

**NHS BLOOD & TRANSPLANT  
ORGAN DONATION AND TRANSPLANTATION DIRECTORATE  
PANCREAS ADVISORY GROUP**

**NATIONAL PANCREAS ALLOCATION SCHEME**

**8 YEAR REVIEW**

**1 DECEMBER 2010 TO 30 NOVEMBER 2018**

## NATIONAL PANCREAS ALLOCATION SCHEME (2010)

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# PANCREAS TRANSPLANTATION

**Table 1.1 Overview of transplant activity, 1 December 2010 - 30 November 2018**

Transplant type		Donor type		Total
		DBD	DCD	
Vascularised pancreas	SPK	1029	333	<b>1362</b>
	PAK	76	18	<b>94</b>
	PTA	81	31	<b>112</b>
	<b>Total</b>	<b>1186</b>	<b>382</b>	<b>1568</b>
Pancreatic islet	Routine	126	20	<b>146</b>
	Priority	77	9	<b>86</b>
	<b>Islet total<sup>1</sup></b>	<b>203</b>	<b>29</b>	<b>232</b>
<b>TOTAL</b>		<b>1389</b>	<b>411</b>	<b>1800</b>

<sup>1</sup> Includes 12 simultaneous islet and kidney transplants

**Table 1.2 Centre-specific transplant activity, 1 December 2009 - 31 November 2018**

Transplant centre	Previous year		NPAS					Donor type	
	N	(%)	N	(%)	SPK	PAK	PTA	DBD	DCD
<b>Vascularised pancreas</b>									
Cambridge	32	(16)	169	(11)	162	7	0	107	62
Cardiff	12	(6)	84	(5)	55	14	15	51	33
Edinburgh	8	(4)	138	(9)	136	1	1	131	7
Guy's	22	(11)	226	(14)	212	8	6	153	73
Manchester	19	(10)	252	(16)	229	17	6	166	86
Newcastle	9	(5)	55	(4)	44	8	3	53	2
Oxford	82	(42)	562	(36)	462	23	77	457	105
WLRTC	12	(6)	82	(5)	62	16	4	68	14
<b>Total</b>	<b>196</b>	<b>(100)</b>	<b>1568</b>	<b>(100)</b>	<b>1362</b>	<b>94</b>	<b>112</b>	<b>1186</b>	<b>382</b>
<b>Pancreatic islet</b>									
	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>	<b>Routine</b>	<b>Priority</b>		<b>DBD</b>	<b>DCD</b>
Bristol	0	(0)	4	(2)	3	1		4	0
Edinburgh	0	(0)	91	(39)	54	37		77	14
King's College	0	(0)	14	(6)	8	6		14	0
Manchester	1	(9)	24	(10)	14	10		18	6
Newcastle	2	(18)	41	(18)	27	14		37	4
Oxford	5	(45)	43	(19)	30	13		40	3
Royal Free	3	(27)	15	(6)	10	5		13	2
<b>Total</b>	<b>11</b>	<b>(100)</b>	<b>232<sup>1</sup></b>	<b>(100)</b>	<b>146</b>	<b>86</b>		<b>203</b>	<b>29</b>

