

Pancreas Activity

Key messages

- On 11 September 2019, a revised National Pancreas Offering Scheme was introduced
- The number of patients waiting on the pancreas transplant list fell by 5% during the year, to 237 at 29 February 2020
- The number of pancreas donors after brain death fell by 8% to 333, while transplants from donors after brain death increased by 3% to 152
- The number of pancreas donors after circulatory death increased by 12% to 116, while transplants from donors after circulatory death fell by 9% to 51
- 28 islet transplants were made possible by the pancreas islet transplant programme, the same as last year

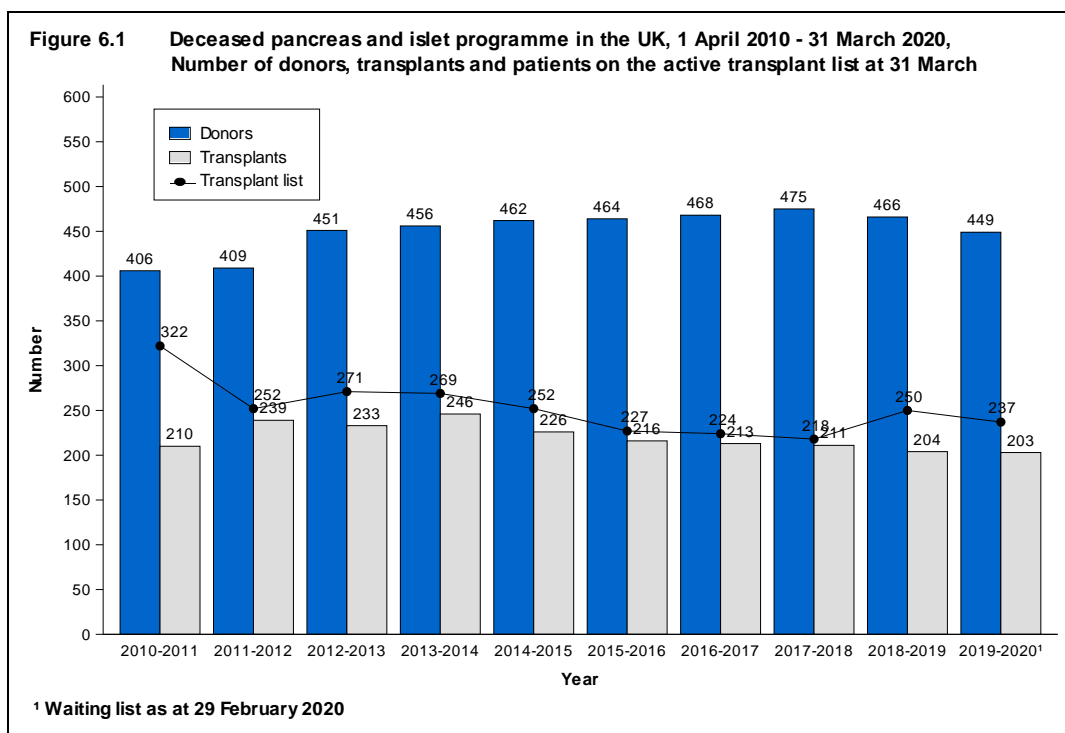
6.1 Overview

Note that the COVID-19 pandemic will have affected the number of offered, retrieved and transplanted organs in 2019-2020. To better reflect the number of patients waiting for a transplant at the end of this year, data as at 29 February 2020 have been used.

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 decreased over the last ten years from 322 patients at 31 March 2011 to 237 patients at 29 February 2020. The number of pancreas donors has increased from 406 to 449 and peaked at 475 in 2017-2018. However, the number of transplants has decreased in the last 6 years to 203 transplants in 2019-2020. A summary of activity for deceased donor pancreas transplants and the transplant list for 1 April 2010 - 31 March 2020 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 new 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 2019-2020 there were 14 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 29 February 2020 by centre. The number of patients registered on the pancreas transplant list fell by 5% in the year: on 29 February 2020, 237 patients were registered active, compared with 250 at the end of March 2019.

