

# Intestinal Activity

## Key messages

- There were 6 patients on the active intestinal transplant list at 31 March 2018 in total
- There were 28 registrations for an intestinal transplant in 2017-2018, corresponding to 27 patients (20 adult and 7 paediatric patients)
- 26 intestinal transplants were carried out in 2017-2018 (15 in the previous year)
- On average, patients wait around 3 months for a transplant

## 9.1 Overview

During 2017-2018, there were 28 registrations for an intestinal transplant, corresponding to 27 patients. As at 31 March 2018, 6 (21%) registrations remained active/suspended, 20 (71%) resulted in a transplant, 1 (4%) resulted in a death on the transplant list, and 1 (4%) was removed.

Last year the number of deceased donor intestinal transplants rose by 67% from 15 to 25. There was also one living donor intestinal transplant performed in 2017-2018.

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 the intestine is allocated preferentially to the patient with the most points.

## 9.2 Transplant list

In 2017-2018, there were 28 registrations for an intestinal transplant. The outcome of these registrations for paediatric (aged <18 years) and adult patients, as at 31 March 2018, broken down by transplant centre can be found in **Table 9.1**.

<b>Table 9.1 Outcome of intestinal registrations in the UK, 1 April 2017 – 31 March 2018</b>									
<b>Transplant centre</b>	<b>Outcome of registrations as at 31 March 2018</b>								<b>TOTAL</b>
	<b>Transplanted</b>		<b>Died</b>		<b>Removed</b>		<b>Active/Susp</b>		
	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	<b>N</b>	<b>%</b>	
<b>Adult</b>									
Cambridge	11	85	1	8	1	8	0	0	13
Oxford	4	57	0	0	0	0	3	43	7
<b>TOTAL</b>	<b>15</b>	<b>75</b>	<b>1</b>	<b>5</b>	<b>1</b>	<b>5</b>	<b>3</b>	<b>15</b>	<b>20</b>
<b>Paediatric</b>									
Birmingham	1	100	0	0	0	0	0	0	1
Cambridge <sup>1</sup>	1	100	0	0	0	0	0	0	1
King's College	3	50	0	0	0	0	3	50	6
<b>TOTAL</b>	<b>5</b>	<b>63</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>38</b>	<b>8</b>

<sup>1</sup> 1 patient at Cambridge was 16 at time of registration

**Table 9.2** shows the intestinal transplant list rate in the UK by country/Strategic Health Authority of patient's residence. At 31 March 2018, the overall transplant list rate was 0.1 pmp and ranged from 0.0 to 0.2 pmp across the Strategic Health Authorities, although these numbers are very small so these are not meaningful differences.

<b>Table 9.2 Active intestinal transplant list at 31 March, by country/ Strategic Health Authority of patient residence</b>				
<b>Country/ Strategic Health Authority of residence</b>	<b>Intestinal transplant list (pmp)</b>			
	<b>2018</b>		<b>2017</b>	
North East	0	(0.0)	0	(0.0)
North West	0	(0.0)	0	(0.0)
Yorkshire and The Humber	1	(0.2)	0	(0.0)
<b>North of England</b>	<b>1</b>	<b>(0.1)</b>	<b>0</b>	<b>(0.0)</b>
East Midlands	1	(0.2)	2	(0.4)
West Midlands	0	(0.0)	0	(0.0)
East of England	1	(0.2)	0	(0.0)
<b>Midlands and East</b>	<b>2</b>	<b>(0.1)</b>	<b>2</b>	<b>(0.1)</b>
<b>London</b>	<b>0</b>	<b>(0.0)</b>	<b>2</b>	<b>(0.2)</b>
South East Coast	1	(0.2)	1	(0.2)
South Central	0	(0.0)	0	(0.0)
South West	1	(0.2)	1	(0.2)
<b>South of England</b>	<b>2</b>	<b>(0.1)</b>	<b>2</b>	<b>(0.1)</b>
<b>England</b>	<b>5</b>	<b>(0.1)</b>	<b>6</b>	<b>(0.1)</b>
<b>Isle of Man</b>	<b>0</b>	<b>(0.0)</b>	<b>0</b>	<b>(0.0)</b>
<b>Channel Islands</b>	<b>0</b>	<b>(0.0)</b>	<b>0</b>	<b>(0.0)</b>
<b>Wales</b>	<b>0</b>	<b>(0.0)</b>	<b>1</b>	<b>(0.3)</b>
<b>Scotland</b>	<b>0</b>	<b>(0.0)</b>	<b>2</b>	<b>(0.4)</b>
<b>Northern Ireland</b>	<b>0</b>	<b>(0.0)</b>	<b>0</b>	<b>(0.0)</b>
<b>TOTAL<sup>1</sup></b>	<b>6</b>	<b>(0.1)</b>	<b>12</b>	<b>(0.2)</b>