<sup>1</sup> Includes 12 simultaneous islet and kidney transplants

**Table 1.3 Transplant demographics, 1 December 2009 - 30 November 2018**

Factor		Previous Year		NPAS 2010 results (year4)		NPAS 2010 results (year5)		NPAS 2010 results (year6)		NPAS 2010 results (year7)		NPAS 2010 results (year8)	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Number of transplants		207		225		231		199		211		223	
Waiting time (months)	0 to <3	47	(23)	19	(8)	29	(13)	29	(15)	37	(18)	44	(20)
	3 to <6	26	(13)	26	(12)	27	(12)	19	(10)	28	(13)	28	(13)
	6 to <12	29	(14)	67	(30)	51	(22)	41	(21)	35	(17)	43	(19)
	12 to <24	63	(30)	101	(45)	102	(44)	87	(44)	85	(40)	85	(38)
	24 or more	42	(20)	12	(5)	22	(10)	23	(12)	26	(12)	23	(10)
Sensitisation (cRF%)	0 to <10	157	(76)	172	(76)	175	(76)	129	(65)	130	(62)	119	(53)
	10 to <30	13	(6)	13	(6)	13	(6)	14	(7)	26	(12)	26	(12)
	30 to <75	16	(8)	31	(14)	24	(10)	37	(19)	40	(19)	59	(26)
	75 to <95	15	(7)	7	(3)	9	(4)	12	(6)	9	(4)	14	(6)
	95 or more	6	(3)	2	(1)	10	(4)	7	(4)	6	(3)	5	(2)
Total HLA mismatch (A,B,DR)	0 to 4	136	(66)	203	(90)	195	(84)	173	(87)	184	(87)	180	(81)
	5 or 6	71	(34)	22	(10)	36	(16)	26	(13)	27	(13)	43	(19)
Centre location	Closest three	158	(76)	140	(62)	147	(64)	109	(55)	135	(64)	141	(63)
	Other	49	(24)	85	(38)	84	(36)	90	(45)	76	(36)	82	(37)
On dialysis	No	118	(57)	110	(49)	132	(57)	102	(51)	105	(50)	119	(53)
	Yes	86	(42)	114	(51)	99	(43)	97	(49)	106	(50)	103	(46)
	Not known	3	(1)	1	(0)	0	(0)	0	(0)	0	(0)	1	(0)
Transplant type	SPK	159	(77)	175	(78)	173	(75)	155	(78)	169	(80)	172	(77)
	PAK, PTA	37	(18)	26	(12)	26	(11)	16	(8)	13	(6)	22	(10)
	Routine islet <sup>1</sup>	6	(3)	18	(8)	19	(8)	16	(8)	19	(9)	18	(8)
	Priority islet	5	(2)	6	(3)	13	(6)	12	(6)	10	(5)	11	(5)

**Table 1.3 Transplant demographics, 1 December 2009 - 30 November 2018**

Factor		Previous Year		NPAS 2010 results (year4)		NPAS 2010 results (year5)		NPAS 2010 results (year6)		NPAS 2010 results (year7)		NPAS 2010 results (year8)	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Recipient sex	Male	115	(56)	118	(52)	109	(47)	99	(50)	121	(57)	121	(54)
	Female	92	(44)	107	(48)	122	(53)	100	(50)	90	(43)	102	(46)
Recipient blood group	O	97	(47)	107	(48)	102	(44)	82	(41)	98	(46)	97	(43)
	A	84	(41)	84	(37)	95	(41)	86	(43)	83	(39)	91	(41)
	B	21	(10)	20	(9)	23	(10)	23	(12)	17	(8)	29	(13)
	AB	5	(2)	14	(6)	11	(5)	8	(4)	13	(6)	6	(3)
Recipient age (years)	Less than 30	12	(6)	17	(8)	13	(6)	13	(7)	16	(8)	10	(4)
	30 to <40	62	(30)	63	(28)	62	(27)	49	(25)	55	(26)	70	(31)
	40 to <50	92	(44)	82	(36)	94	(41)	83	(42)	73	(35)	72	(32)
	50 to <60	34	(16)	53	(24)	52	(23)	48	(24)	52	(25)	55	(25)
	60 or older	7	(3)	10	(4)	10	(4)	6	(3)	15	(7)	16	(7)
Recipient ethnicity	White	196	(95)	193	(86)	214	(93)	177	(89)	188	(89)	196	(88)
	Non-white	11	(5)	26	(12)	15	(6)	20	(10)	20	(9)	26	(12)
	Not known	0	(0)	6	(3)	2	(1)	2	(1)	3	(1)	1	(0)