Of the 237 patients on the active transplant list at 29 February 2020, 198 (83%) required a SPK transplant (196 at 31 March 2019), 11 (5%) patients required a pancreas only transplant (12 at 31 March 2019) and 28 (12%) were registered for a pancreas islet transplant (including 12 for a SIK transplant).

The outcome of patients registered on the UK pancreas transplant list at 1 April 2019, or subsequently registered during the financial year, is shown in **Table 6.2**. Twenty patients joined the pancreas transplant list while 238 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.

Table 6.1 Patients on the pancreas transplant lists at 29 February 2020 (2019)¹ in the UK, by centre												
Centre	Kidney/ pancreas		Kidney/islet		Active transplant lists						TOTAL	
					Pancreas alone		Islet					
						Routine	Priority					
Bristol	-	-	0	(0)	-	-	0	(0)	0	(0)	0	(0)
Cambridge	9	(13)	-	-	1	(0)	-	-	-	-	10	(13)
Cardiff	13	(15)	-	-	0	(0)	-	-	-	-	13	(15)
Edinburgh	29	(39)	1	(0)	0	(0)	2	(6)	2	(2)	34	(47)
Guys	27	(23)	-	-	0	(0)	-	-	-	-	27	(23)
King's College	-	-	0	(0)	-	-	0	(2)	1	(0)	1	(2)
Manchester	40	(20)	10	(15)	2	(2)	1	(3)	0	(1)	53	(41)
Newcastle	6	(6)	0	(1)	2	(3)	6	(4)	1	(0)	15	(14)
Oxford	62	(68)	1	(0)	6	(6)	2	(2)	0	(3)	71	(79)
Royal Free	-	-	0	(0)	-	-	1	(3)	0	(0)	1	(3)
WLRTC	12	(12)	-	-	0	(1)	-	-	-	-	12	(13)
TOTAL	198	(196)	12	(16)	11	(12)	12	(20)	4	(6)	237	(250)

WLRTC - West London Renal and Transplant Centre
¹ Waiting list figures are as at 29 February 2020 and 31 March 2019

Table 6.2 Whole pancreas transplant list and new registrations in the UK, 1 April 2019 - 31 March 2020

Outcome of patient at 31 March 2020	Active and suspended patients at 1 April 2019		New registrations in 2019-2020 ¹		TOTAL	
	N	%	N	%	N	%
Pancreas transplant list						
Remained active/suspended	56	80	11	55	67	74
Transplanted	4	6	9	45	13	14
Removed	9	13	0	0	9	10
Died	1	1	0	0	1	1
TOTAL	70		20		90	
Kidney/pancreas transplant list						
Remained active/suspended	173	53	199	84	372	66
Transplanted	133	41	32	13	165	29
Removed ²	12	4	3	1	15	3
Died	8	2	4	2	12	2
TOTAL	326		238		564	

¹ Includes re-registrations for second or subsequent patients
² Includes 1 patient 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 29 February 2020, the overall transplant list rate was 3.6 pmp and across NHS regions ranged from 2.2 to 4.3 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)			
	2020 ¹		2019	
North East and Yorkshire	32	(3.7)	25	(2.9)
North West	30	(4.3)	22	(3.1)
Midlands	35	(3.3)	49	(4.6)
East of England	14	(2.2)	12	(1.8)
London	27	(3.0)	28	(3.1)
South East	32	(3.6)	36	(4.1)
South West	15	(2.7)	11	(2.0)
England	185	(3.3)	183	(3.3)
Isle of Man	0	(0.0)	0	(0.0)
Channel Islands	0	(0.0)	1	(6.3)
Wales	16	(5.1)	18	(5.7)
Scotland	33	(6.1)	44	(8.1)
Northern Ireland	1	(0.5)	3	(1.6)
TOTAL²	237	(3.6)	250	(3.8)

¹As at 29 February 2020

²Includes patients in 2020 (2019) resident in: UK unknown 2 (1)

An indication of longer term outcomes for patients listed for a pancreas or kidney/pancreas transplant are summarised 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. 34% of patients are transplanted within one year, while three years after listing 74% of patients have received a transplant. The median (average) waiting time for a pancreas transplant is 352 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.

