

**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 164 donors between 1 January 2020 and 31 December 2022, 55 of which were in 2022, 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 164 (100%) donors in the whole time period and 55 (100%) donors in 2022.

RESULTS

- 4 In the latest year, of the 55 pancreas donors analysed, 54 were indicated to have been used for isolation and 47 (85%) had isolation completed. Of these 47 completed isolations, 31 met the release criteria and 17 (36%) of those resulted in transplantation. The overall conversion rate from isolation started to islets transplanted is 31%. At each isolation facility, for this time period, the overall conversion rates were 48% at Edinburgh, 13% at King's and 29% at Oxford.
- 5 Of the 55 pancreas donors, five (9%) were categorised as Grade A donors and had isolation started and two (40%) were subsequently transplanted.
- 6 For pancreas donors who had the relevant information reported, the transplant conversion rates of those where isolation was started were 29%, 40% and 32% in 2020, 2021 and 2022, 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.odtthaforms@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

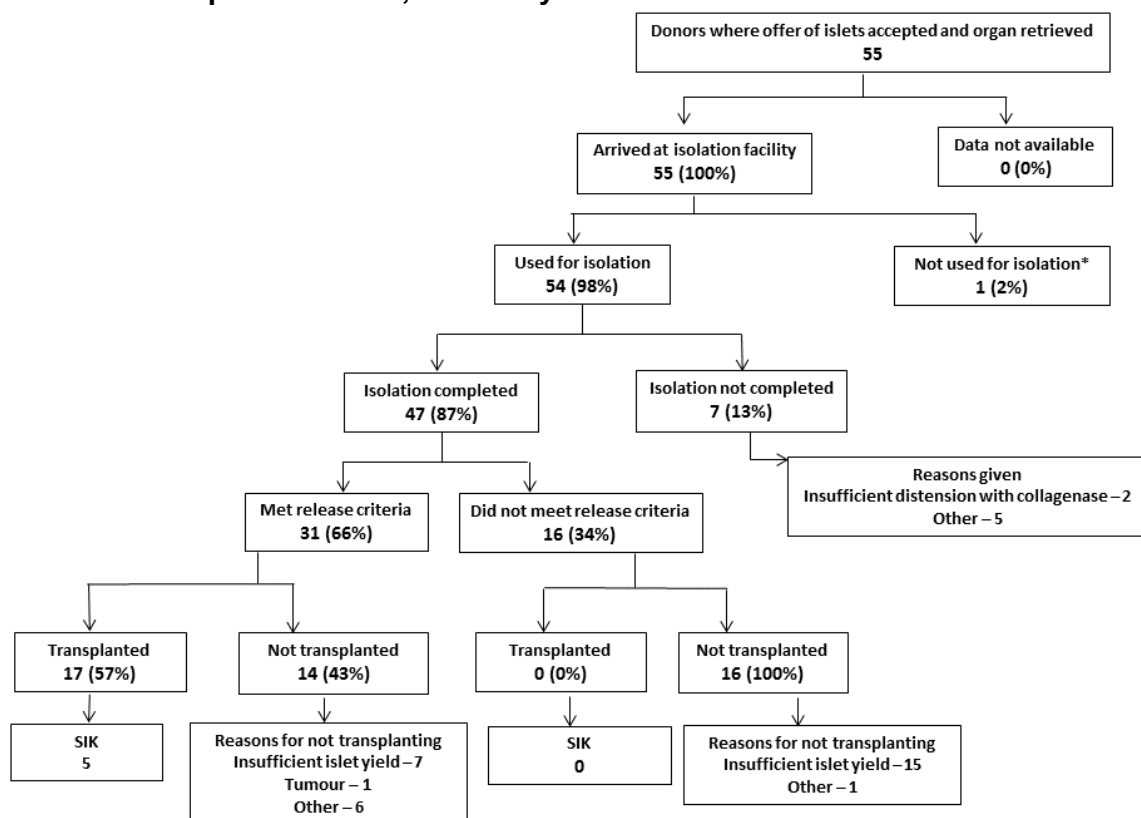
- 9 Data on 164 donors between 1 January 2020 and 31 December 2022, 55 of which were in the latest calendar year 2022, whose pancreas was taken and accepted for islet transplantation were analysed from the UK Transplant Registry (UKTR). Information from the islet isolation page of the Deceased Donor 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 164 (100%) donors in the whole time period and for 55 (100%) in 2022.
- 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 55 donors between 1 January 2022 and 31 December 2022 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 54 indicated to have isolation started, 17 were transplanted giving a conversion rate of 31%. Of the 37 not transplanted, the main reason given was insufficient islet yield for the patient (59%).
- 13 There were no transplants from isolations that did not meet the release criteria.