<sup>1</sup> Includes 12 simultaneous islet and kidney transplants

<b>Table 1.4 Median waiting time by transplant demographics, 1 December 2010 - 30 November 2018</b>				
<b>Factor</b>		<b>N</b>	<b>Waiting Times (days)</b>	
			<b>Median</b>	<b>IQ Range</b>
Sensitisation (cRF%)	0 to <10	1228	390	168 - 588
	10 to <30	153	427	159 - 657
	30 to <75	278	443	253 - 650
	75 to <95	85	391	181 - 606
	95 or more	56	602	398 - 1053
Total HLA mismatch (A,B,DR)	0 to 4	1524	412	191 - 594
	5 or 6	276	337	108 - 787
Centre location	Closest three	1127	390	180 - 584
	Other	673	447	183 - 668
On dialysis	No	956	365	146 - 584
	Yes	840	451	249 - 643
	Not known	4	-	-
Transplant type	SPK	1362	453	269 - 636
	PAK, PTA	206	199	66 - 465
	Routine islet <sup>1</sup>	146	340	104 - 651
	Priority islet	86	142	83 - 200
Recipient sex	Male	962	420	188 - 621
	Female	838	390	178 - 602
Recipient blood group	O	785	529	317 - 698
	A	746	349	158 - 529
	B	191	319	123 - 522
	AB	78	118	50 - 210
Recipient age (years)	Less than 30	109	338	137 - 511
	30 to <40	508	424	194 - 614
	40 to <50	674	425	202 - 613
	50 to <60	429	375	170 - 640
	60 or older	80	339	129 - 601
Recipient ethnicity	White	1610	419	183 - 622
	Non-white	174	344	168 - 540
	Not known	16	327	159 - 492

<sup>1</sup> Includes 12 simultaneous islet and kidney transplants  
Data not presented where less than 10 patients included

**Table 1.5 Blood group matching, 1 December 2010 - 30 November 2018**

Donor blood group	Recipient blood group								TOTAL	
	O		A		B		AB		N	(%)
	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
O	785	(96)	21	(3)	7	(1)	3	(0)	<b>816</b>	<b>(45)</b>
A	-	-	725	(96)	-	-	33	(4)	<b>758</b>	<b>(42)</b>
B	-	-	-	-	184	(97)	5	(3)	<b>189</b>	<b>(11)</b>
AB	-	-	-	-	-	-	37	(100)	<b>37</b>	<b>(2)</b>
<b>TOTAL</b>	<b>785</b>	<b>(44)</b>	<b>746</b>	<b>(41)</b>	<b>191</b>	<b>(11)</b>	<b>78</b>	<b>(4)</b>	<b>1800</b>	<b>(100)</b>

**Table 1.6 Donor BMI by transplant type, 1 December 2010 - 30 November 2018**

Donor BMI	Transplant type				TOTAL
	Vascularised pancreas		Pancreatic islet		N
	N	(%)	N	(%)	
22 or less	719	(46)	14	(6)	733
23 to 25	502	(32)	27	(12)	529
26 to 28	270	(17)	66	(28)	336
29 to 31	60	(4)	60	(26)	120
32 or over	17	(1)	65	(28)	82
<b>TOTAL</b>	<b>1568</b>	<b>(100)</b>	<b>232</b>	<b>(100)</b>	<b>1800</b>

**Table 1.7 Donor age by transplant type, 1 December 2010 - 30 November 2018**

Donor age	Transplant type				TOTAL
	Vascularised pancreas		Pancreatic islet		N
	N	(%)	N	(%)	
Less than 25	278	(18)	3	(1)	281
25 to <30	347	(22)	13	(6)	360
30 to <40	287	(18)	34	(15)	321
40 to <50	377	(24)	82	(35)	459
50 to <60	256	(16)	92	(40)	348
60 or older	23	(1)	8	(3)	31
<b>TOTAL</b>	<b>1568</b>	<b>(100)</b>	<b>232</b>	<b>(100)</b>	<b>1800</b>



Figure 1.8 Centre-specific cold ischaemia time - vascularised pancreas (DBD)  
(CIT reported on pancreas transplant record form)