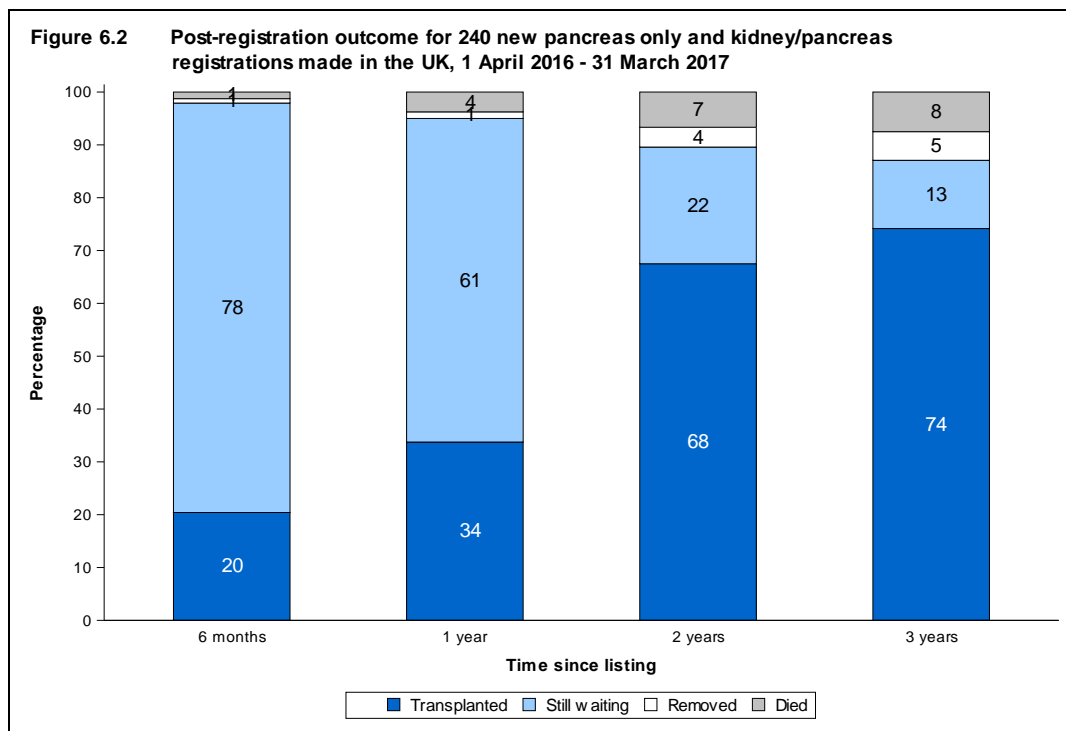


Table 6.4 Median waiting time to pancreas only and kidney/pancreas transplant in the UK, for patients registered 1 April 2014 - 31 March 2018, by blood group

Blood group	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Adult			
O	425	450	424 - 476
A	359	252	225 - 279
B	121	389	314 - 464
AB	34	125	37 - 213
TOTAL	939	352	329 - 375

Table 6.5 Median waiting time to pancreas only and kidney/pancreas transplant in the UK, for patients registered 1 April 2014 - 31 March 2018, by ethnicity

Ethnicity	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Adult			
White	812	348	322 - 374
Asian	54	347	261 - 433
Black	49	414	326 - 502
Other	15	186	168 - 204
TOTAL¹	939	352	329 - 375

¹ Includes 9 patients whose ethnicity was not reported

6.3 Donor and organ supply

Of the 946 organ donors after brain death in the UK in 2019-2020, 333 (35%) donated a pancreas. There were 116 pancreas donors after circulatory death in 2019-2020. **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 5.0 pmp, with rates ranging from 3.7 to 6.2 pmp across NHS regions and for donors after circulatory death is 1.7 pmp, with rates ranging from 1.1 to 2.9 pmp across NHS regions.

