

NHS BLOOD AND TRANSPLANT
PANCREAS ADVISORY GROUP AND ISLET STEERING 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 171 donors between 1 April 2021 and 31 March 2024, 50 of which were in the latest financial year, 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 171 (100%) donors in the whole time period and 50 (100%) donors in 2023/2024.

RESULTS

- 4 In the latest financial year, of the 50 pancreas donors analysed, 50 were indicated to have been used for isolation and 43 (86%) had isolation completed. Of these 43 completed isolations, 25 met the release criteria and 15 (60%) 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 50% at Edinburgh, 25% at Oxford, and 50% at King's which was closed from August 2023 onwards due to fungal infection.
- 5 Of the 171 isolations commenced in the whole time period, 91 (53%) met the release criteria and 61 (36%) were eventually transplanted. All isolation facilities' met release criteria rates and conversion to transplant rates were consistent with the national rate.
- 6 Of the 50 pancreas donors, two (4%) were categorised as Grade A donors and had isolation started and both (100%) were subsequently transplanted.
- 7 For pancreas donors who had the relevant information reported, the transplant conversion rates of those where isolation was started were 33%, 35% and 40% in 2021/2022, 2022/2023 and 2023/2024, respectively.

ACTION

- 8 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.odhtaforms@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.

NHS BLOOD AND TRANSPLANT

PANCREAS ADVISORY GROUP AND ISLET STEERING GROUP

ISOLATION STATISTICS

INTRODUCTION

- 9 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

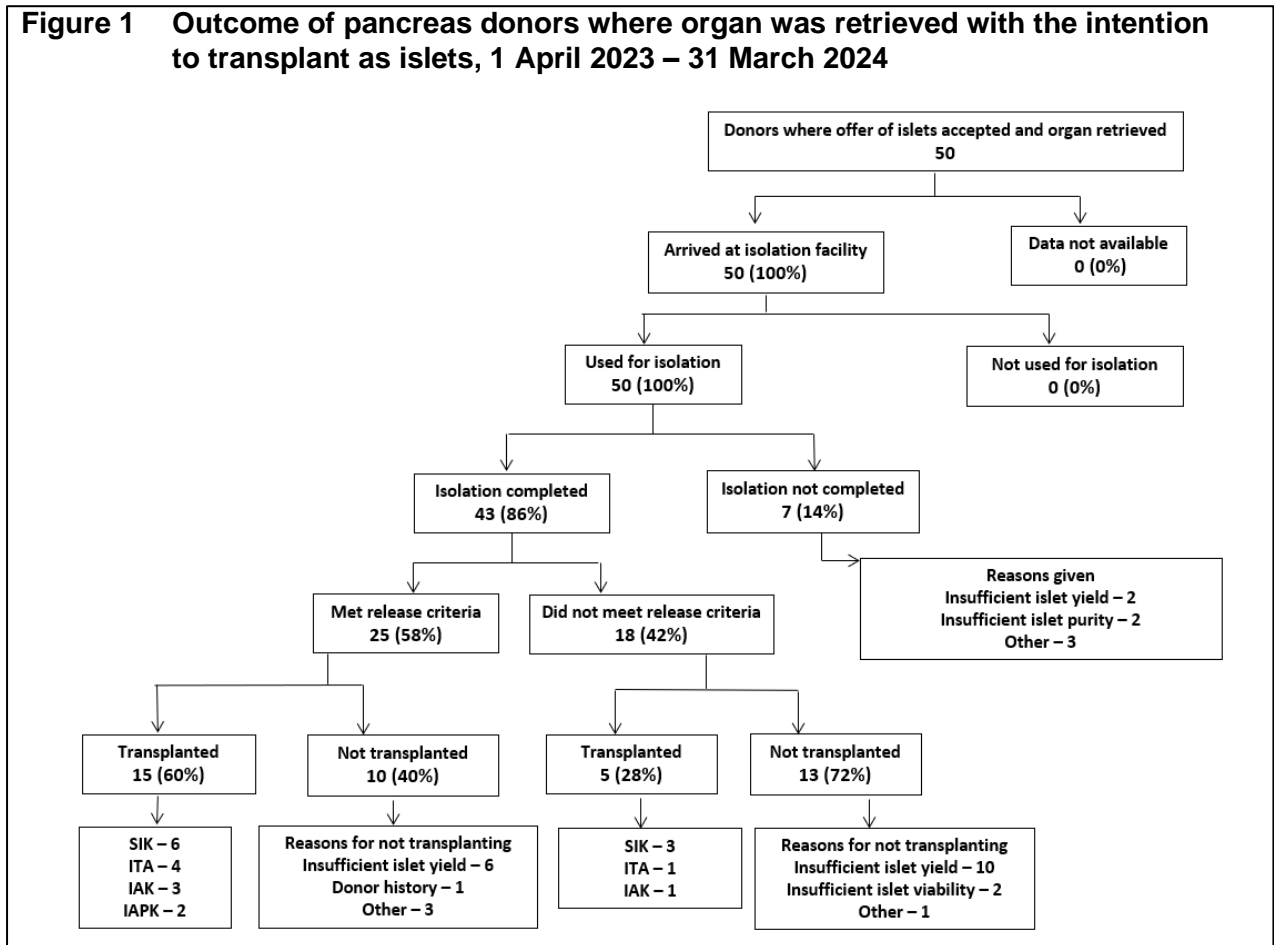
- 10 Data on 171 donors between 1 April 2021 and 31 March 2024, 50 of which were in the latest financial year, whose pancreas was taken and accepted for islet transplantation were analysed from the UK Transplant Registry (UKTR). Information from the islet isolation page of the Deceased Donor Pancreas 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.
- 11 Information was available for 171 (100%) donors in the whole time period and for 50 (100%) in 2023/2024.
- 12 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

