

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 166 donors between 1 January 2021 and 31 December 2023, 52 of which were in 2023, 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.
- 3 Information was available for 166 (100%) donors in the whole time period and 52 (100%) donors in 2023.

RESULTS

- 4 In the latest year, of the 52 pancreas donors analysed, 51 were indicated to have been used for isolation and 46 (88%) had isolation completed. Of these 46 completed isolations, 26 met the release criteria and 16 (35%) 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 42% at Edinburgh, 64% at King's and 25% at Oxford.
- 5 Of the 52 pancreas donors, two (4%) were categorised as Grade A donors and had isolation started and both (100%) were subsequently transplanted.
- 6 For pancreas donors who had the relevant information reported, the transplant conversion rates of those where isolation was started were 40%, 31% and 40% in 2021, 2022 and 2023, 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. 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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INTRODUCTION

- 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

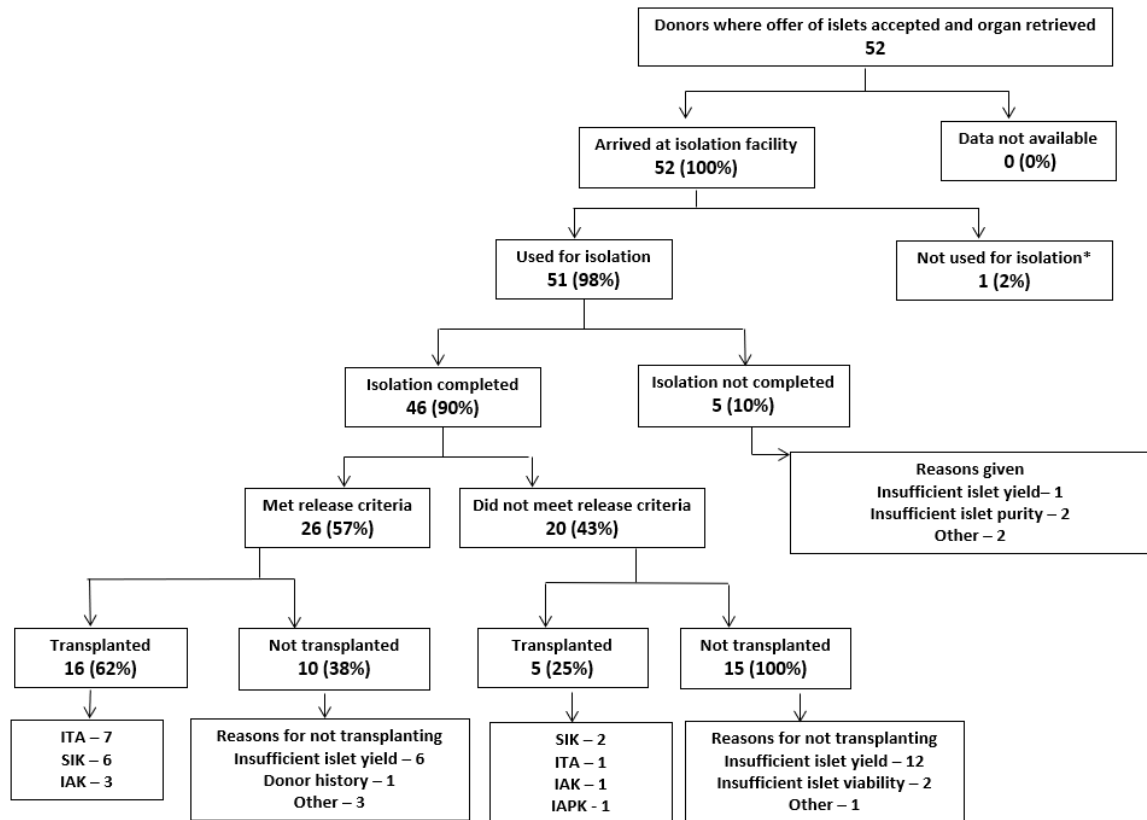
- 9 Data on 166 donors between 1 January 2021 and 31 December 2023, 52 of which were in the latest calendar year 2023, whose pancreas was taken and accepted for islet transplantation were analysed from the UK Transplant Registry (UKTR). Information from the islet isolation page of the Deceased Donor Pancreas Information (DDPI) form was used to identify those pancreases arriving at an isolation facility and whether the pancreas was isolated and subsequently transplanted.
- 10 Information was available for 166 (100%) donors in the whole time period and for 52 (100%) in 2023.
- 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 52 donors between 1 January 2023 and 31 December 2023 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 51 indicated to have isolation started, 21 were transplanted giving a conversion rate of 41%. Of the 25 not transplanted, the main reason given was insufficient islet yield for the patient (72%).
- 13 There were five transplants from isolations that did not meet the release criteria, three (60%) of which were due to low islet purity (greater than 30%, but less than 50%) and 2 (40%) due to low islet yield.

