

NHS BLOOD AND TRANSPLANT**PANCREAS ADVISORY GROUP**

ISOLATION STATISTICS

SUMMARY

INTRODUCTION

- 1 This paper provides information on the outcome of pancreases retrieved with the intention to transplant as pancreas islets as reported to the UK Transplant Registry. The information includes outcomes by islet isolation facility overall and by category of donor quality.

DATA

- 2 Data on 215 donors between 1 January 2019 and 31 December 2021, 59 of which were in 2021, whose pancreas was taken and accepted for islet transplantation were analysed from the UK Transplant Registry (UKTR). A quarterly report of missing data is issued to each isolation facility to ensure data reported are as complete as possible. These data should be reported comprehensively on page 5 of the Deceased Donor Pancreas Information (DDPI) form. Where a form had not been received, data were sourced from Hub Operations notes and islet transplant data to ensure data were as accurately reported as possible.
- 3 Information was available for all 215 (100%) donors in the whole time period and the 59 donors in 2021.

RESULTS

- 4 In the latest year, of the 59 pancreas donors analysed, 58 were indicated to have been used for isolation and 49 (84%) had isolation completed. Of these 49 completed isolations, 32 met the release criteria and 22 (69%) of those resulted in transplantation. The overall conversion rate from isolation started to islets transplanted is 40%. At each isolation facility, for this time period, the overall conversion rates were 53% at Edinburgh, 35% at King's and 32% at Oxford.
- 5 Of the 59 pancreas donors, eight (14%) were categorised as Grade A donors and had isolation started and one (13%) was subsequently transplanted.
- 6 For pancreas donors who had the relevant information reported, the transplant conversion rates of those where isolation was started were 31%, 29% and 40% in 2019, 2020 and 2021, respectively.

ACTION

- 7 Isolation facilities are asked to ensure that the islet page of the DDPI form is completed fully including the time part of any date field and returned immediately to ODT Hub Information Services (NHSBT.odthtaforms@nhs.net). Please include the donor id and "islet page 5" in the subject of the email. A quarterly report is issued to capture missing data from forms returned and outstanding forms.

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- 8 This paper provides information on the outcome of pancreases retrieved with the intention to transplant as pancreas islets as reported to the UK Transplant Registry. The information includes outcomes by islet isolation facility overall and by category of donor quality.