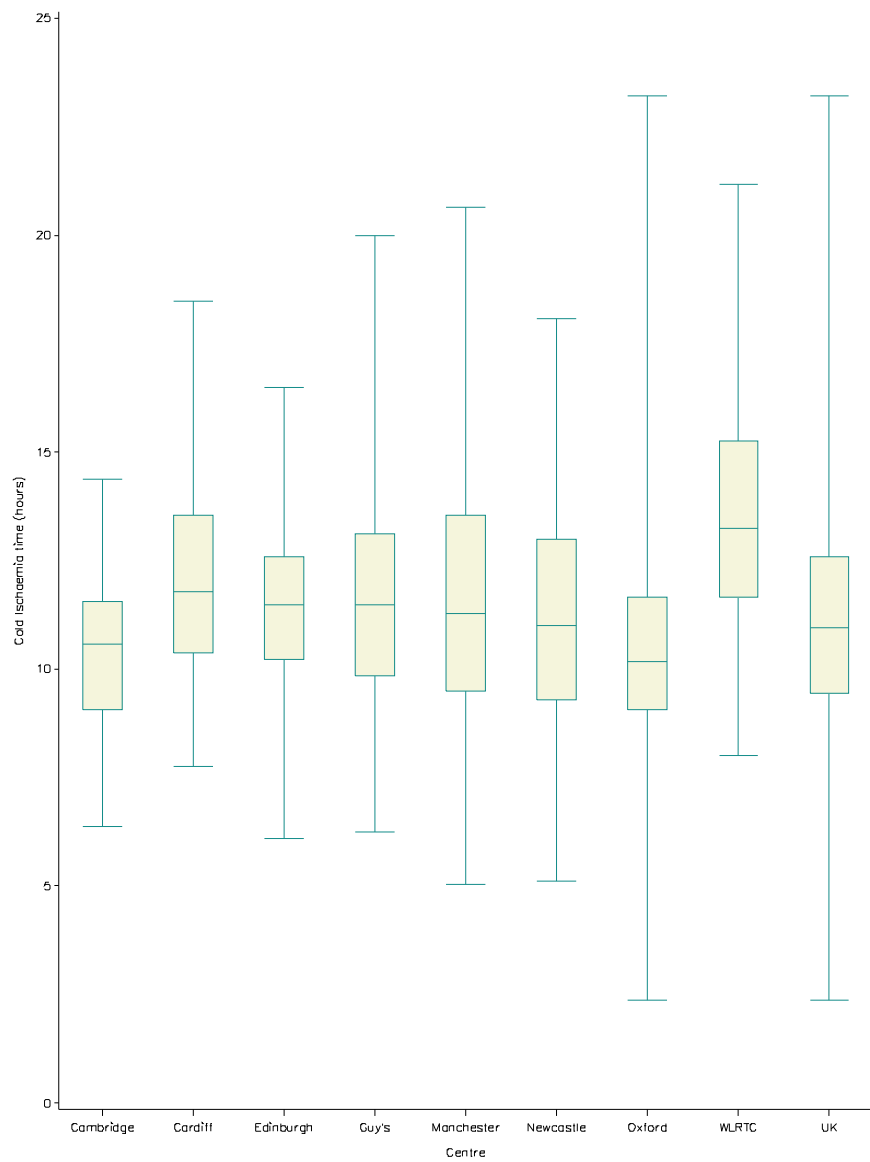
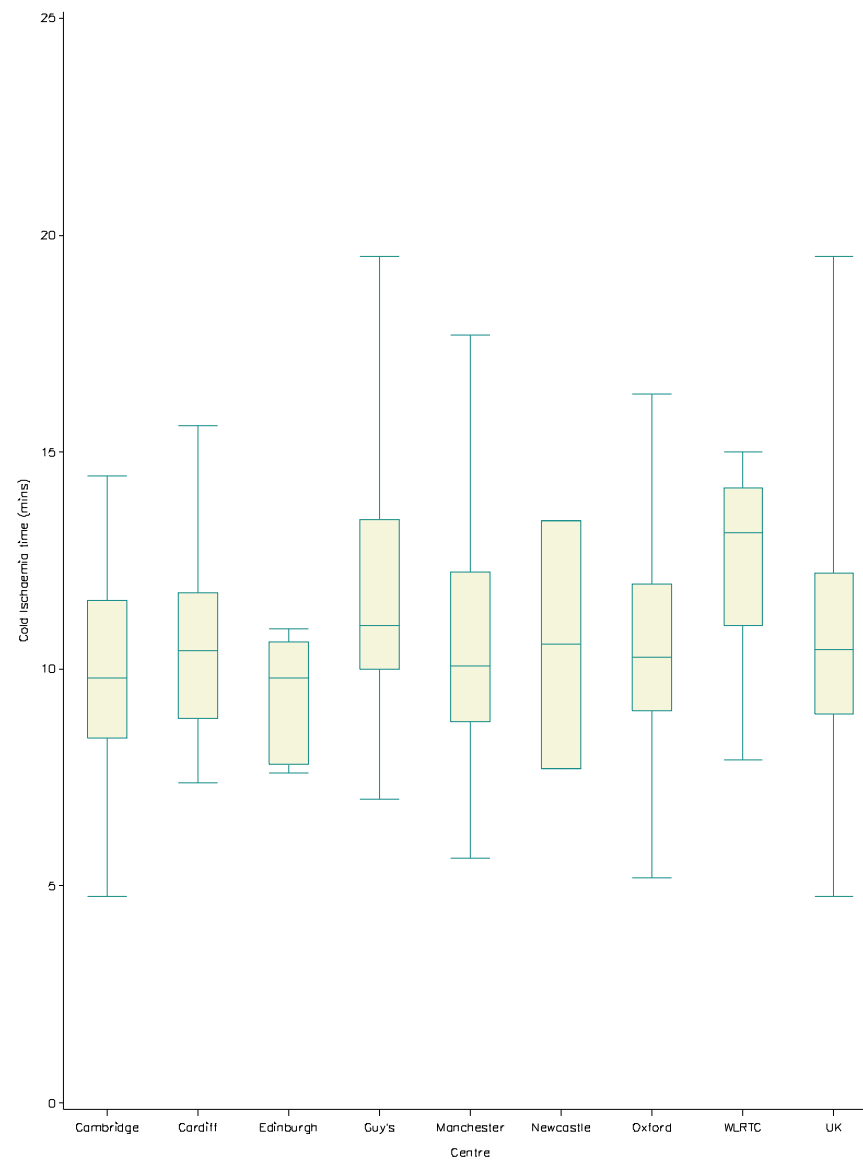