- 14 The 'other' reasons given for isolation not being completed in two cases were: declined by recipient centre (1) and poor tissue quality (1). The 'other' reasons given when the prep met release criteria but was not transplanted in three cases were: unsuitable for recipient (1), recipient centre declined due to medical history (1) and insufficient yield for intended recipient (1).

Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 January 2023 – 31 December 2023



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

- 15 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).
- 16 There were 166 donors whose pancreas was taken and accepted for islet transplantation in the last three calendar years, 166 were indicated to have arrived at an isolation facility using information available. **Table 1** shows information on these 166, by year and isolation facility as reported on the islet page of the DDPI form. In 2021, the conversion rate from isolation started to transplanted ranged from 32% to 53% across the isolation facilities, and in the latest year it ranged from 25% to 64%.

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	%
2021												
EDINBURGH	19		19	100	19	100	11	58	9	82	10	53
KINGS	20		20	100	16	80	11	55	7	64	7	35
OXFORD	20		19	95	14	74	10	53	6	60	6	32
TOTAL	59		58	98	49	85	32	55	22	69	23	40
2022												
EDINBURGH	22		22	100	21	96	13	59	10	77	10	46
KINGS	16		16	100	12	75	8	50	2	25	2	13
OXFORD	17		17	100	14	82	10	59	5	50	5	29
TOTAL	55		55	100	47	86	31	56	17	55	17	31
2023												
EDINBURGH	20		19	95	19	100	9	47	4	44	8	42
KINGS	11		11	100	10	91	7	64	7	100	7	64
OXFORD	21		20	95	16	80	9	45	4	44	5	25
TOTAL	52		50	96	45	90	25	50	15	60	20	40

- 17 **Table 2** shows the information for 2023 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 or other relevant information was missing, then donors are categorised as non-Grade A.
- 18 **Table 2** shows that there were two (4%) donors identified as Grade A compared to 50 (96%) non-Grade A donors. Two of the donors at Oxford were identified as Grade A and none at Kings and Edinburgh. Of those two Grade A donors where isolation started, both (100%) 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	0		0	-	0	-	0	-	0	-	0	-
KINGS	0		0	-	0	-	0	-	0	-	0	-
OXFORD	2		2	100	2	100	1	50	1	100	2	100
TOTAL	2		2	100	2	100	1	50	1	100	2	100
NON-GRADE A												
EDINBURGH	20		19	95	19	100	9	47	4	44	8	42
KINGS	11		11	100	11	100	8	73	8	100	8	73
OXFORD	19		19	100	14	74	8	42	3	38	3	16
TOTAL	50		49	98	44	90	25	51	15	60	19	39

- 19 Of those 51 donors in 2023 whose pancreas was used for isolation and information was available, 36 (71%) were aged 50 years or younger and 15 (29%) were aged over 50 years. Of the 15 donors aged over 50 years with isolation started, 15 had isolation completed, 9 (60%) met the release criteria and six were transplanted. This gives an overall conversion rate of those where isolation commenced of 40% (six out of 15). This is similar to the rate of 42% (15 of 36 donors) for donors aged 50 years or younger.

ACTION

- 20 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. 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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March 2023