Table 6.6 Pancreas donation rates for deceased donors in the UK, 1 April 2019 - 31 March 2020, by country/ NHS region						
Country/ NHS region of residence	DBD		Pancreas donors (pmp)		TOTAL	
			DCD			
North East and Yorkshire	53	(6.2)	18	(2.1)	71	(8.3)
North West	31	(4.4)	8	(1.1)	39	(5.6)
Midlands	47	(4.5)	21	(2.0)	68	(6.5)
East of England	24	(3.7)	19	(2.9)	43	(6.6)
London	41	(4.6)	10	(1.1)	51	(5.7)
South East	38	(4.3)	19	(2.1)	57	(6.4)
South West	34	(6.1)	8	(1.4)	42	(7.5)
England	268	(4.8)	103	(1.8)	371	(6.6)
Isle of Man	2	(25.0)	0	(0.0)	2	(25.0)
Channel Islands	1	(6.3)	0	(0.0)	1	(6.3)
Wales	23	(7.3)	8	(2.5)	31	(9.9)
Scotland	25	(4.6)	5	(0.9)	30	(5.5)
Northern Ireland	8	(4.3)	0	(0.0)	8	(4.3)
TOTAL¹	333	(5.0)	116	(1.7)	449	(6.8)

¹ Includes 6 donors with unknown UK postcode

6.4 Transplants

The number of pancreas 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 1.4 to 2.6 pmp across NHS regions and overall was 2.3 pmp. For donors after circulatory death, the overall rate was 0.8 pmp and ranged from 0.2 to 1.4 pmp across NHS regions.

Table 6.7 Pancreas transplant rates per million population (pmp), in the UK, 1 April 2019 - 31 March 2020, by country and NHS region						
Country/NHS region of residence	DBD		DCD		TOTAL	
	N	(pmp)	N	(pmp)	N	(pmp)
North East and Yorkshire	15	(1.8)	3	(0.4)	18	(2.1)
North West	12	(1.7)	3	(0.4)	15	(2.1)
Midlands	27	(2.6)	13	(1.2)	40	(3.8)
East of England	10	(1.5)	9	(1.4)	19	(2.9)
London	19	(2.1)	7	(0.8)	26	(2.9)
South East	23	(2.6)	5	(0.6)	28	(3.2)
South West	8	(1.4)	1	(0.2)	9	(1.6)
England	114	(2.0)	41	(0.7)	155	(2.8)
Isle of Man	0	(0.0)	0	(0.0)	0	(0.0)
Channel Islands	0	(0.0)	0	(0.0)	0	(0.0)
Wales	7	(2.2)	3	(1.0)	10	(3.2)
Scotland	27	(5.0)	7	(1.3)	34	(6.3)
Northern Ireland	3	(1.6)	0	(0.0)	3	(1.6)
TOTAL¹	152	(2.3)	51	(0.8)	203	(3.1)

¹ Includes 1 recipient with an unknown UK postcode

There were 203 deceased donor pancreas transplants in 2019-2020, similar to the 204 transplants performed in 2018-2019. Of these 203, 162 (80%) were SPK transplants, 13 (6%) were pancreas only transplants (pancreas alone (PTA) or pancreas after kidney (PAK)) and 28 (14%) were islet transplants (including 5 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, The Royal Free and Bristol 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 Cold Ischaemia Time (CIT). Generally, the shorter this time, the more likely the pancreas is to work immediately and the better the long-term outcome. In 2019-2020, the median CIT for a DBD donor whole pancreas transplant is 11.0 hours (Inter-Quartile (IQ) range 9.0 – 12.3) and for a DCD donor transplant is 10.2 hours (IQ range 9.0 – 11.5) and overall is 10.6 hours (IQ range 9.0 – 12.0).

At 31 March 2020, there were approximately 2,100 recipients with a functioning pancreas transplant (including multi-organ transplants) being followed-up, as reported to the UK Transplant Registry.