- 14 The 'other' reasons given for isolation not being completed in five cases were: declined by recipient centre (1), long cold ischemia time (1), poor tissue quality (1), blood warmer bag broken so isolation stopped (1) and no islets being seen (1). The 'other' reasons given when the prep met release criteria but was not transplanted in six cases were: patient was ill (4), recipient centre declined due to staffing issues (1) and recipient had positive blood and urine cultures (1).

Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 January 2022 – 31 December 2022



*Of pancreases not used for isolation, 1 was due to being from a diabetic donor

- 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 164 donors whose pancreas was taken and accepted for islet transplantation in the last three calendar years, 164 were indicated to have arrived at an isolation facility using information available. **Table 1** shows information on these 164, by year and isolation facility as reported on the islet page of the DDPI form. In 2020, the conversion rate from isolation started to transplanted ranged from 8% to 44% across the isolation facilities, and in the latest year it ranged from 13% to 48%.

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	%
2020												
EDINBURGH	16		16	100	16	100	10	63	7	70	7	44
KINGS	21		19	91	15	79	11	58	4	36	6	32
OXFORD	13		13	100	8	62	2	15	0	-	1	8
TOTAL	50		48	96	39	81	23	48	11	48	14	29
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	21		21	100	20	95	12	57	10	83	10	48
KINGS	16		16	100	12	75	8	50	2	25	2	13
OXFORD	18		17	94	15	88	11	65	5	46	5	29
TOTAL	55		54	98	47	87	31	57	17	55	17	32

- 17 **Table 2** shows the information for 2022 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 five (9%) donors identified as Grade A compared to 50 (91%) non-Grade A donors. Five of the donors at Oxford were identified as Grade A and none at Kings and Edinburgh. Of those five Grade A donors where isolation started, two (40%) 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	5		5	100	5	100	3	60	2	67	2	40
TOTAL	5		5	100	5	100	3	60	2	67	2	40
NON-GRADE A												
EDINBURGH	21		21	100	20	95	12	57	10	83	10	48
KINGS	16		16	100	12	75	8	50	2	25	2	13
OXFORD	13		12	92	10	83	8	67	3	38	3	25

Table 2 Isolation data by isolation facility by grade of donor, 1 January 2022 – 31 December 2022

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	%
TOTAL	50		49	98	42	86	28	57	15	54	15	31

- 19 Of those 54 donors in 2022 whose pancreas was used for isolation and information was available, 40 (74%) were aged 50 years or younger and 14 (26%) were aged over 50 years. Of the 14 donors aged over 50 years with isolation started, 12 had isolation completed, 8 (67%) met the release criteria and six were transplanted. This gives an overall conversion rate of those where isolation commenced of 43% (six out of 14). This is higher than the rate of 28% (11 of 40 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 (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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February 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 2022 – 31 December 2022