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 2023 – 31 December 2023

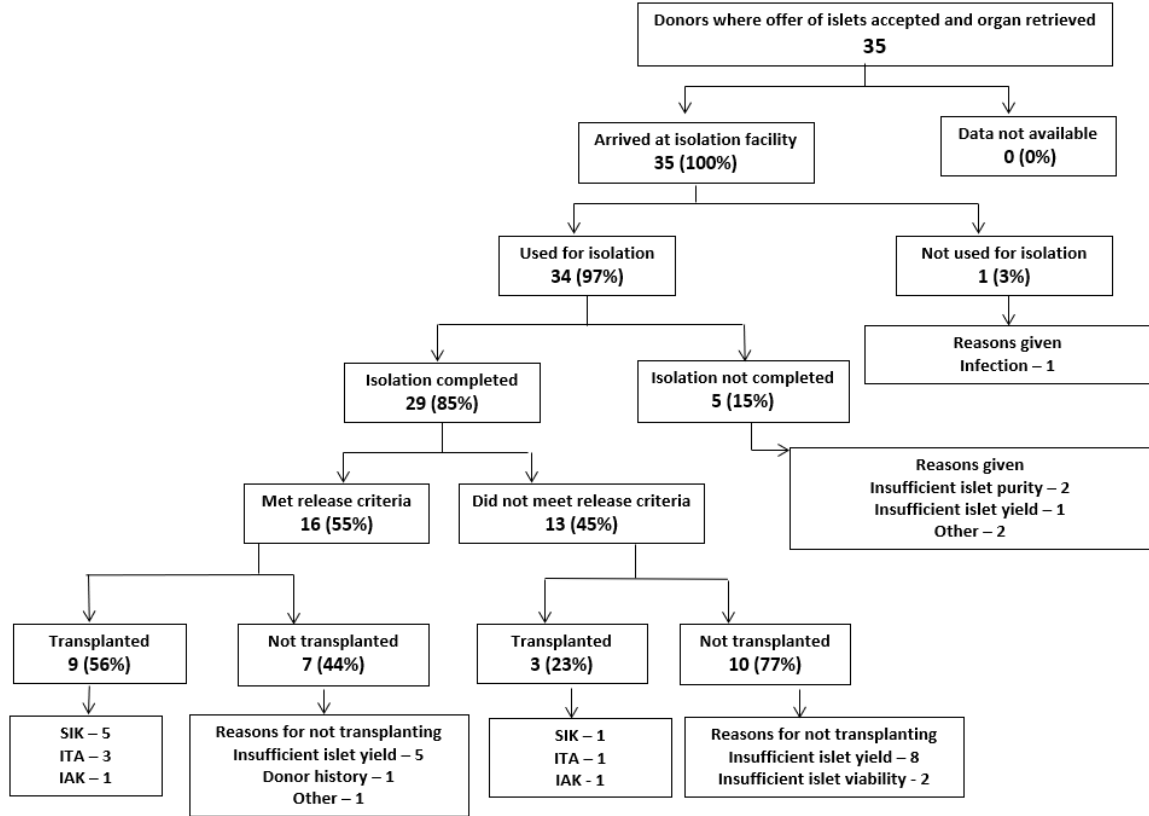
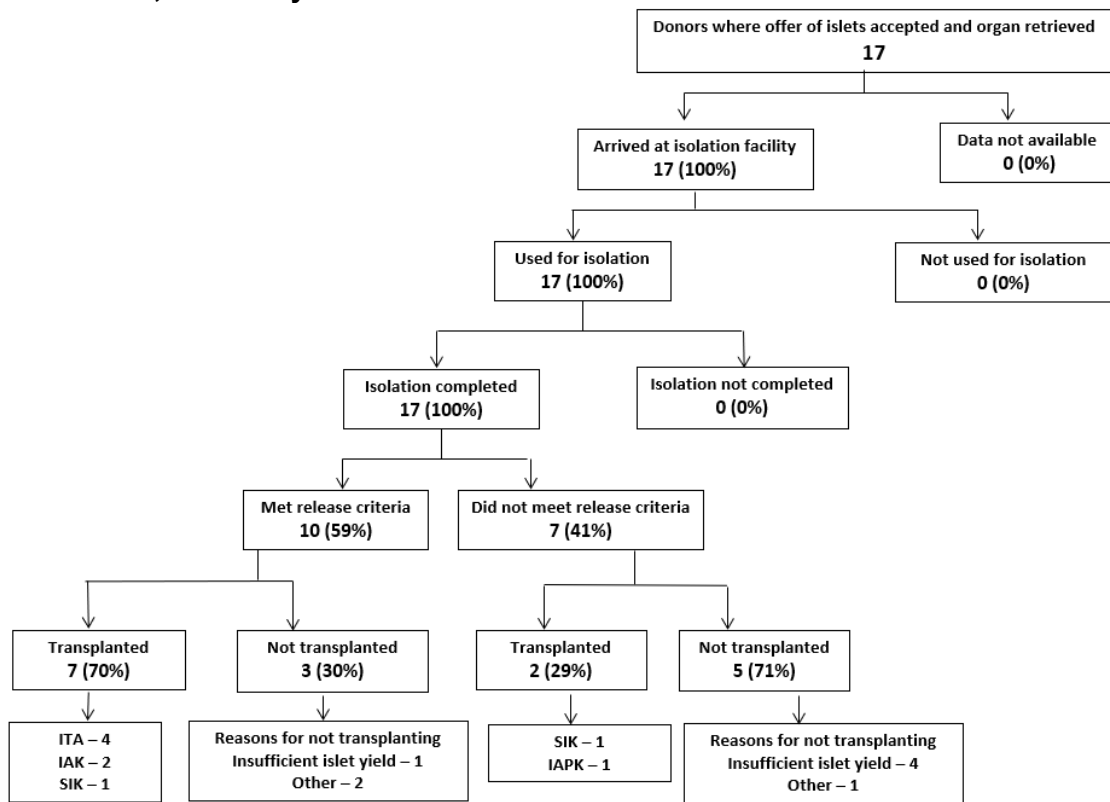


Figure II Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to a whole pancreas patient first, 1 January 2023 – 31 December 2023



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