- 13 **Figure 1** shows the outcome for the 50 donors between 1 April 2023 and 31 March 2024 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 50 indicated to have isolation started, 20 were transplanted giving a conversion rate of 40%. Of the 30 not transplanted, the main reason given was insufficient islet yield for the patient (60%).
- 14 There were 38 isolations started from DBD donors, of which 15 (39%) were transplanted. This was similar to the conversion rate from the 12 DCD donor isolations, 5 of which were transplanted (42%).

- 15 There were five transplants from isolations that did not meet the release criteria, three (60%) of which were due to low islet purity and 2 (40%) due to low islet yield.
- 16 The ‘other’ reasons given for isolation not being completed in two cases were: “declined by recipient centre” (1), “poor tissue quality” (1) and “islets trapped processing stopped” (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 “poor islet morphology” (1).

Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 April 2023 – 31 March 2024



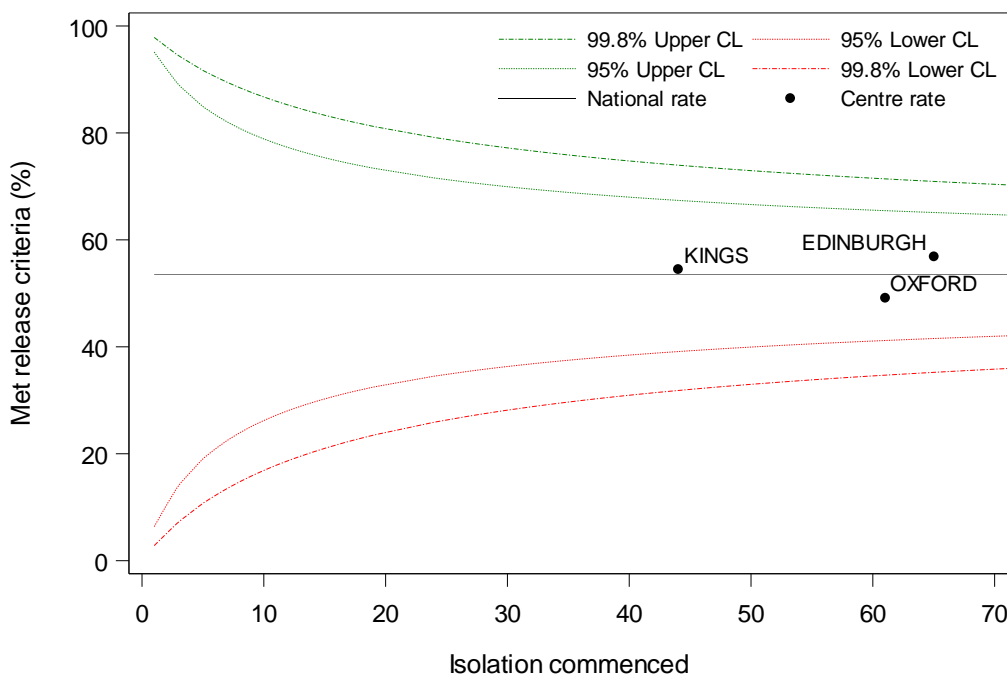
- 17 In Appendix I, the same information as **Figure 1** is shown separately for those donors who were first offered for islet patients (Figure I) and those first offered for whole pancreas patients (Figure II).
- 18 There were 171 donors whose pancreas was taken and accepted for islet transplantation in the last three financial years, 171 were indicated to have arrived at an isolation facility using information available. **Table 1** shows information on these 171, by financial year and isolation facility as reported on the islet page of the DDPI form. In 2021/22, the conversion rate from isolation started to transplanted ranged from 23% to 48% across the isolation facilities, and in the latest financial year it ranged from 25% to 50%.

