

# Pancreas Activity

## Key messages

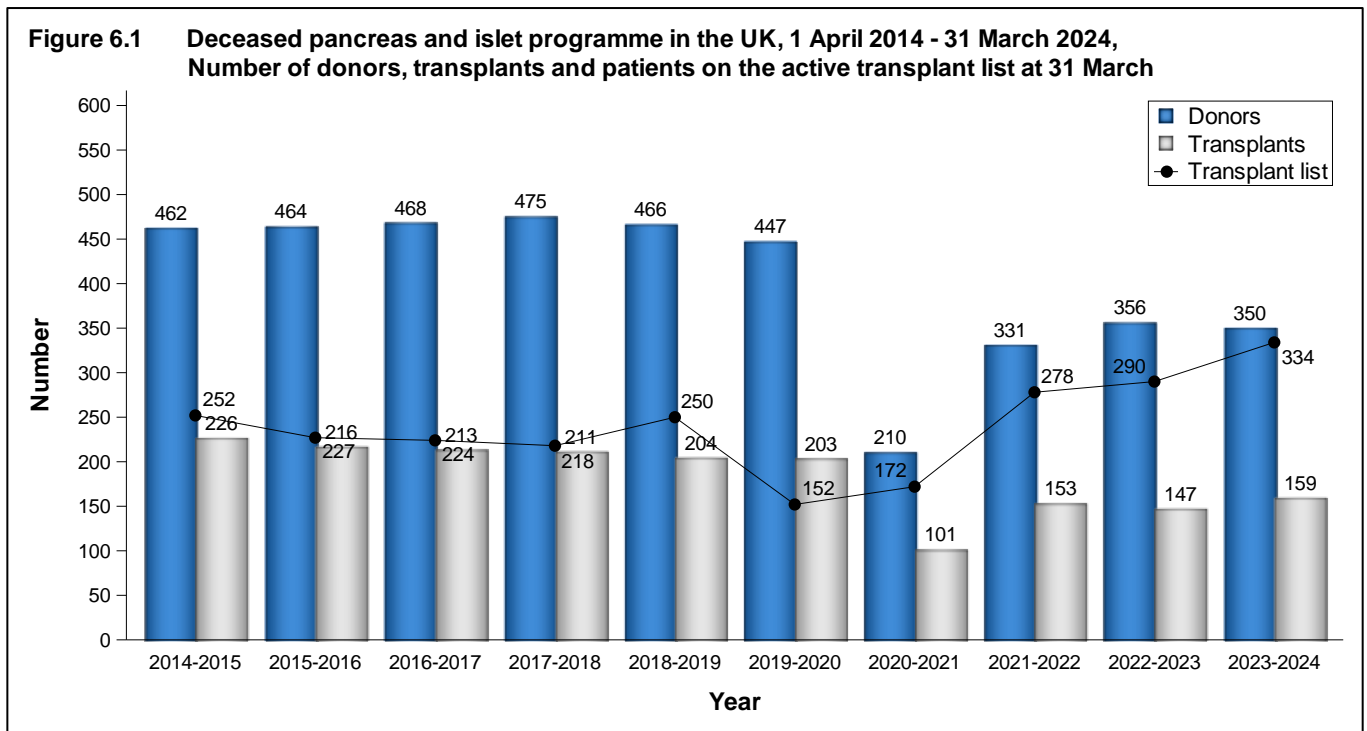
- The number of patients waiting on the pancreas transplant list increased by 15% during the year, to 334 at 31 March 2024
- The number of pancreas donors after brain death fell by 5% to 234, while transplants from donors after brain death decreased by 2% to 99
- The number of pancreas donors after circulatory death increased by 5% to 116, while transplants from donors after circulatory death increased by 30% to 60
- 21 islet transplants were made possible by the pancreas islet transplant programme

## 6.1 Overview

The number of patients registered on the active transplant list for a pancreas, simultaneous pancreas/kidney (SPK), simultaneous islet/kidney (SIK), or islet transplant has increased over the last ten years from 252 patients at 31 March 2015 to 334 patients at 31 March 2024. The number of pancreas donors fell from 356 to 350 in the last year. The number of transplants has decreased in the last 10 years to 159 transplants in 2023-2024. A summary of activity for deceased donor pancreas transplants and the transplant list for 1 April 2014 - 31 March 2024 is shown in **Figure 6.1**.

