

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

NATIONAL PANCREAS ALLOCATION SCHEME

7 YEAR REVIEW

1 DECEMBER 2010 TO 30 NOVEMBER 2017

NATIONAL PANCREAS ALLOCATION SCHEME (2010)

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PANCREAS TRANSPLANTATION

Table 1.1 Overview of transplant activity, 1 December 2010 - 30 November 2017

Transplant type		Donor type		Total
		DBD	DCD	
Vascularised pancreas	SPK	903	287	1190
	PAK	69	14	83
	PTA	74	27	101
	Total	1046	328	1374
Pancreatic islet	Routine	111	17	128
	Priority	68	7	75
	Islet total¹	179	24	203
TOTAL		1225	352	1577

¹ Includes 5 simultaneous islet and kidney transplants

Table 1.2 Centre-specific transplant activity, 1 December 2009 - 31 November 2017

Transplant centre	Previous year		NPAS					Donor type	
	N	(%)	N	(%)	SPK	PAK	PTA	DBD	DCD
Vascularised pancreas									
Cambridge	32	(16)	148	(11)	141	7	0	95	53
Cardiff	12	(6)	78	(6)	50	14	14	47	31
Edinburgh	8	(4)	121	(9)	119	1	1	115	6
Guy's	22	(11)	194	(14)	180	8	6	129	65
Manchester	19	(10)	218	(16)	201	11	6	152	66
Newcastle	9	(5)	47	(3)	37	7	3	45	2
Oxford	82	(42)	496	(36)	405	20	71	404	92
WLRTC	12	(6)	72	(5)	57	15	0	59	13
Total	196	(100)	1374	(100)	1190	83	101	1046	328
Pancreatic islet									
	N	(%)	N	(%)	Routine	Priority		DBD	DCD
Bristol	0	(0)	4	(2)	3	1		4	0
Edinburgh	0	(0)	82	(40)	48	34		68	14
King's College	0	(0)	12	(6)	7	5		12	0
Manchester	1	(9)	15	(7)	10	5		14	1
Newcastle	2	(18)	36	(18)	23	13		32	4
Oxford	5	(45)	39	(19)	27	12		36	3
Royal Free	3	(27)	15	(7)	10	5		13	2
Total	11	(100)	203¹	(100)	128	75		179	24

¹ Includes 5 simultaneous islet and kidney transplants

Table 1.3 Transplant demographics, 1 December 2009 - 30 November 2017

Factor		Previous Year		NPAS 2010 results (year3)		NPAS 2010 results (year4)		NPAS 2010 results (year5)		NPAS 2010 results (year6)		NPAS 2010 results (year7)	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Number of transplants		207		252		225		231		199		211	
Waiting time (months)	0 to <3	47	(23)	32	(13)	19	(8)	29	(13)	29	(15)	37	(18)
	3 to <6	26	(13)	28	(11)	26	(12)	27	(12)	19	(10)	28	(13)
	6 to <12	29	(14)	59	(23)	67	(30)	51	(22)	41	(21)	35	(17)
	12 to <24	63	(30)	106	(42)	101	(45)	102	(44)	87	(44)	85	(40)
	24 or more	42	(20)	27	(11)	12	(5)	22	(10)	23	(12)	26	(12)
Sensitisation (cRF%)	0 to <10	157	(76)	180	(71)	172	(76)	175	(76)	129	(65)	130	(62)
	10 to <30	13	(6)	22	(9)	13	(6)	13	(6)	14	(7)	26	(12)
	30 to <75	16	(8)	29	(12)	31	(14)	24	(10)	37	(19)	40	(19)
	75 to <95	15	(7)	14	(6)	7	(3)	9	(4)	12	(6)	9	(4)
	95 or more	6	(3)	7	(3)	2	(1)	10	(4)	7	(4)	6	(3)
Total HLA mismatch (A,B,DR)	0 to 4	136	(66)	224	(89)	203	(90)	195	(84)	173	(87)	184	(87)
	5 or 6	71	(34)	28	(11)	22	(10)	36	(16)	26	(13)	27	(13)
Centre location	Closest three	158	(76)	168	(67)	140	(62)	147	(64)	109	(55)	135	(64)
	Other	49	(24)	84	(33)	85	(38)	84	(36)	90	(45)	76	(36)
On dialysis	No	118	(58)	133	(53)	110	(49)	132	(57)	102	(51)	105	(50)
	Yes	86	(42)	119	(47)	114	(51)	99	(43)	97	(49)	106	(50)
	Not known	3		0		1		0		0		0	
Transplant type	SPK	159	(77)	194	(77)	175	(78)	173	(75)	155	(78)	169	(80)
	PAK, PTA	37	(18)	29	(12)	26	(12)	26	(11)	16	(8)	13	(6)
	Routine islet ¹	6	(3)	16	(6)	18	(8)	19	(8)	16	(8)	19	(9)
	Priority islet	5	(2)	13	(5)	6	(3)	13	(6)	12	(6)	10	(5)