Table 1 Isolation data by isolation facility, 1 April 2021 – 31 March 2024

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	%
2021/22												
EDINBURGH	21		21	100	21	100	12	57	9	75	10	48
KINGS	22		22	100	17	77	10	46	5	50	5	23
OXFORD	24		23	96	17	74	11	48	7	64	7	30
TOTAL	67		66	99	55	83	33	50	21	64	22	33
2022/23												
EDINBURGH	18		18	100	17	94	11	61	8	73	8	44
KINGS	18		18	100	15	83	12	67	7	58	7	39
OXFORD	18		18	100	16	89	10	56	4	40	4	22
TOTAL	54		54	100	48	89	33	61	19	58	19	35
2023/24												
EDINBURGH	26		26	100	26	100	14	54	8	57	13	50
KINGS	4		4	100	4	100	2	50	2	100	2	50
OXFORD	20		20	100	13	65	9	45	5	56	5	25
TOTAL	50		50	100	43	86	25	50	15	60	20	40

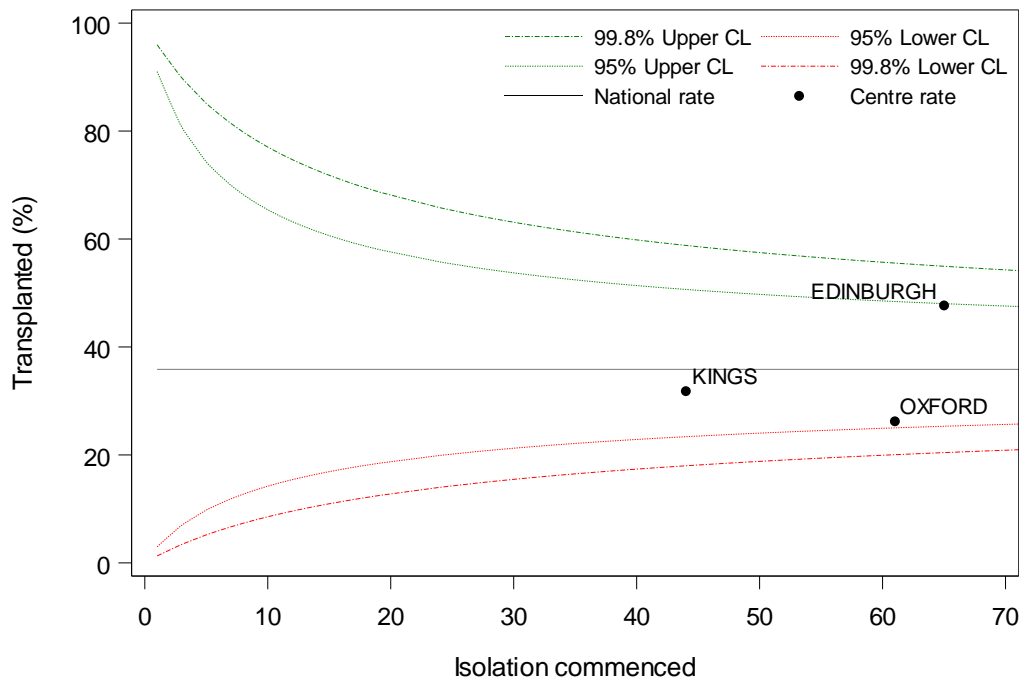
19 Of the 171 isolations commenced in the period, 91 (53%) met the release criteria. **Figure 2** shows the rate of isolations commenced that met the release criteria, by isolation facility. All isolation facilities' rates were within the 95% confidence interval of the national rate and hence each have met release criteria rates that are consistent with the national rate.