On 11 September 2019, an additional top tier of patients was introduced to the National Pancreas Offering Scheme. Patients in this top tier are either categorised as very difficult to HLA match to a donor or have been waiting for more than 3 years for a pancreas or islet transplant. All other patients appear in subsequent tiers and are prioritised according to a point system based on a range of clinical factors. A score is calculated for every potentially suitable patient and the pancreas is allocated preferentially to the patient with the most points after those in the top tier. Pancreases from donors after brain death and donors after circulatory death are allocated through this scheme. Patients listed for a vascularised pancreas or islet transplant are prioritised through one combined national transplant list.

Throughout this chapter, intestinal transplants involving a pancreas are not included in the pancreas transplant activity reported. Any pancreases retrieved and used for such transplants are however included in the pancreas donor activity. In 2023-2024 there were 18 intestinal transplants including a pancreas. Intestinal transplant activity is reported in Chapter 9.



## 6.2 Transplant list

**Table 6.1** shows the number of patients on the active transplant lists at 31 March 2024 by centre. The number of patients registered on the pancreas transplant list increased by 15% in the year: on 31 March 2024, 334 patients were registered active, compared with 290 at the end of March 2023.

Of the 334 patients on the active transplant list at 31 March 2024, 297 (89%) required a SPK transplant (258 at 31 March 2023), 5 (1%) patients required a pancreas only transplant (7 at 31 March 2023) and 32 (10%) were registered for a pancreas islet transplant (including 17 for a SIK transplant).

The outcome of patients registered on the UK pancreas transplant list at 1 April 2023, or subsequently registered during the financial year, is shown in **Table 6.2**. Eight patients joined the pancreas transplant list while 227 joined the list for a kidney and pancreas.

Patients listed for a routine islet transplant are generally waiting for their first islet graft. The majority of islet transplant recipients are likely to require more than one graft to complete their treatment. To optimise transplant outcome the follow-up graft should be performed within six to twelve months of the first. Patients requiring follow-up grafts are priority listed.

<b>Table 6.1 Patients on the pancreas transplant lists at 31 March 2024 (2023) in the UK, by centre</b>												
Centre	Kidney/ pancreas		Kidney/islet		Active transplant lists						TOTAL	
					Pancreas alone		Islet					
							Routine	Priority				
Cambridge	23	(19)	-	-	0	(0)	-	-	-	-	<b>23</b>	<b>(19)</b>
Cardiff	13	(10)	-	-	0	(0)	-	-	-	-	<b>13</b>	<b>(10)</b>
Edinburgh	42	(28)	5	(2)	0	(0)	5	(4)	2	(0)	<b>54</b>	<b>(34)</b>
Guy's	41	(32)	-	-	0	(0)	-	-	-	-	<b>41</b>	<b>(32)</b>
King's College	-	-	0	(0)	-	-	0	(0)	0	(0)	<b>0</b>	<b>(0)</b>
Manchester	90	(88)	7	(8)	3	(3)	1	(0)	2	(1)	<b>103</b>	<b>(100)</b>
Newcastle	14	(9)	0	(0)	2	(1)	4	(4)	0	(1)	<b>20</b>	<b>(15)</b>
Oxford	66	(64)	5	(3)	0	(3)	1	(2)	0	(0)	<b>72</b>	<b>(72)</b>
Royal Free	-	-	0	(0)	-	-	0	(0)	0	(0)	<b>0</b>	<b>(0)</b>
WLRTC	8	(8)	-	-	0	(0)	-	-	-	-	<b>8</b>	<b>(8)</b>
<b>TOTAL</b>	<b>297</b>	<b>(258)</b>	<b>17</b>	<b>(13)</b>	<b>5</b>	<b>(7)</b>	<b>11</b>	<b>(10)</b>	<b>4</b>	<b>(2)</b>	<b>334</b>	<b>(290)</b>