<sup>1</sup> Includes 1 patient in 2018 resident in the UK with an unknown postcode

**Table 9.3** shows median waiting time to elective intestinal transplant by registration type. On average, patients wait 97 days for a transplant.

<b>Table 9.3 Median waiting time to intestinal transplant in the UK, for patients registered 1 April 2014 - 31 March 2017, by registration type</b>			
Registration type	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Bowel only <sup>1</sup>	8	58	39 – 77
Liver, bowel and pancreas <sup>1</sup>	36	161	0 – 163
Bowel and pancreas <sup>1</sup>	20	65	119 – 203
<b>TOTAL</b>	<b>64</b>	<b>97</b>	<b>8 – 146</b>

<sup>1</sup> 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/Strategic Health Authority of residence. The overall DBD intestinal donor rate was 0.4 pmp and ranged from 0.0 to 1.0 pmp across the Strategic Health Authorities. Of the 955 DBD solid organ donors, 25 (3%) donated their small bowel.

<b>Table 9.4 Intestinal donation rates for deceased donors after brain death in the UK, 1 April 2017 - 31 March 2018, by Country/Strategic Health Authority</b>						
<b>Country/ Strategic Health Authority of residence</b>	<b>Solid organ donors (pmp)</b>		<b>Intestinal donors (pmp)</b>		<b>% of solid organ donors</b>	<b>Organs used</b>
North East	38	(14.4)	1	(0.4)	2.6	1
North West	143	(19.8)	1	(0.1)	0.7	1
Yorkshire and The Humber	67	(12.3)	0	(0.0)	-	-
<b>North of England</b>	<b>248</b>	<b>(16.2)</b>	<b>2</b>	<b>(0.1)</b>	<b>0.8</b>	<b>2</b>
East Midlands	48	(10.2)	2	(0.4)	4.2	2
West Midlands	64	(11.0)	4	(0.7)	6.3	4
East of England	106	(17.3)	6	(1.0)	5.7	6
<b>Midlands and East</b>	<b>218</b>	<b>(13.1)</b>	<b>12</b>	<b>(0.7)</b>	<b>5.5</b>	<b>12</b>
<b>London</b>	<b>147</b>	<b>(16.7)</b>	<b>7</b>	<b>(0.8)</b>	<b>4.8</b>	<b>7</b>
South East Coast	77	(16.5)	0	(0.0)	-	-
South Central	58	(13.3)	1	(0.2)	1.7	-
South West	71	(12.9)	0	(0.0)	-	-
<b>South of England</b>	<b>206</b>	<b>(14.2)</b>	<b>1</b>	<b>(0.1)</b>	<b>0.5</b>	<b>-</b>
<b>England</b>	<b>819</b>	<b>(14.8)</b>	<b>22</b>	<b>(0.4)</b>	<b>2.7</b>	<b>21</b>
<b>Isle of Man</b>	<b>0</b>	<b>(0.0)</b>	<b>0</b>	<b>(0.0)</b>	<b>-</b>	<b>-</b>
<b>Channel Islands</b>	<b>2</b>	<b>(12.5)</b>	<b>0</b>	<b>(0.0)</b>	<b>-</b>	<b>-</b>
<b>Wales</b>	<b>49</b>	<b>(15.8)</b>	<b>1</b>	<b>(0.3)</b>	<b>2.0</b>	<b>1</b>
<b>Scotland</b>	<b>61</b>	<b>(11.3)</b>	<b>2</b>	<b>(0.4)</b>	<b>3.3</b>	<b>2</b>
<b>Northern Ireland</b>	<b>24</b>	<b>(12.9)</b>	<b>0</b>	<b>(0.0)</b>	<b>-</b>	<b>-</b>
<b>TOTAL<sup>1</sup></b>	<b>955</b>	<b>(14.5)</b>	<b>25</b>	<b>(0.4)</b>	<b>2.6</b>	<b>24</b>