Figure 2: Rates of commenced isolations that met release criteria, 1 April 2021 – 31 March 2024



20 Of the 171 isolations commenced in the period, 61 (36%) were eventually transplanted. **Figure 3** shows the rate of isolations commenced that were eventually transplanted, by isolation facility. All isolation facilities' rates were within the 95% confidence interval of the national rate and hence each have conversion rates that are consistent with the national rate.

Figure 3: Rates of commenced isolations that were eventually transplanted, 1 April 2021 – 31 March 2024



21 **Table 2** shows the information for 2023/24 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.

22 **Table 2** shows that there were two (4%) donors identified as Grade A compared to 48 (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.

Table 2 Isolation data by isolation facility by grade of donor, 1 April 2023 – 31 March 2024

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	2	100	2	100	2	100
TOTAL	2		2	100	2	100	2	100	2	100	2	100
NON-GRADE A												
EDINBURGH	26		26	100	26	100	14	54	8	57	13	50
KINGS	4		4	100	4	100	2	50	2	100	2	50
OXFORD	18		18	100	11	61	7	39	3	43	3	17
TOTAL	48		48	100	41	85	23	48	13	57	18	38

- 23 Of those 50 donors in 2023/24 whose pancreas was used for isolation and information was available, 34 (68%) were aged 50 years or younger and 16 (32%) were aged over 50 years. Of the 16 donors aged over 50 years with isolation started, all had isolation completed, 10 (63%) met the release criteria and six were transplanted. This gives an overall conversion rate of those where isolation commenced of 38% (six out of 16). This is similar to the rate of 41% (14 of 34 donors) for donors aged 50 years or younger.

ACTION

- 24 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.

