried out in 2021-2022 (12 in the previous year)
- On average, patients wait 4 months for a transplant

9.1 Overview

Note that the COVID-19 pandemic will have affected the number of offered, retrieved and transplanted organs in 2021-2022.

A national Intestinal Allocation Scheme has been in place since 2013. Patients are prioritised according to a points system based on a range of clinical factors including donor-recipient age matching, loss of intravenous line access, liver failure, diagnosis of malignancy, in-hospital status, additional organs required, sensitisation and waiting time. A score is calculated for every potentially suitable patient on the national active transplant list and donor organs are allocated preferentially to the patient with the most points.

A summary of activity for deceased donor intestinal transplants and the transplant list at year end for the last ten years is shown in **Figure 9.1**. The number of patients registered on the active transplant list for an intestinal transplant has remained stable at 14. In the last financial year, the number of intestinal transplants increased to the highest number seen in the period analysed.



9.2 Transplant list

In 2021-2022, there were 34 registrations for an intestinal transplant corresponding to 34 patients. The outcome of these registrations for paediatric (aged <18 years) and adult patients, as at 31 March 2022, broken down by transplant centre, can be found in **Table 9.1**. Overall, 13 (38%) remained active/suspended, 15 (44%) resulted in a transplant, 2 (6%) died on the transplant list, and 4 (12%) were removed.

Table 9.1 Outcome of intestinal registrations in the UK, 1 April 2021 and 31 March 2022									
Transplant centre	Outcome of registrations as at 31 March 2022								TOTAL
	Transplanted		Died		Removed		Active/Susp		
	N	%	N	%	N	%	N	%	
Adult									
Cambridge	8	42	2	11	0	0	9	47	19
Oxford	4	50	0	0	2	25	2	25	8
TOTAL	12	44	2	7	2	7	11	41	27
Paediatric									
Birmingham	3	60	0	0	2	40	0	0	5
King's College	0	0	0	0	0	0	2	100	2
TOTAL	3	43	0	0	2	29	2	29	7

Table 9.2 shows the active intestinal transplant list in the UK at 31 March 2022 and 2021 by country/NHS region of patient's residence. At 31 March 2022, the overall transplant list rate was 0.2 pmp and ranged from 0.0 to 0.5 pmp across NHS regions, although these numbers are very small, so these are not meaningful differences.

Table 9.2 Active intestinal transplant list at 31 March by Country/NHS region of patient residence				
Country/ NHS region of residence	Intestinal transplant list (pmp)			
	2022		2021	
North East and Yorkshire	4	(0.5)	2	(0.2)
North West	0	(0.0)	1	(0.1)
Midlands	0	(0.0)	2	(0.2)
East of England	1	(0.2)	4	(0.6)
London	2	(0.2)	1	(0.1)
South East	2	(0.2)	2	(0.2)
South West	2	(0.4)	1	(0.2)
England	11	(0.2)	13	(0.2)
Isle of Man	0	(0.0)	0	(0.0)
Channel Islands	0	(0.0)	0	(0.0)
Wales	0	(0.0)	0	(0.0)
Scotland	3	(0.5)	1	(0.2)
Northern Ireland	0	(0.0)	0	(0.0)
TOTAL	14	(0.2)	14	(0.2)

Table 9.3 shows median waiting time to elective intestinal transplant by registration type. On average, patients wait 133 days for a transplant, but those requiring a liver wait significantly longer.

Table 9.3 Median waiting time to intestinal transplant in the UK, for patients registered 1 April 2017 - 31 March 2021, by registration type			
Registration type	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Bowel only ¹	18	139	85 - 193
Liver, bowel and pancreas ¹	53	179	125 - 233
Bowel and pancreas ¹	35	90	32 - 148
TOTAL	106	133	93 - 173

¹ May also include any of: stomach, spleen, abdominal wall, kidney

9.3 Donor and organ supply

The rates per million population (pmp) for intestinal donors are shown in **Table 9.4** by donor country/NHS region of residence. The overall DBD intestinal donor rate was 0.4 pmp and ranged from 0.2 to 0.7 pmp across NHS regions. Of the 785 DBD solid organ donors, 28 (4%) donated their small bowel. A large majority of DBD solid organ donors are lost because they are outside of the age and weight criteria for bowel donation. The next most common reason for losing donors is lack of consent for bowel donation. Of those donors with consent for bowel donation, the most common reason for not offering them is no suitable recipient on the transplant list followed by donor history. Of those donors that are offered, a large number are not accepted, most commonly, due to donor virology, donor history and unsuitable size.