Table 1.3 Transplant demographics, 1 December 2009 - 30 November 2017

Factor		Previous Year		NPAS 2010 results (year3)		NPAS 2010 results (year4)		NPAS 2010 results (year5)		NPAS 2010 results (year6)		NPAS 2010 results (year7)	
		N	(%)	N	(%)	N	(%)	N	(%)	N	(%)	N	(%)
Recipient sex	Male	115	(56)	144	(57)	118	(52)	109	(47)	99	(50)	121	(57)
	Female	92	(44)	108	(43)	107	(48)	122	(53)	100	(50)	90	(43)
Recipient blood group	O	97	(47)	113	(45)	107	(48)	102	(44)	82	(41)	98	(46)
	A	84	(41)	98	(39)	84	(37)	95	(41)	86	(43)	83	(39)
	B	21	(10)	31	(12)	20	(9)	23	(10)	23	(12)	17	(8)
	AB	5	(2)	10	(4)	14	(6)	11	(5)	8	(4)	13	(6)
Recipient age (years)	Less than 30	12	(6)	19	(8)	17	(8)	13	(6)	13	(7)	16	(8)
	30 to <40	62	(30)	79	(31)	63	(28)	62	(27)	49	(25)	55	(26)
	40 to <50	92	(44)	89	(35)	82	(36)	94	(41)	83	(42)	73	(35)
	50 to <60	34	(16)	58	(23)	53	(24)	52	(23)	48	(24)	52	(25)
	60 or older	7	(3)	7	(3)	10	(4)	10	(4)	6	(3)	15	(7)
Recipient ethnicity	White	196	(95)	223	(88)	193	(86)	213	(92)	177	(89)	188	(89)
	Non-white	11	(5)	28	(11)	26	(12)	15	(6)	20	(10)	20	(9)
	Not known	0		1	(0)	6	(3)	3	(1)	2	(1)	3	(1)

¹ Includes 5 simultaneous islet and kidney transplants

**Table 1.4 Median waiting time by transplant demographics,
1 December 2010 - 30 November 2017**

Factor	N	Waiting Times (days)	
		Median	IQ Range
Sensitisation (cRF%)			
0 to <10	1109	396	173 - 590
10 to <30	127	447	168 - 689
30 to <75	219	461	284 - 696
75 to <95	71	391	188 - 606
95 or more	51	587	393 - 1047
Total HLA mismatch (A,B,DR)			
0 to 4	1344	420	200 - 600
5 or 6	233	338	107 - 784
Centre location			
Closest three	986	404	186 - 591
Other	591	448	189 - 682
On dialysis			
No	837	375	154 - 590
Yes	737	459	265 - 662
Not known	3	-	-
Transplant type			
SPK	1190	459	279 - 640
PAK, PTA	184	259	75 - 508
Routine islet ¹	128	364	101 - 665
Priority islet	75	144	84 - 198
Recipient sex			
Male	841	424	194 - 617
Female	736	405	181 - 617
Recipient blood group			
O	688	536	325 - 706
A	655	363	173 - 542
B	162	287	119 - 497
AB	72	109	50 - 202
Recipient age (years)			
Less than 30	99	338	138 - 525
30 to <40	438	425	198 - 624
40 to <50	602	435	215 - 617
50 to <60	374	397	178 - 652
60 or older	64	343	144 - 598
Recipient ethnicity			
White	1413	433	194 - 630
Non-white	148	325	150 - 511
Not known	16	327	159 - 492