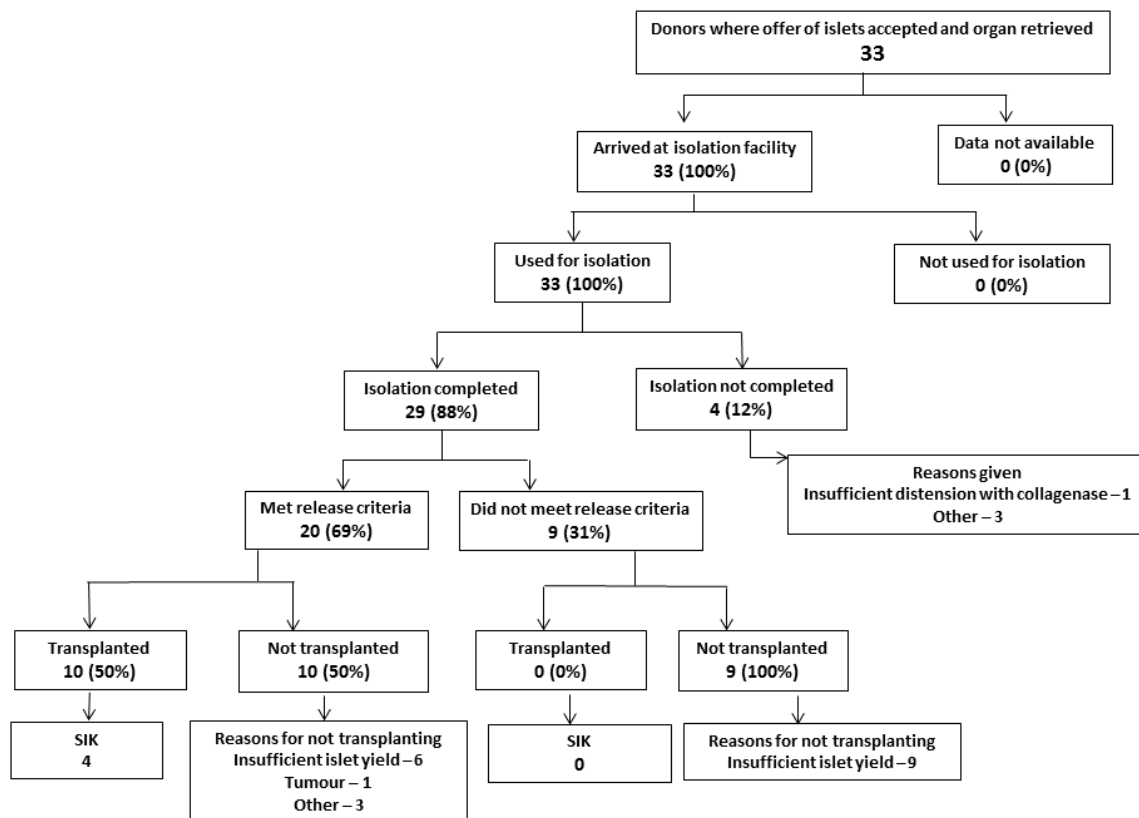
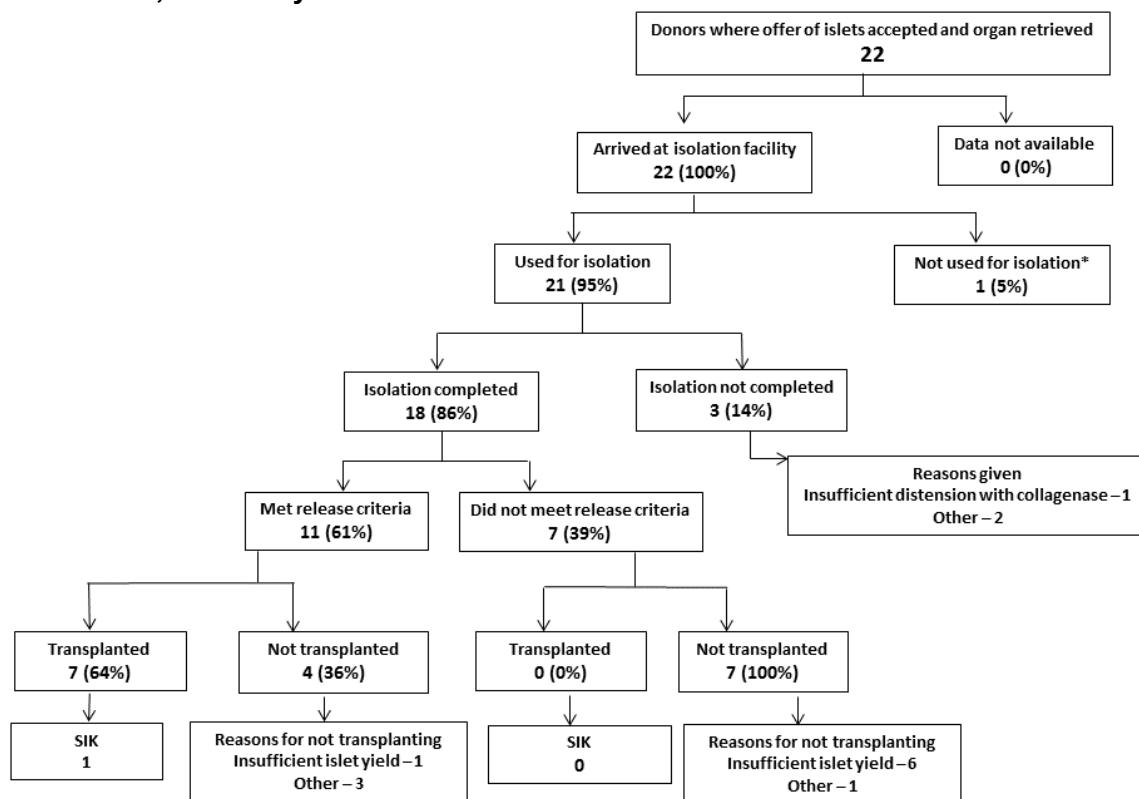


Figure II Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to a whole pancreas patient first, 1 January 2022 – 31 December 2022



*Of pancreases not used for isolation, 1 was due to being from a diabetic donor

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