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**Table 5.2 Whole pancreas 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 2023-2024 <sup>1</sup>		TOTAL	
	N	%	N	%	N	%
<b>Pancreas transplant list</b>						
Remained active/suspended	50	74	5	63	55	72
Transplanted	6	9	3	38	9	12
Removed	10	15	0	0	10	13
Died	2	3	0	0	2	3
<b>TOTAL</b>	<b>68</b>		<b>8</b>		<b>76</b>	
<b>Kidney/pancreas transplant list</b>						
Remained active/suspended	295	64	203	89	498	72
Transplanted	115	25	16	7	131	19
Removed <sup>2</sup>	31	7	5	2	36	5
Died	21	5	3	1	24	3
<b>TOTAL</b>	<b>462</b>		<b>227</b>		<b>689</b>	

<sup>1</sup> Includes re-registrations for second or subsequent transplants

<sup>2</sup> Includes 6 patients removed from kidney/pancreas list and made active on kidney/islet list

The active pancreas transplant list rates by country/NHS region of patient's residence are shown in **Table 6.3**. At 31 March 2024, the overall transplant list rate was 4.9 pmp and across NHS regions ranged from 3.4 to 6.3 pmp.

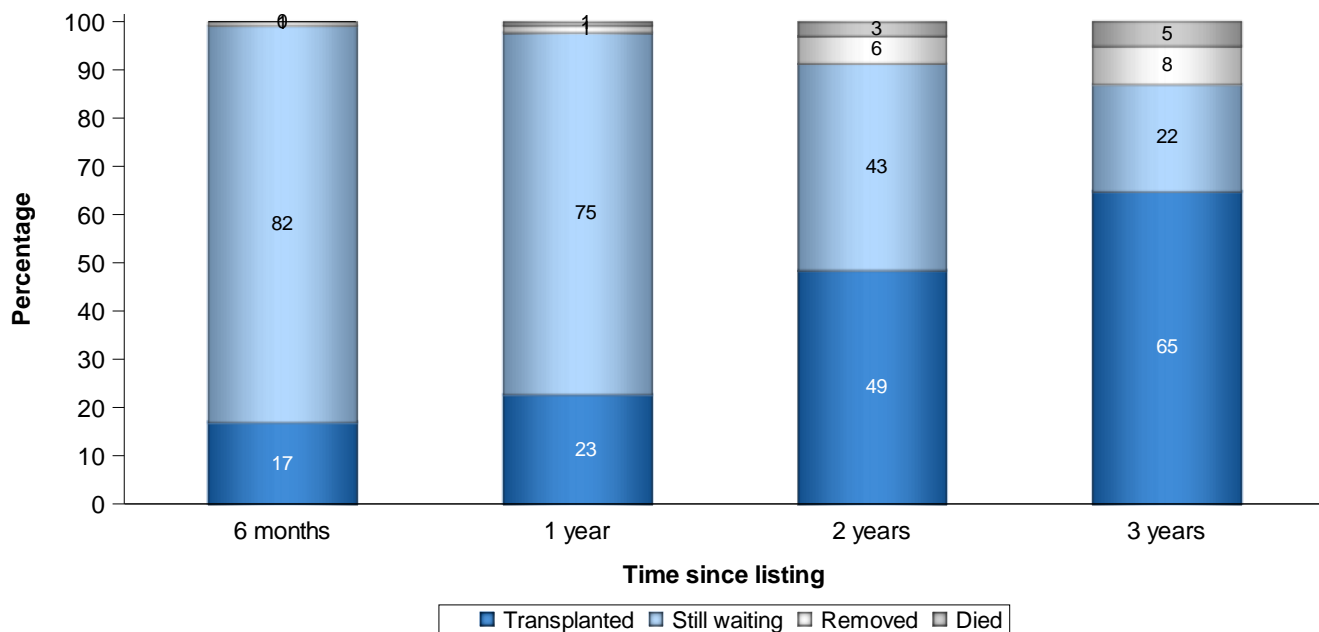
**Table 6.3 Active pancreas, kidney/pancreas, and islet transplant list at 31 March, by Country/ NHS region of patient residence**