¹ Includes 5 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 2017

Donor blood group	Recipient blood group								TOTAL	
	O		A		B		AB		N	(%)
O	688	(97)	14	(2)	4	(1)	3	(0)	709	(45)
A	-	-	641	(96)	-	-	30	(4)	671	(43)
B	-	-	-	-	158	(97)	5	(3)	163	(10)
AB	-	-	-	-	-	-	34	(100)	34	(2)
TOTAL	688	(44)	655	(42)	162	(10)	72	(5)	1577	(100)

Table 1.6 Donor BMI by transplant type, 1 December 2010 - 30 November 2017

Donor BMI	Transplant type				TOTAL
	Vascularised pancreas		Pancreatic islet		N
22 or less	625	(45)	14	(7)	639
23 to 25	446	(32)	25	(12)	471
26 to 28	230	(17)	55	(27)	285
29 to 31	59	(4)	54	(27)	113
32 or over	14	(1)	55	(27)	69
TOTAL	1374	(100)	203	(100)	1577

Table 1.7 Donor age by transplant type, 1 December 2010 - 30 November 2017

Donor age	Transplant type				TOTAL
	Vascularised pancreas		Pancreatic islet		N
Less than 25	236	(17)	3	(1)	239
25 to <30	312	(23)	10	(5)	322
30 to <40	252	(18)	33	(16)	285
40 to <50	328	(24)	69	(34)	397
50 to <60	226	(16)	81	(40)	307
60 or older	20	(1)	7	(3)	27
TOTAL	1374	(100)	203	(100)	1577