<sup>1</sup> Includes 10 donors where the hospital postcode was used in place of an unknown donor postcode

## 9.4 Transplants

**Table 9.5** shows intestinal transplant activity by transplant centre and transplant type for financial years 2016-2017 and 2017-2018. In 2017-2018, there were a total of 26 transplants, 17 adult and 9 paediatric transplants. This includes 1 transplant from a living donor.

At 31 March 2018 there were approximately 100 recipients with a functioning intestinal transplant (or multi-organ including intestine) being followed-up as reported to the UK Transplant Registry.

<b>Table 9.5 Intestinal transplants in the UK, by age group, centre and type, 1 April 2017 - 31 March 2018 (2016-2017)</b>												
<b>Transplant centre</b>	<b>Transplant type</b>										<b>TOTAL</b>	
	<b>BO</b>		<b>LBP</b>		<b>MV</b>		<b>MMV</b>		<b>LB</b>			
<b>Adult</b>												
Cambridge	1	(0)	0	(0)	7	(2)	5	(4)	0	(0)	13	(6)
Oxford	4	(3)	0	(0)	0	(0)	0	(2)	0	(0)	4	(5)
<b>TOTAL</b>	<b>5</b>	<b>(3)</b>	<b>0</b>	<b>(0)</b>	<b>7</b>	<b>(2)</b>	<b>5</b>	<b>(6)</b>	<b>0</b>	<b>(0)</b>	<b>17</b>	<b>(11)</b>
<b>Paediatric</b>												
Birmingham	0	(0)	2	(1)	2	(0)	0	(0)	0	(0)	4	(1)
Cambridge	0	(0)	0	(0)	1	(0)	0	(0)	0	(0)	1	(0)
King's College	1	(1)	0	(0)	2	(2)	0	(0)	1	(0)	4	(3)
<b>TOTAL</b>	<b>1</b>	<b>(1)</b>	<b>2</b>	<b>(1)</b>	<b>5</b>	<b>(2)</b>	<b>0</b>	<b>(0)</b>	<b>1</b>	<b>(0)</b>	<b>9</b>	<b>(4)</b>
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**.

<b>Table 9.6 Demographic characteristics of deceased intestinal donors and transplant recipients 1 April 2017 - 31 March 2018, and transplant list patients at 31 March in the UK</b>						
<b>Age group (years)</b>	<b>Donors</b>		<b>Transplant recipients</b>		<b>Active transplant list patients</b>	
	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>
0 - 17	7	(28)	9	(35)	4	(67)
18 - 34	10	(40)	6	(23)	2	(33)
35 - 49	7	(28)	5	(19)	0	(0)
50 - 59	1	(4)	5	(19)	0	(0)
60 - 69	0	(0)	1	(4)	0	(0)
70+	0	(0)	0	(0)	0	(0)
mean (SD)	25	(16)	30	(20)	12	(13)
Male	9	(36)	13	(50)	3	(50)
Female	16	(64)	13	(50)	3	(50)
White	23	(96)	25	(96)	6	(100)
Asian	0	(0)	1	(4)	0	(0)
Black	1	(4)	0	(0)	0	(0)
Not reported	1	-	0	-	0	-
O	17	(68)	13	(50)	1	(17)
A	8	(32)	11	(42)	5	(83)
B	0	(0)	1	(4)	0	(0)
AB	0	(0)	1	(4)	0	(0)
First graft			23	(88)	4	(67)
Re-graft			3	(12)	2	(33)
<b>TOTAL</b>	<b>25<sup>1</sup></b>	<b>(100)</b>	<b>26<sup>2</sup></b>	<b>(100)</b>	<b>6</b>	<b>(100)</b>

<sup>1</sup> Includes 1 donor whose bowel was retrieved but not transplanted  
<sup>2</sup> Includes 1 living donor recipient and 1 overseas donor