Country/ NHS region of residence	Pancreas/Islet transplant list (pmp)			
	2024		2023	
North East and Yorkshire	47	(5.7)	42	(5.1)
North West	47	(6.3)	50	(6.6)
Midlands	41	(3.7)	59	(5.4)
East of England	22	(3.4)	11	(1.7)
London	39	(4.4)	30	(3.4)
South East	36	(3.8)	31	(3.3)
South West	22	(3.8)	16	(2.8)
<b>England</b>	<b>254</b>	<b>(4.4)</b>	<b>239</b>	<b>(4.2)</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>1</b>	<b>(5.9)</b>	<b>0</b>	<b>(0.0)</b>
<b>Wales</b>	<b>24</b>	<b>(7.7)</b>	<b>14</b>	<b>(4.5)</b>
<b>Scotland</b>	<b>51</b>	<b>(9.4)</b>	<b>32</b>	<b>(5.9)</b>
<b>Northern Ireland</b>	<b>3</b>	<b>(1.6)</b>	<b>3</b>	<b>(1.6)</b>
<b>TOTAL<sup>1</sup></b>	<b>334</b>	<b>(4.9)</b>	<b>290</b>	<b>(4.3)</b>

<sup>1</sup>Includes patients in 2024 (2023) residing in: Unspecified UK 1 (2)

An indication of longer-term outcomes for patients listed for a pancreas or kidney/pancreas transplant is shown in **Figure 6.2**. This shows the proportion of patients transplanted or still waiting six months, one year, two years, and three 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. 23% of patients are transplanted within one year, while three years after listing 65% of patients have received a transplant. The median (average) waiting time for a pancreas transplant is 431 days and is shown by blood group in **Table 6.4** and ethnicity in **Table 6.5**. 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 6.2 Post-registration outcome for 140 new pancreas only and kidney/pancreas registrations made in the UK, 1 April 2020 - 31 March 2021**



**Table 6.4 Median waiting time to pancreas only and kidney/pancreas transplant in the UK, for patients registered 1 April 2018 - 31 March 2022**

Blood group	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
<b>Adult</b>			
O	388	591	521 - 661
A	354	307	274 - 340
B	98	436	355 - 517
AB	34	130	109 - 151
<b>TOTAL</b>	<b>874</b>	<b>431</b>	<b>405 - 457</b>

**Table 6.5 Median waiting time to pancreas only and kidney/pancreas transplant in the UK, for patients registered 1 April 2018 - 31 March 2022**

Ethnicity	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
<b>Adult</b>			
White	752	436	409 - 463
Asian	59	449	264 - 634
Black	39	295	3 - 587
Other	18	418	209 - 627
<b>TOTAL<sup>1</sup></b>	<b>874</b>	<b>431</b>	<b>405 - 457</b>

<sup>1</sup> Includes 6 recipients with unknown ethnicity

### 6.3 Donor and organ supply

Of the 772 organ donors after brain death in the UK in 2023-2024, 234 (30%) donated a pancreas. There were 116 pancreas donors after circulatory death in 2023-2024. **Table 6.6** shows this activity by country/NHS region of the donor's residence. No adjustments have been made for potential demographic differences in populations.

The overall rate for pancreas donors after brain death is 3.5 pmp, with rates ranging from 2.4 to 4.0 pmp across NHS regions and for donors after circulatory death is 1.7 pmp, with rates ranging from 1.1 to 2.0 pmp across NHS regions.

<b>Table 6.6 Pancreas donation rates for deceased donors in the UK, 1 April 2023 - 31 March 2024, by Country/ NHS region</b>						
<b>Country/ NHS region of residence</b>	<b>Pancreas donors (pmp)</b>					
	<b>DBD</b>		<b>DCD</b>		<b>TOTAL</b>	
North East and Yorkshire	33	(4.0)	16	(1.9)	49	(6.0)
North West	20	(2.7)	12	(1.6)	32	(4.3)
Midlands	29	(2.6)	17	(1.6)	46	(4.2)
East of England	22	(3.4)	13	(2.0)	35	(5.5)
London	21	(2.4)	10	(1.1)	31	(3.5)
South East	36	(3.8)	13	(1.4)	49	(5.2)
South West	20	(3.5)	10	(1.7)	30	(5.2)
<b>England</b>	<b>181</b>	<b>(3.2)</b>	<b>91</b>	<b>(1.6)</b>	<b>272</b>	<b>(4.8)</b>
<b>Isle of Man</b>	<b>0</b>	<b>(0.0)</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>0</b>	<b>(0.0)</b>
<b>Wales</b>	<b>10</b>	<b>(3.2)</b>	<b>2</b>	<b>(0.6)</b>	<b>12</b>	<b>(3.8)</b>
<b>Scotland</b>	<b>19</b>	<b>(3.5)</b>	<b>10</b>	<b>(1.8)</b>	<b>29</b>	<b>(5.3)</b>
<b>Northern Ireland</b>	<b>14</b>	<b>(7.3)</b>	<b>4</b>	<b>(2.1)</b>	<b>18</b>	<b>(9.4)</b>
<b>TOTAL<sup>1</sup></b>	<b>234</b>	<b>(3.5)</b>	<b>116</b>	<b>(1.7)</b>	<b>350</b>	<b>(5.2)</b>