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

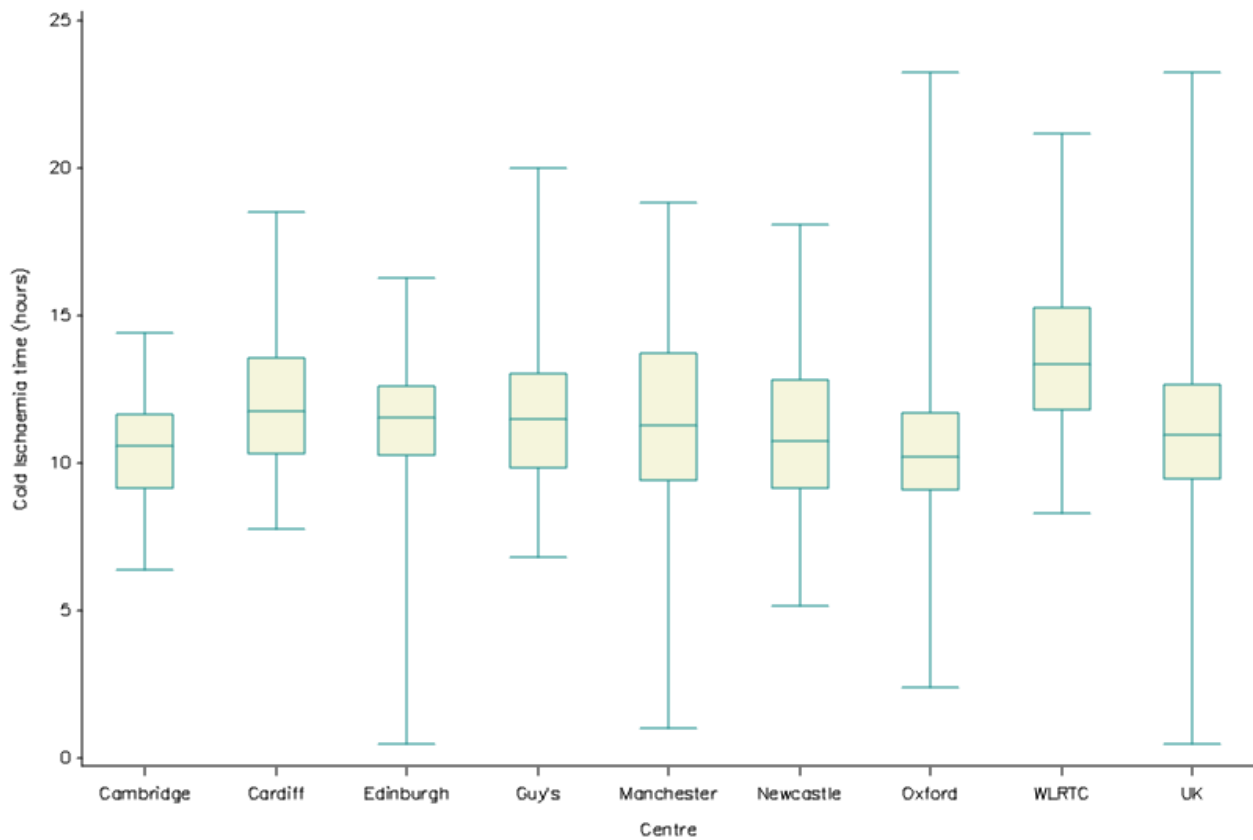
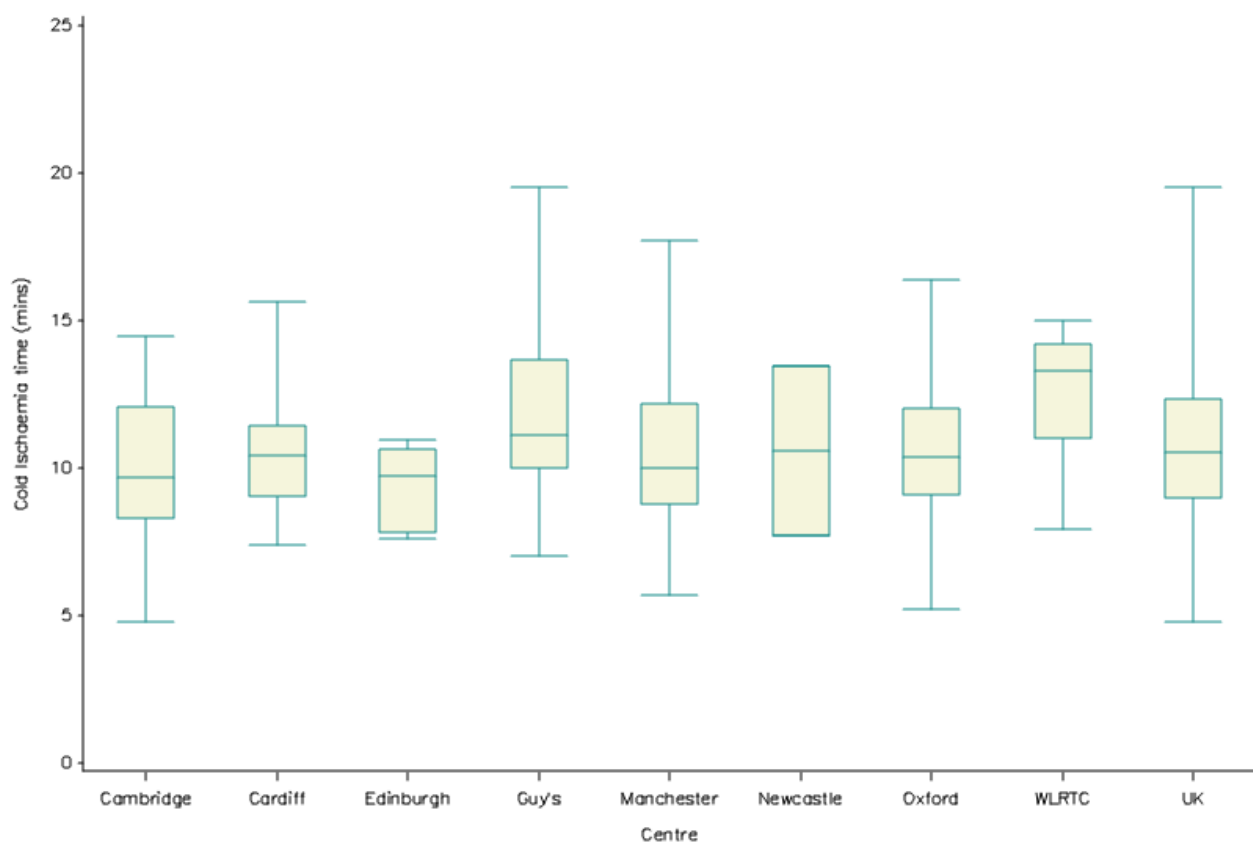