Figure 1.9 Centre-specific cold ischaemia time - vascularised pancreas (DCD)  
(CIT reported on pancreas transplant record form)



# **PANCREAS TRANSPLANT LIST & WAITING TIMES**

**Table 2.1 Overview of the national and centre specific transplant list, as at 1 December 2010 and 1 December 2018**

Transplant centre	1 Dec 2010		1 Dec 2018		Transplant type		
	N	(%)	N	(%)	SPK	PAK	PTA
<b>Vascularised pancreas</b>							
Cambridge	9	(3)	14	(7)	14	0	0
Cardiff	8	(3)	14	(7)	14	0	0
Edinburgh	32	(11)	35	(18)	35	0	0
Guy's	19	(6)	30	(16)	30	0	0
Manchester	61	(20)	28	(15)	25	3	0
Newcastle	10	(3)	6	(3)	4	1	1
Oxford	136	(45)	58	(30)	53	1	4
WLRTC	26	(9)	8	(4)	7	1	0
<b>Total</b>	<b>301</b>	<b>(100)</b>	<b>193</b>	<b>(100)</b>	<b>182</b>	<b>6</b>	<b>5</b>
<b>Pancreatic islet</b>							
	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>	<b>Routine</b>	<b>Priority</b>	
Bristol	0	(0)	0	(0)	0	0	
Edinburgh	3	(12)	5	(15)	4	1	
King's College	1	(4)	1	(3)	1	0	
Manchester	2	(8)	16	(47)	15	1	
Newcastle	7	(28)	6	(18)	6	0	
Oxford	9	(36)	3	(9)	2	1	
Royal Free	3	(12)	3	(9)	3	0	
<b>Total</b>	<b>25</b>	<b>(100)</b>	<b>34</b>	<b>(100)</b>	<b>31<sup>1</sup></b>	<b>3</b>	