<sup>1</sup> Includes 19 donors with unknown UK postcode (10 DBD and 9 DCD)

## 6.4 Transplants

The number of pancreas and islet transplants by recipient country/NHS region of residence is shown in **Table 6.7**. No adjustments have been made for potential demographic differences in populations. For donors after brain death, the transplant rate ranged from 0.3 to 2.3 pmp across NHS regions and overall was 1.5 pmp. For donors after circulatory death, the overall rate was 0.9 pmp and ranged from 0.5 to 1.5 pmp across NHS regions.

<b>Table 6.7 Pancreas and islet transplant rates per million population (pmp), in the UK, 1 April 2023 - 31 March 2024, by country and English NHS region</b>						
<b>Country/ NHS region of residence</b>	<b>DBD</b>		<b>DCD</b>		<b>TOTAL</b>	
	<b>N</b>	<b>(pmp)</b>	<b>N</b>	<b>(pmp)</b>	<b>N</b>	<b>(pmp)</b>
North East and Yorkshire	15	(1.8)	5	(0.6)	20	(2.4)
North West	10	(1.3)	8	(1.1)	18	(2.4)
Midlands	25	(2.3)	16	(1.5)	41	(3.7)
East of England	2	(0.3)	9	(1.4)	11	(1.7)
London	8	(0.9)	4	(0.5)	12	(1.4)
South East	11	(1.2)	7	(0.7)	18	(1.9)
South West	6	(1.0)	4	(0.7)	10	(1.7)
<b>England</b>	<b>77</b>	<b>(1.3)</b>	<b>53</b>	<b>(0.9)</b>	<b>130</b>	<b>(2.3)</b>
<b>Isle of Man</b>	<b>0</b>	<b>(0.0)</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>0</b>	<b>(0.0)</b>
<b>Wales</b>	<b>6</b>	<b>(1.9)</b>	<b>3</b>	<b>(1.0)</b>	<b>9</b>	<b>(2.9)</b>
<b>Scotland</b>	<b>13</b>	<b>(2.4)</b>	<b>3</b>	<b>(0.6)</b>	<b>16</b>	<b>(2.9)</b>
<b>Northern Ireland</b>	<b>2</b>	<b>(1.0)</b>	<b>1</b>	<b>(0.5)</b>	<b>3</b>	<b>(1.6)</b>
<b>TOTAL<sup>1</sup></b>	<b>99</b>	<b>(1.5)</b>	<b>60</b>	<b>(0.9)</b>	<b>159</b>	<b>(2.4)</b>

<sup>1</sup> Includes 1 DBD donor with unknown UK postcode

There were 159 deceased donor pancreas and islet transplants in 2023-2024, more than the 147 transplants performed in 2022-2023. Of these 159, 127 (80%) were SPK transplants, 11 (7%) were pancreas only transplants (pancreas alone (PTA) or pancreas after kidney (PAK)) and 21 (13%) were islet transplants (including 10 SIK). The number of transplants performed at each centre is shown in **Table 6.8** by transplant type and **Table 6.9** by transplant and donor type. Note that King's College and The Royal Free only perform islet transplants. Cambridge, Guy's, WLRTC and Cardiff only perform pancreas transplants.



The length of time that elapses between a pancreas being removed from the donor to its transplantation into the recipient is called the total preservation time. Generally, the shorter this time, the more likely the pancreas is to work immediately and the better the long-term outcome. In 2023-2024, the median time for a DBD donor whole pancreas transplant is 11.5 hours (Inter-Quartile (IQ) range 10.6 – 13.1) and for a DCD donor transplant is 10.8 hours (IQ range 9.1 – 12.6) and overall is 11.3 hours (IQ range 10.2 – 12.7).

At 31 March 2024, there were approximately 2,200 recipients with a functioning pancreas transplant (including multi-organ transplants) being followed-up, as reported to the UK Transplant Registry.