Figure 1.9 Centre-specific cold ischaemia time - vascularised pancreas (DCD)
(CIT reported on pancreas transplant record form)



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 2017

Transplant centre	1 Dec 2010		1 Dec 2017		Transplant type		
	N	(%)	N	(%)	SPK	PAK	PTA
Vascularised pancreas							
Cambridge	9	(3)	11	(6)	11	0	0
Cardiff	8	(3)	14	(7)	13	0	1
Edinburgh	32	(11)	28	(14)	28	0	0
Guy's	19	(6)	41	(21)	41	0	0
Manchester	61	(20)	19	(10)	17	2	0
Newcastle	10	(3)	12	(6)	10	1	1
Oxford	136	(45)	62	(31)	55	2	5
WLRTC	26	(9)	11	(6)	7	1	3
Total	301	(100)	198	(100)	182	6	10
Pancreatic islet							
	N	(%)	N	(%)	Routine	Priority	
Bristol	0	(0)	0	(0)	0	0	
Edinburgh	3	(12)	8	(28)	7	1	
King's College	1	(4)	1	(3)	1	0	
Manchester	2	(8)	9	(31)	6	3	
Newcastle	7	(28)	7	(24)	5	2	
Oxford	9	(36)	4	(14)	3	1	
Royal Free	3	(12)	0	(0)	0	0	
Total	25	(100)	29	(100)	22	7	

Factor		1 Dec 2010		Predicted (end of year 3)		Current (1 Dec 2017)		New Registrations	
		N	(%)	N	(%)	N	(%)	N	(%)
Time listed (months)	0 to <3	56	(17)	65	(23)	45	(20)	411	(21)
	3 to <6	35	(11)	59	(21)	54	(24)	336	(17)
	6 to <12	59	(18)	86	(31)	61	(27)	560	(29)
	12 to <24	108	(33)	53	(19)	49	(22)	573	(29)
	24 or more	68	(21)	14	(5)	18	(8)	79	(4)
Sensitisation (cRF%)	0 to <10	210	(64)	229	(83)	116	(51)	1523	(78)
	10 to <30	26	(8)	12	(4)	23	(10)	90	(5)
	30 to <75	50	(15)	12	(4)	46	(20)	178	(9)
	75 to <95	7	(2)	11	(4)	16	(7)	90	(5)
	95 or more	33	(10)	13	(5)	26	(11)	78	(4)
On dialysis	Yes	152	(47)	124	(45)	105	(46)	930	(47)
	No	171	(52)	153	(55)	121	(53)	1028	(52)
	Not known	3	(1)	0	(0)	1	(0)	1	(0)
Transplant type	SPK	252	(77)	203	(73)	182	(80)	1455	(74)
	PAK, PTA	49	(15)	49	(18)	16	(7)	238	(12)
	Routine islet	21	(6)	20	(7)	15	(7)	163	(8)
	Priority islet	4	(1)	5	(2)	7	(3)	103	(5)
	SIK	0	(0)	0	(0)	7	(3)	0	(0)
Recipient sex	Female	149	(46)	135	(49)	108	(48)	919	(47)
	Male	177	(54)	142	(51)	119	(52)	1040	(53)
Recipient blood group	O	165	(51)	0	(0)	115	(51)	908	(46)
	A	132	(40)	272	(98)	67	(30)	745	(38)
	B	28	(9)	5	(2)	42	(19)	222	(11)
	AB	1	(0)	0	(0)	3	(1)	84	(4)
Recipient age (years)	Less than 30	12	(4)	26	(9)	14	(6)	160	(8)
	30 to <40	99	(30)	116	(42)	80	(35)	568	(29)
	40 to <50	132	(40)	94	(34)	75	(33)	737	(38)
	50 to <60	71	(22)	39	(14)	51	(22)	425	(22)
	60 or older	12	(4)	2	(1)	7	(3)	69	(4)
Recipient ethnicity	White	303	(93)	257	(93)	194	(85)	1731	(88)
	Non-white	23	(7)	20	(7)	32	(14)	205	(10)
	Not known	0	(0)	0	(0)	1	(0)	23	(1)