<sup>1</sup> Includes 15 SIK registrations

<b>Factor</b>		<b>1 Dec 2010</b>		<b>Current (1 Dec 2018)</b>		<b>New Registrations</b>	
		<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>	<b>N</b>	<b>(%)</b>
Time listed (months)	0 to <3	56	(17)	58	(26)	384	(20)
	3 to <6	35	(11)	43	(19)	288	(15)
	6 to <12	59	(18)	57	(25)	549	(28)
	12 to <24	108	(33)	50	(22)	648	(33)
	24 or more	68	(21)	19	(8)	90	(5)
Sensitisation (cRF%)	0 to <10	210	(64)	129	(57)	1523	(78)
	10 to <30	26	(8)	23	(10)	90	(5)
	30 to <75	50	(15)	29	(13)	178	(9)
	75 to <95	7	(2)	16	(7)	90	(5)
	95 or more	33	(10)	30	(13)	78	(4)
On dialysis	Yes	152	(47)	105	(46)	952	(49)
	No	171	(52)	122	(54)	1006	(51)
	Not known	3	(1)	0	(0)	1	(0)
Transplant type	SPK	252	(77)	182	(80)	1450	(74)
	PAK, PTA	49	(15)	11	(5)	243	(12)
	Routine islet	21	(6)	16	(7)	153	(8)
	Priority islet	4	(1)	3	(1)	103	(5)
	SIK	0	(0)	15	(7)	10	(1)
Recipient sex	Female	149	(46)	114	(50)	921	(47)
	Male	177	(54)	113	(50)	1038	(53)
Recipient blood group	O	165	(51)	123	(54)	908	(46)
	A	132	(40)	65	(29)	745	(38)
	B	28	(9)	37	(16)	222	(11)
	AB	1	(0)	2	(1)	84	(4)
Recipient age (years)	Less than 30	12	(4)	18	(8)	160	(8)
	30 to <40	99	(30)	60	(26)	568	(29)
	40 to <50	132	(40)	78	(34)	737	(38)
	50 to <60	71	(22)	59	(26)	425	(22)
	60 or older	12	(4)	12	(5)	69	(4)
Recipient ethnicity	White	303	(93)	195	(86)	1731	(88)
	Non-white	23	(7)	31	(14)	207	(11)
	Not known	0	(0)	1	(0)	21	(1)

**Table 2.3 Median waiting time on the list by demographics, as at 1 December 2010 and 1 December 2018**

Factor	N	1 Dec 2010		N	1 Dec 2018	
		Median	IQ Range		Median	IQ Range
All patients	326	402	166 - 668	227	203	91 - 451
Sensitisation (cRF%)						
0 to <10	210	358	150 - 571	129	190	72 - 350
10 to <30	26	455	353 - 628	23	177	87 - 308
30 to <75	50	467	158 - 739	29	262	158 - 471
75 to <95	7	-	-	16	216	100 - 494
95 or more	33	728	363 - 1040	30	328	114 - 976
On dialysis						
Yes	152	445	179 - 676	105	219	119 - 471
No	171	368	151 - 650	122	195	77 - 399
Not known	3	-	-	0	-	-
Transplant type						
SPK	252	427	184 - 698	182	198	85 - 417
PAK, PTA	49	349	62 - 694	11	203	85 - 1283
Routine islet	21	267	170 - 427	16	282	157 - 632
Priority islet	4	-	-	3	-	-
SIK	0	-	-	15	206	190 - 511
Recipient sex						
Female	149	397	161 - 694	114	217	99 - 451
Male	177	413	173 - 661	113	191	77 - 451
Recipient blood group						
O	165	400	166 - 713	123	212	98 - 451
A	132	409	171 - 622	65	154	59 - 281
B	28	399	112 - 613	37	278	175 - 562
AB	1	-	-	2	-	-
Recipient age (years)						
Less than 30	12	293	49 - 654	18	117	37 - 281
30 to <40	99	404	158 - 613	60	205	114 - 452
40 to <50	132	374	153 - 690	78	231	85 - 471
50 to <60	71	433	230 - 714	59	198	104 - 380
60 or older	12	433	244 - 692	12	227	145 - 490
Recipient ethnicity						
White	303	400	161 - 683	195	203	94 - 450
Non-white	23	409	176 - 661	31	212	85 - 478
Not known	0	-	-	1	-	-
Centre						
Bristol	0	-	-	0	-	-
Cambridge	9	-	-	14	81	51 - 178
Cardiff	8	-	-	14	298	175 - 415
Edinburgh	35	386	166 - 510	40	210	72 - 470
Guy's	19	222	124 - 621	30	166	98 - 350
King's College	1	-	-	1	-	-
Manchester	63	461	272 - 795	44	202	98 - 476
Newcastle	17	342	193 - 512	12	527	103 - 772
Oxford	145	427	187 - 699	61	203	121 - 417
Royal Free	3	-	-	3	-	-
WLRTC	26	355	118 - 714	8	-	-