Lewis Simmonds
Statistics and Clinical Research

October 2024

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 April 2023 – 31 March 2024

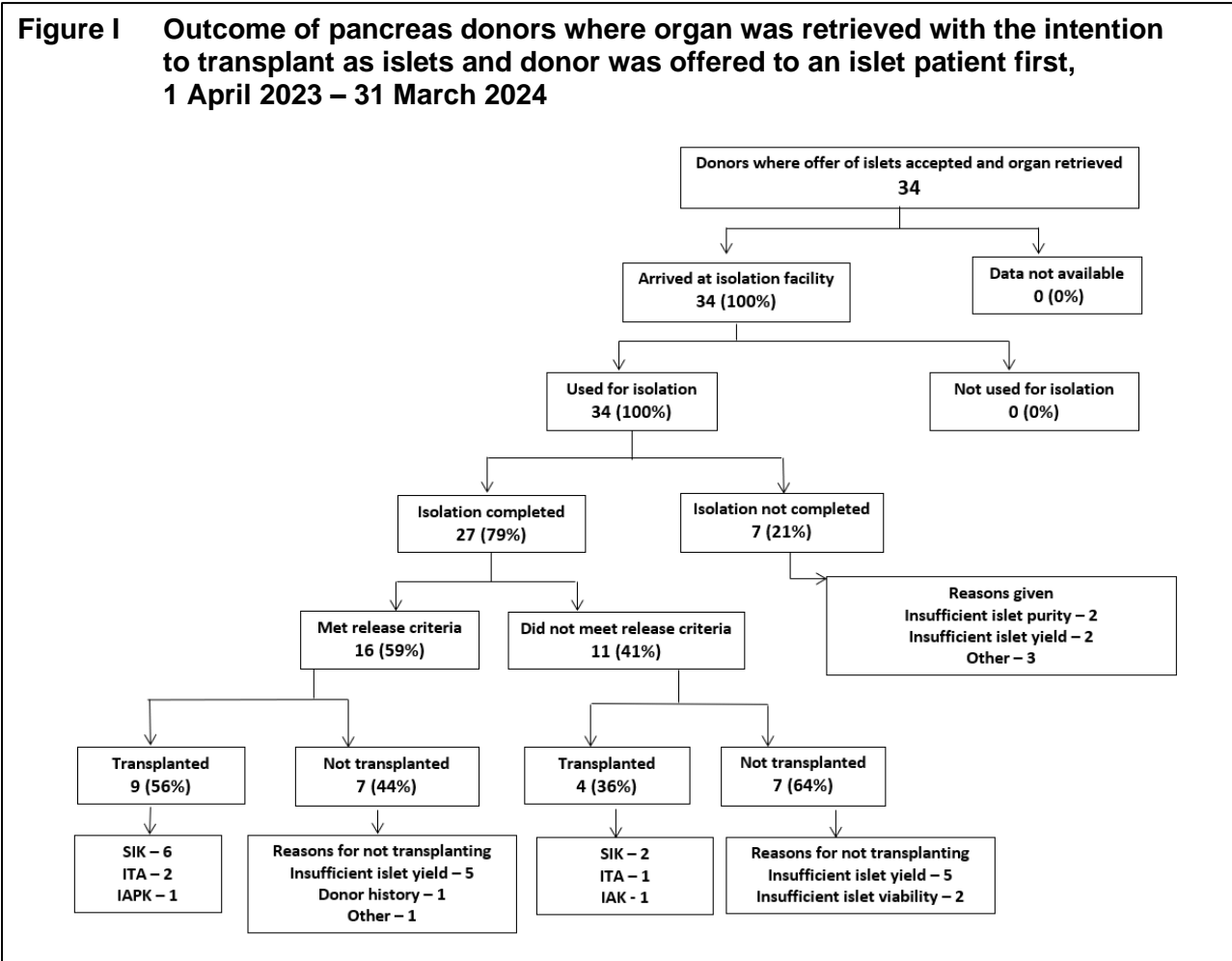
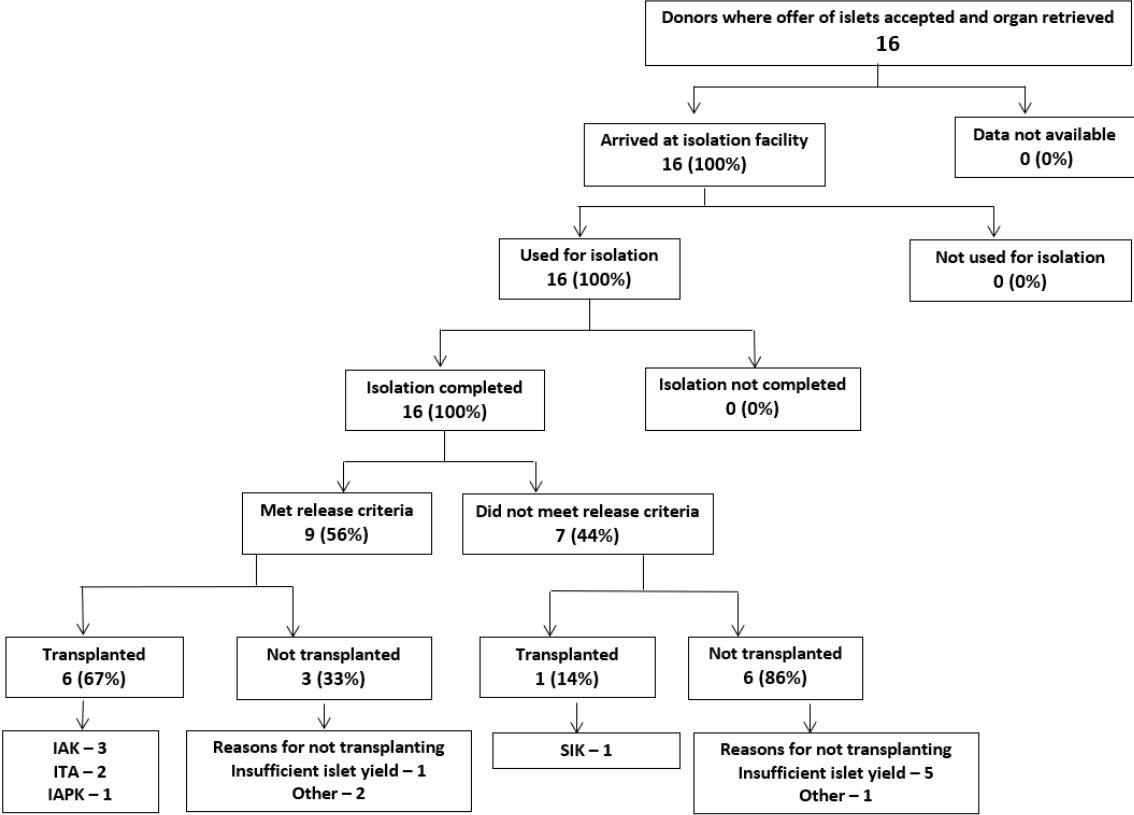


Figure II Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to a whole pancreas patient first, 1 April 2023 – 31 March 2024



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