Table 9.4 Intestinal donation rates for deceased donors after brain death, in the UK, 1 April 2021 - 31 March 2022, by Country/ NHS region

Country/ NHS region of residence	Solid organ donors (pmp)		Intestinal donors (pmp)		% of solid organ donors	Organs used
North East and Yorkshire	111	(12.8)	2	(0.2)	1.8	2
North West	64	(9.0)	3	(0.4)	4.7	3
Midlands	103	(9.7)	3	(0.3)	2.9	3
East of England	68	(10.4)	2	(0.3)	2.9	2
London	91	(10.1)	3	(0.3)	3.3	3
South East	118	(13.2)	6	(0.7)	5.1	6
South West	73	(12.9)	4	(0.7)	5.5	4
England	628	(11.1)	23	(0.4)	3.7	23
Isle of Man	1	(12.5)	0	(0.0)	0.0	0
Channel Islands	4	(23.5)	0	(0.0)	0.0	0
Wales	41	(12.9)	5	(1.6)	12.2	4
Scotland	46	(8.4)	0	(0.0)	0.0	0
Northern Ireland	37	(19.5)	0	(0.0)	0.0	0
TOTAL¹	785	(11.7)	28	(0.4)	3.6	27

¹ Includes 28 donors with unknown UK postcode

9.4 Transplants

Table 9.5 shows intestinal transplant activity by transplant centre and transplant type for financial years 2020-2021 and 2021-2022. In 2021-2022, there were a total of 27 transplants, 20 adult and 7 paediatric transplants.

At 31 March 2022 there were approximately 170 recipients with a functioning intestinal transplant (or multi-organ including intestine) being followed-up as reported to the UK Transplant Registry.

Table 9.5 Intestinal transplants in the UK, by age group, centre and type, 1 April 2021 - 31 March 2022 (2020 - 2021)												
Transplant centre	BO		LBP		Transplant type				LB		TOTAL	
					MV		MMV					
Adult												
Cambridge	1	(0)	0	(0)	9	(1)	4	(5)	0	(0)	14	(6)
Oxford	5	(0)	0	(0)	0	(0)	1	(0)	0	(0)	6	(0)
TOTAL	6	(0)	0	(0)	9	(1)	5	(5)	0	(0)	20	(6)
Paediatric												
Birmingham	1	(1)	1	(0)	0	(4)	2	(0)	0	(0)	4	(5)
King's College	2	(1)	0	(0)	1	(0)	0	(0)	0	(0)	3	(1)
TOTAL	3	(2)	1	(0)	1	(4)	2	(0)	0	(0)	7	(6)

BO = Bowel only (may also include stomach/spleen/abdominal wall/kidney/colon)
 BP = Bowel and pancreas
 LBP = Liver, bowel and pancreas
 MV = Multivisceral – liver, bowel and pancreas plus stomach/spleen/abdominal wall/kidney/colon
 MMV = Modified multivisceral – bowel and pancreas plus stomach/spleen/abdominal wall/kidney/colon
 LB = Liver and bowel

9.5 Demographic characteristics

The age group, sex, ethnicity and blood group of intestinal donors, transplant recipients and transplant list patients are shown in **Table 9.6**.

Table 9.6		Demographic characteristics of deceased intestinal donors and transplant recipients, 1 April 2021 - 31 March 2022, and transplant list patients at 31 March					
		Donors		Transplant recipients		Active transplant list patients	
		N	(%)	N	(%)	N	(%)
Age	0-17	8	(29)	7	(26)	4	(29)
	18-34	12	(43)	3	(11)	3	(21)
	35-49	5	(18)	9	(33)	3	(21)
	50-59	3	(11)	5	(19)	2	(14)
	60-69	0	(0)	3	(11)	2	(14)
	Mean (SD)	27	(16)	36	(21)	34	(21)
Sex	Male	11	(39)	18	(67)	9	(64)
	Female	17	(61)	9	(33)	5	(36)
Ethnicity	White	24	(89)	20	(80)	9	(64)
	Asian	0	(0)	2	(8)	1	(7)
	Black	0	(0)	1	(4)	1	(7)
	Other	3	(11)	2	(8)	3	(21)
	Unknown	1	-	2	-	0	-
Blood group	O	18	(64)	10	(37)	5	(36)
	A	9	(32)	10	(37)	6	(43)
	B	1	(4)	7	(26)	2	(14)
	AB	0	(0)	0	(0)	1	(7)
Graft number	First graft	-	-	27	(100)	11	(79)
	Re-graft	-	-	0	(0)	3	(21)
TOTAL		28	(100)	27	(100)	14	(100)