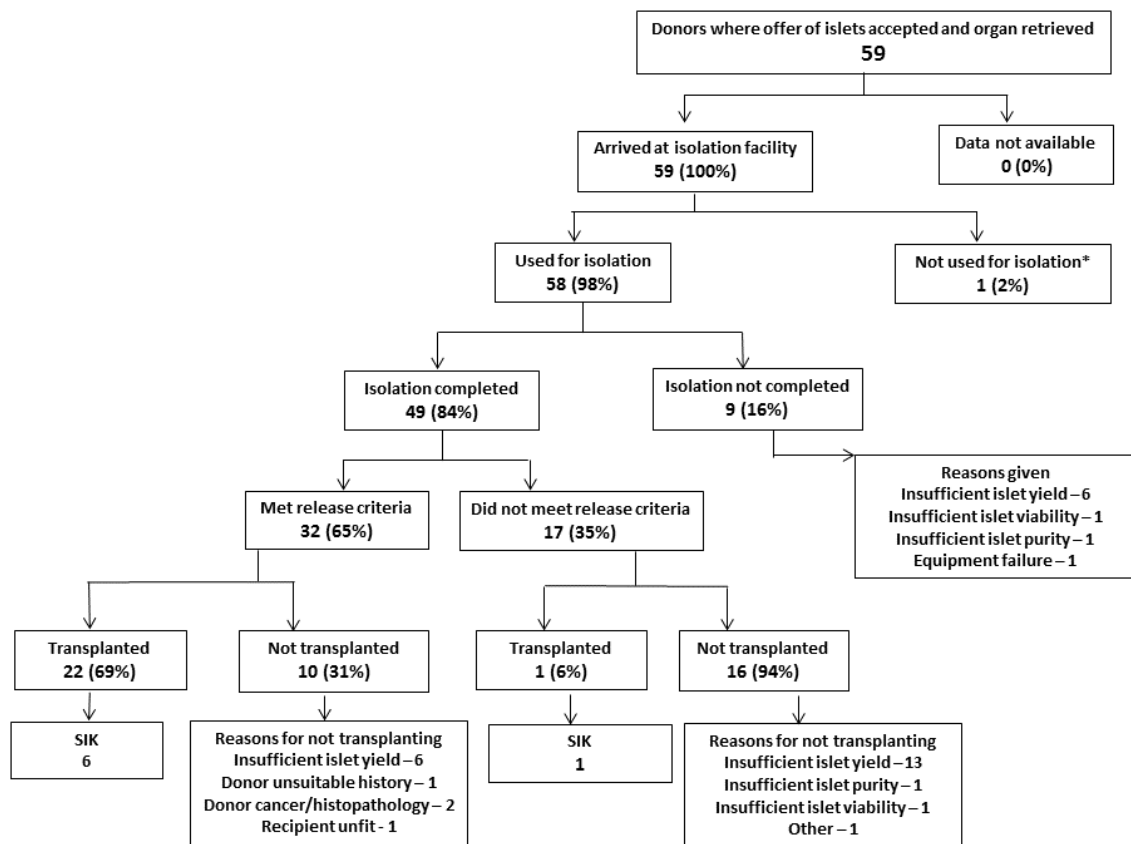
DATA

- 9 Data on 215 donors between 1 January 2019 and 31 December 2021, 59 of which were in the latest calendar year 2021, whose pancreas was taken and accepted for islet transplantation were analysed from the UK Transplant Registry (UKTR). Information from the islet isolation page of the Deceased Donor Pancreas Information (DDPI) form was used to identify those pancreases arriving at an isolation facility and whether the pancreas was isolated and subsequently transplanted. Where a form had not been received, information has been sourced from Hub Operations notes and islet transplant data to ensure data were as accurately reported as possible.
- 10 Information was available for 215 (99.5%) donors in the whole time period and for 59 (100%) in 2021.
- 11 After isolation was completed the islets were deemed to be suitable for transplantation or 'met the release criteria' if islet yield $\geq 200,000$, viability $\geq 70\%$ and purity $\geq 50\%$. Viability and purity include 70% and 50%, respectively, because it is not possible to report to one decimal place and it was found that in some cases although exactly 70% viability or 50% purity had been reported, these could have been slightly over and therefore met the criteria. If the final product information was available for yield, viability and purity then this was used to determine the release criteria, otherwise post isolation outcomes were used.

RESULTS

- 12 **Figure 1** shows the outcome for the 59 donors between 1 January and 31 December 2021 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 58 indicated to have isolation started, 23 were transplanted giving a conversion rate of 40%. Of the 35 not transplanted, the main reason given was insufficient islet yield (54%).
- 13 The one transplant from isolations that did not meet the release criteria was an SIK transplant with an islet yield of more than 100,000 IEQ.

Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 January – 31 December 2021



*Of pancreases not used for isolation, 1 was due to anatomical reasons

- 14 In Appendix I, the same information as **Figure 1** is shown separately for those donors who were first offered for islet patients (Figure I) and those first offered for whole pancreas patients (Figure II).
- 15 There were 215 donors whose pancreas was taken and accepted for islet transplantation in the last three financial years, 215 were indicated to have arrived at an isolation facility using information available. **Table 1** shows information on these 215, by year and isolation facility as reported on the islet page of the DDPI form. In 2019, the conversion rate from isolation started to transplanted ranged from 25% to 35% across the isolation facilities, and in the latest year it ranged from 32% to 53%.

Islet isolation facility	Arrived at facility		Isolation started		Isolation completed		Met release criteria (% of isolation started)		Met release criteria & transplanted		Transplanted overall (% of isolation started)	
	N		N	%	N	%	N	%	N	%	N	%
2019												
EDINBURGH	25		24	96	24	100	11	45.8	7	63.6	8	33.3
KINGS	43		43	100	39	90.7	29	67.4	15	51.7	15	34.9
OXFORD	37		36	97.3	29	80.6	16	44.4	8	50.0	9	25.0
TOTAL	105		103	98.1	92	89.3	56	54.4	30	53.6	32	31.1
2020												
EDINBURGH	17		16	94.1	16	100	10	62.5	7	70	7	43.8
KINGS	21		19	90.5	15	78.9	10	52.6	3	30	6	31.6
OXFORD	13		13	100	8	61.5	2	15.4	.	.	1	7.7
TOTAL	51		48	94.1	39	81.3	22	45.8	10	45.5	14	29.2
2021												
EDINBURGH	19		19	100	19	100	11	57.9	9	81.8	10	52.6
KINGS	20		20	100	16	80	11	55.0	7	63.6	7	35.0
OXFORD	20		19	95	14	73.7	10	52.6	6	60.0	6	31.6
TOTAL	59		58	98.3	49	84.5	32	55.2	22	68.8	23	39.7

- 16 **Table 2** shows the information for 2021 split into Grade A donors and Non-Grade A donors. Definition of Grade A donors can be found in the Appendix II. If cold ischaemic time could not be calculated due to missing information, then donors are categorised as non-Grade A.
- 17 **Table 2** shows that there were eight (14%) donors identified as Grade A compared to 51 (86%) non-Grade A donors. Five of the donors at Kings were identified as Grade A, two at Oxford and one at Edinburgh. Of those eight Grade A donors where isolation started, one (13%) was transplanted.