Table 2.3 Median waiting time on the list by demographics, as at 1 December 2010 and 1 December 2017

Factor	N	1 Dec 2010		N	1 Dec 2017	
		Median	IQ Range		Median	IQ Range
All patients	326	402	166 - 668	227	219	111 - 413
Sensitisation (cRF%)						
0 to <10	210	358	150 - 571	116	193	99 - 346
10 to <30	26	455	353 - 628	23	160	72 - 350
30 to <75	50	467	158 - 739	46	235	113 - 408
75 to <95	7	-	-	16	191	136 - 414
95 or more	33	728	363 - 1040	26	547	248 - 1044
On dialysis						
Yes	152	445	179 - 676	105	231	118 - 398
No	171	368	151 - 650	121	204	106 - 437
Not known	3	-	-	1	-	-
Transplant type						
SPK	252	427	184 - 698	182	222	111 - 408
PAK, PTA	49	349	62 - 694	16	213	129 - 946
Routine islet	21	267	170 - 427	15	182	28 - 560
Priority islet	4	-	-	7	-	-
SIK	0	0	-	7	-	-
Recipient sex						
Female	149	397	161 - 694	108	225	109 - 392
Male	177	413	173 - 661	119	219	111 - 421
Recipient blood group						
O	165	400	166 - 713	115	204	106 - 386
A	132	409	171 - 622	67	209	85 - 437
B	28	399	112 - 613	42	276	132 - 444
AB	1	-	-	3	-	-
Recipient age (years)						
Less than 30	12	293	49 - 654	14	290	125 - 350
30 to <40	99	404	158 - 613	80	200	106 - 384
40 to <50	132	374	153 - 690	75	237	111 - 413
50 to <60	71	433	230 - 714	51	178	111 - 513
60 or older	12	433	244 - 692	7	-	-
Recipient ethnicity						
White	303	400	161 - 683	194	218	106 - 409
Non-white	23	409	176 - 661	32	242	113 - 389
Not known	0	0	-	1	-	-
Centre						
Bristol	0	0	-	0	0	-
Cambridge	9	-	-	11	168	78 - 408
Cardiff	8	-	-	14	96	44 - 350
Edinburgh	35	386	166 - 510	36	196	105 - 401
Guy's	19	222	124 - 621	41	265	136 - 398
King's College	1	-	-	1	-	-
Manchester	63	461	272 - 795	28	147	68 - 275
Newcastle	17	342	193 - 512	19	248	87 - 512
Oxford	145	427	187 - 699	66	229	118 - 462
Royal Free	3	-	-	0	0	-

**Table 2.3 Median waiting time on the list by demographics,
as at 1 December 2010 and 1 December 2017**

Factor	1 Dec 2010			1 Dec 2017		
	N	Median	IQ Range	N	Median	IQ Range
WLRTC	26	355	118 - 714	11	267	133 - 506

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 2017

	Solid organ donors	SPC ¹ donors	Offered		Retrieved		Pancreas Transplanted		Conversion %
			N	(%)	N	(%)	N	(%)	
Donations after brain death									
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)	325	(68)	150	(46)	27
NPAS Yr 7	883	621	540	(87)	342	(63)	155	(45)	25
Donations after cardiac death									
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	221	(59)	113	(51)	48	(42)	13
NPAS Yr 7	591	368	226	(61)	117	(52)	55	(47)	15

¹ 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 2017

Isolation result	N	DBD donor			Whole offers	N	DCD donor		
		Age (yrs)	Median BMI (kg/m ²)				Age (yrs)	Median BMI (kg/m ²)	Whole offers
Contamination	2	42	23		4	1	50	22	4
Insufficient purity	28	49	28		0	4	39	30	0
Insufficient viability	37	50	27		1	10	50	27	1
Insufficient yield	353	48	28		0	67	43	27	0
Transplanted	182	49	29		0	25	41	28	0
TOTAL	602	49	28	0	107	42	27	27	0

Figure 3.3 Review of islet isolations performed