Table 6.8 Pancreas transplants, 1 April 2019 - 31 March 2020 (2018-2019) by centre												
Centre	SPK		SIK		Transplant type				Islet			
					PTA		PAK		Routine	Priority		
Bristol	-	-	0	(0)	-	-	-	-	0	(0)	0	(0)
Cambridge	19	(19)	-	-	0	(0)	0	(0)	-	-	-	-
Cardiff	9	(7)	-	-	0	(1)	0	(1)	-	-	-	-
Edinburgh	24	(14)	1	(3)	0	(0)	0	(0)	6	(3)	6	(4)
Guys	27	(29)	-	-	0	(0)	0	(0)	-	-	-	-
King's College	-	-	0	(0)	-	-	-	-	2	(1)	0	(1)
Manchester	22	(25)	4	(4)	2	(0)	3	(7)	0	(1)	1	(3)
Newcastle	5	(7)	0	(1)	0	(0)	1	(1)	3	(3)	1	(1)
Oxford	46	(52)	0	(0)	2	(3)	5	(2)	2	(3)	2	(0)
Royal Free	-	-	0	(0)	-	-	-	-	0	(0)	0	(0)
WLRTC	10	(5)	-	-	0	(2)	0	(1)	-	-	-	-
TOTAL	162	(158)	5	(8)	4	(6)	9	(12)	13	(11)	10	(9)

WLRTC - West London Renal and Transplant Centre

Table 6.9 Pancreas transplants, 1 April 2019 - 31 March 2020 by centre and donor type												
Centre	SPK		SIK		PTA/PAK		Islet		TOTAL			
	DBD	DCD	DBD	DCD	DBD	DCD	DBD	DCD	DBD	DCD	DBD	DCD
Bristol	-	-	0	0	-	-	0	0	0	0	0	0
Cambridge	8	11	-	-	0	0	-	-	8	11	8	11
Cardiff	6	3	-	-	0	0	-	-	6	3	6	3
Edinburgh	21	3	1	0	0	0	8	4	30	7	30	7
Guys	20	7	-	-	0	0	-	-	20	7	20	7
King's College	-	-	0	0	-	-	1	1	1	1	1	1
Manchester	16	6	4	0	4	1	1	0	25	7	25	7
Newcastle	5	0	0	0	1	0	4	0	10	0	10	0
Oxford	34	12	0	0	6	1	4	0	44	13	44	13
Royal Free	-	-	0	0	-	-	0	0	0	0	0	0
WLRTC	8	2	-	-	0	0	-	-	8	2	8	2
TOTAL	118	44	5	0	11	2	18	5	152	51	152	51

WLRTC - West London Renal and Transplant Centre

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**.

Table 6.10 Demographic characteristics of deceased pancreas donors and transplant recipients, 1 April 2019 - 31 March 2020, and transplant list patients at 29 February						
Age group (years)	Donors		Transplant recipients		Active transplant list patients	
	N	(%)	N	(%)	N	(%)
0 - 17	28	(6)	0	(0)	1	(0)
18 - 34	140	(31)	47	(23)	58	(24)
35 - 49	176	(39)	97	(48)	110	(46)
50 - 59	97	(22)	51	(25)	60	(25)
60 - 69	8	(2)	7	(3)	7	(3)
70+	0	(0)	1	(0)	1	(0)
Mean (SD)	38	(13)	43	(10)	43	(10)
Male	259	(58)	107	(53)	123	(52)
Female	190	(42)	96	(47)	114	(48)
White	408	(92)	171	(85)	202	(86)
Asian	13	(3)	10	(5)	21	(9)
Black	9	(2)	17	(8)	7	(3)
Chinese	5	(1)	0	(0)	2	(1)
Other	8	(2)	4	(2)	4	(2)
Not reported	6		1		1	
O	205	(46)	86	(42)	123	(52)
A	183	(41)	84	(41)	69	(29)
B	50	(11)	24	(12)	41	(17)
AB	11	(2)	9	(4)	4	(2)
First graft			183	(90)	213	(90)
Re-graft			20	(10)	24	(10)
TOTAL	449	(100)	203	(100)	237	(100)