Islet isolation facility	Arrived at facility		Isolation started		Isolation completed		Met release criteria (% of isolation started)		Met release criteria & transplanted		Transplanted overall (% of isolation started)	
	N		N	%	N	%	N	%	N	%	N	%
GRADE A												
EDINBURGH	1		1	100	1	100	0	-	0	-	0	-
KINGS	5		5	100	4	80	1	20	0	-	0	-
OXFORD	2		2	100	1	50	1	50	1	100	1	50.0
TOTAL	8		8	100	6	75	2	25	1	50	1	12.5
NON-GRADE A												
EDINBURGH	18		18	100	18	100	11	61.1	9	81.8	10	55.6
KINGS	15		15	100	12	80.0	10	66.7	7	70.0	7	46.7
OXFORD	18		17	94.4	13	76.5	9	52.9	5	55.6	5	29.4
TOTAL	51		50	98.0	43	86.0	30	60.0	21	70.0	22	44.0

- 18 Of those 59 donors in 2021 whose pancreas was used for isolation and information was available, 45 (76%) were aged 50 years or younger and 14 (24%) were aged over 50 years. Of the 14 donors aged over 50 years, 14 had isolation started, 12 had isolation completed, nine (75%) met the release criteria and five were transplanted. This gives an overall conversion rate of those where isolation commenced of 36% (five out of 14). This is slightly lower than the rate of 40% (18 of 45 donors) for donors aged 50 years or younger.

ACTION

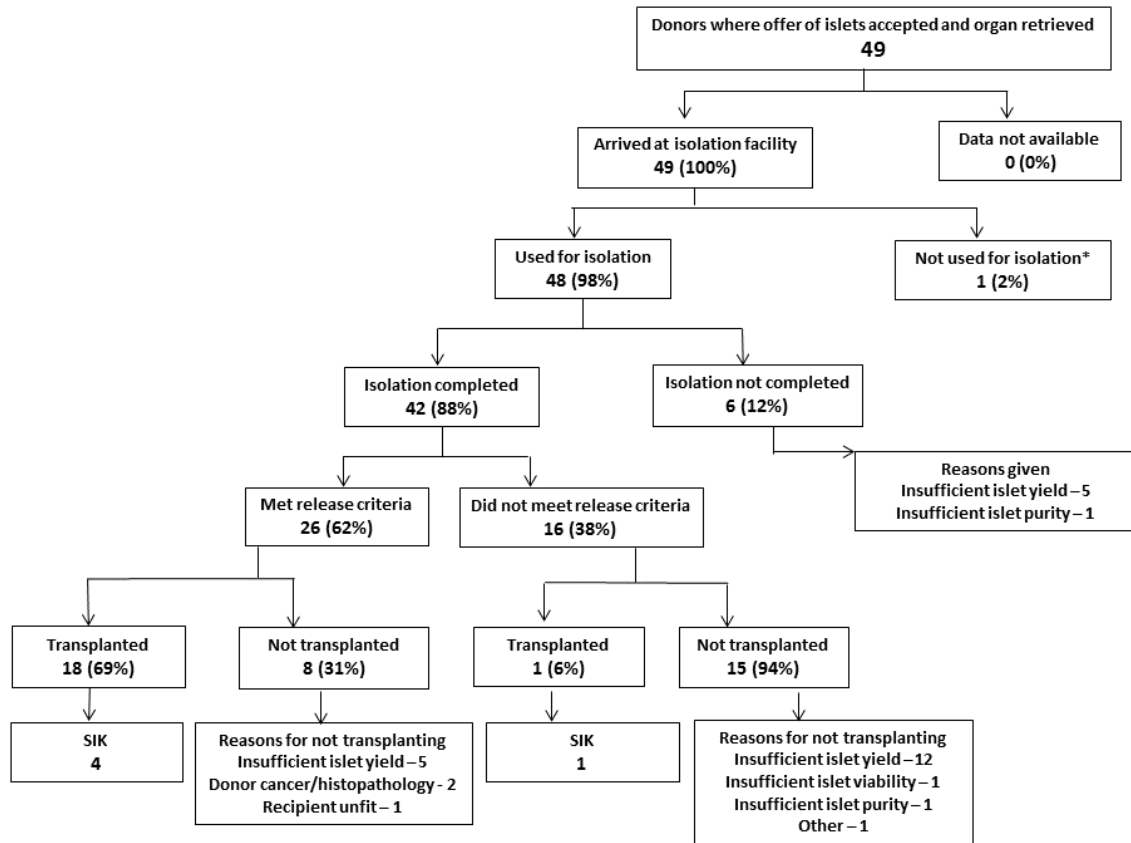
- 19 Isolation facilities are asked to ensure that the islet page of the DDPI form is completed fully, including the time part of any date field, and returned immediately to ODT Hub Information Services (NHSBT.odthtaforms@nhs.net). Please include the donor id and “islet page 5” in the subject of the email. A quarterly report is issued to capture missing data from forms returned and outstanding forms.