<b>Table 6.8 Pancreas and islet transplants, 1 April 2023 - 31 March 2024 (2022-2023) by centre</b>												
Centre	SPK		SIK		Transplant type				Islet			
					PTA		PAK		Routine		Priority	
Cambridge	18	(15)	-	-	0	(0)	1	(0)	-	-	-	-
Cardiff	12	(7)	-	-	0	(0)	0	(2)	-	-	-	-
Edinburgh	8	(16)	4	(2)	0	(0)	0	(0)	4	(3)	2	(4)
Guy's	10	(21)	-	-	0	(0)	0	(0)	-	-	-	-
King's College	-	-	0	(0)	-	-	-	-	0	(0)	0	(0)
Manchester	26	(17)	5	(3)	0	(3)	3	(0)	1	(0)	1	(2)
Newcastle	7	(8)	0	(0)	1	(0)	0	(0)	0	(2)	1	(1)
Oxford	40	(32)	1	(0)	4	(2)	2	(1)	2	(1)	0	(0)
Royal Free	-	-	0	(0)	-	-	-	-	0	(0)	0	(0)
WLRTC	6	(5)	-	-	0	(0)	0	(0)	-	-	-	-
<b>TOTAL</b>	<b>127</b>	<b>(121)</b>	<b>10</b>	<b>(5)</b>	<b>5</b>	<b>(5)</b>	<b>6</b>	<b>(3)</b>	<b>7</b>	<b>(6)</b>	<b>4</b>	<b>(7)</b>

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<b>Table 6.9 Pancreas and islet transplants, 1 April 2023 - 31 March 2024 by centre and donor type</b>										
Centre	Transplant and donor type									
	SPK		SIK		PTA/PAK		Islet		TOTAL	
	DBD	DCD	DBD	DCD	DBD	DCD	DBD	DCD	DBD	DCD
Cambridge	6	12	-	-	1	0	-	-	7	12
Cardiff	8	4	-	-	0	0	-	-	8	4
Edinburgh	7	1	1	3	0	0	6	0	14	4
Guy's	5	5	-	-	0	0	-	-	5	5
King's College	-	-	0	0	-	-	0	0	0	0
Manchester	16	10	3	2	2	1	2	0	23	13
Newcastle	5	2	0	0	1	0	1	0	7	2
Oxford	22	18	1	0	6	0	2	0	31	18
Royal Free	-	-	0	0	-	-	0	0	0	0
WLRTC	4	2	-	-	0	0	-	-	4	2
<b>TOTAL</b>	<b>73</b>	<b>54</b>	<b>5</b>	<b>5</b>	<b>10</b>	<b>1</b>	<b>11</b>	<b>0</b>	<b>99</b>	<b>60</b>

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## 6.5 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 6.10**.

<b>Table 6.10 Demographic characteristics of deceased pancreas donors and transplant recipients, 1 April 2023 - 31 March 2024, and transplant list patients at 31 March</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>
Age (years)	0-17	30	(9)	0	(0)	0	(0)
	18-34	110	(31)	26	(16)	79	(24)
	35-49	125	(36)	86	(54)	185	(55)
	50-59	80	(23)	38	(24)	65	(19)
	60-69	4	(1)	9	(6)	5	(1)
	70+	1	(0)	0	(0)	0	(0)
	Mean (SD)	37	(14)	44	(9)	41	(9)
Sex	Male	194	(55)	83	(52)	165	(49)
	Female	156	(45)	76	(48)	169	(51)
Ethnicity	White	322	(95)	133	(86)	287	(88)
	Asian	7	(2)	11	(7)	16	(5)
	Black	5	(1)	7	(5)	16	(5)
	Other	6	(2)	4	(3)	9	(3)
	Unknown	10	-	4	-	6	-
Blood group	O	170	(49)	60	(38)	201	(60)
	A	134	(39)	70	(44)	89	(27)
	B	32	(9)	22	(14)	39	(12)
	AB	12	(3)	7	(4)	5	(1)
	Unknown	2	-	0	-	0	-
Graft number	First graft	-	-	142	(89)	303	(91)
	Re-graft	-	-	17	(11)	31	(9)
<b>TOTAL</b>		<b>350</b>	<b>(100)</b>	<b>159</b>	<b>(100)</b>	<b>334</b>	<b>(100)</b>