Data not presented where less than 10 patients included

# **OFFERING, RETRIEVAL AND ORGAN USE**

**Table 3.1 Use of pancreases from solid organ donors, 1 December 2010 and 1 December 2018**

	Solid organ donors	SPC <sup>1</sup> donors	Offered		Retrieved		Pancreas Transplanted		Conversion %
			N	(%)	N	(%)	N	(%)	
<b>Donations after brain death</b>									
Previous year	640	499	450	(90)	319	(71)	165	(52)	33
NPAS Yr 1	646	472	405	(86)	298	(74)	178	(60)	38
NPAS Yr 2	633	476	430	(90)	320	(74)	191	(60)	40
NPAS Yr 3	769	551	503	(91)	356	(71)	205	(58)	37
NPAS Yr 4	791	565	497	(88)	345	(69)	170	(49)	30
NPAS Yr 5	746	513	447	(87)	305	(68)	162	(53)	32
NPAS Yr 6	783	547	478	(87)	324	(68)	150	(46)	27
NPAS Yr 7	883	621	540	(87)	340	(63)	155	(46)	25
NPAS Yr 8	979	661	573	(87)	356	(62)	162	(46)	25
<b>Donations after circulatory death</b>									
Previous year	371	235	162	(69)	79	(49)	42	(53)	18
NPAS Yr 1	392	239	179	(75)	69	(39)	40	(58)	17
NPAS Yr 2	507	291	237	(81)	93	(39)	47	(51)	16
NPAS Yr 3	536	323	245	(76)	99	(40)	43	(43)	13
NPAS Yr 4	500	291	211	(73)	97	(46)	52	(54)	18
NPAS Yr 5	554	350	251	(72)	124	(49)	67	(54)	19
NPAS Yr 6	602	372	220	(59)	112	(51)	48	(43)	13
NPAS Yr 7	591	368	225	(61)	116	(52)	55	(47)	15
NPAS Yr 8	630	385	251	(65)	112	(45)	59	(53)	15

<sup>1</sup> Standard pancreas criteria (SPC) donors have been defined as those aged 60 years or less

**Table 3.2 Review of islet isolations performed, 1 December 2010 and 1 December 2018**

Isolation result	DBD donor				DCD donor			
	N	Age (yrs)	Median BMI (kg/m <sup>2</sup> )	Whole offers	N	Age (yrs)	Median BMI (kg/m <sup>2</sup> )	Whole offers
Contamination	4	33	28	4	2	44	24	7
Insufficient purity	29	50	28	0	4	39	30	0
Insufficient viability	42	50	28	1	10	50	27	1
Insufficient yield	402	48	28	0	74	43	27	1
Transplanted	208	49	29	0	30	41	29	0
<b>Total</b>	<b>685</b>	<b>48</b>	<b>28</b>	<b>0</b>	<b>120</b>	<b>42</b>	<b>27</b>	<b>0</b>

Figure 3.3 Review of islet isolations performed