Joseph Parsons
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March 2022

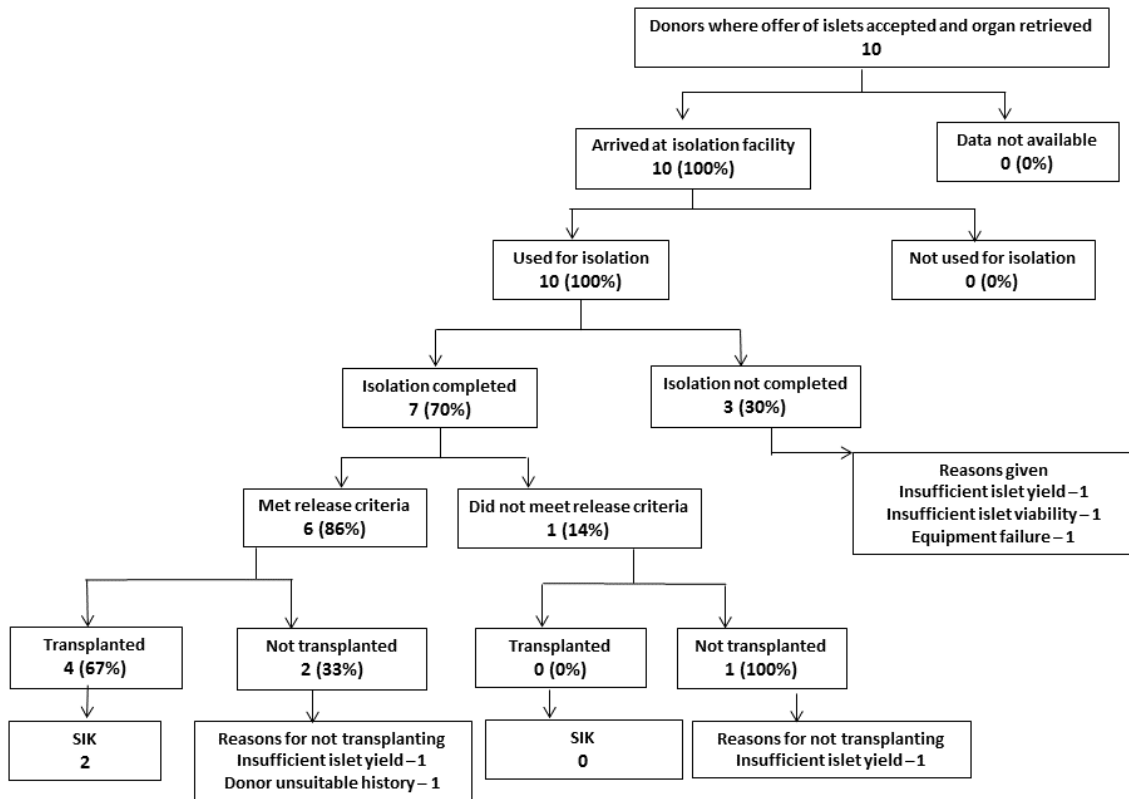
Appendix I

Figure I Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to an islet patient first, 1 January – 31 December 2021



*Of pancreases not used for isolation, 1 was due to anatomical reasons

Figure II Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to a whole pancreas patient first, 1 January – 31 December 2021



Appendix II

Grade A donors are donors who met all the following criteria:

- DBD
- Aged 40 to 60 years inclusive
- BMI 26.0 to 35.4 inclusive
- CIT <8 hours (time from perfusion commenced to isolation start time)
- No bench perfusion
- No pancreatic inflammation
- No pancreatic odema
- No parenchymal damage
- No haematomas
- No capsule damage
- No out of hospital cardiac arrest