

**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 246 donors between 1 April 2018 and 31 March 2021, 43 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.
- 3 Information was available for 245 (99.6%) donors in the whole time period and for 42 (98%) in 2020/2021.

RESULTS

- 4 In the latest year, of the 42 pancreas donors analysed, 40 were indicated to have been used for isolation and 32 (80%) had isolation completed. Of these 32 completed isolations, 16 met the release criteria and 10 (63%) of those resulted in transplantation. The overall conversion rate from isolation started to islets transplanted is 38%. At each isolation facility, for this time period, the overall conversion rates were 44% at Edinburgh, 54% at King's and 9% at Oxford.
- 5 Of the 42 pancreas donors, eight (19%) 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, in the last three years the transplant conversion rates of those where isolation was started were 27%, 30% and 38% in 2018/2019, 2019/2020 and 2020/2021, 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.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.

**NHS BLOOD AND TRANSPLANT
ORGAN DONATION AND TRANSPLANTATION DIRECTORATE**

PANCREAS ADVISORY GROUP

ISOLATION STATISTICS

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

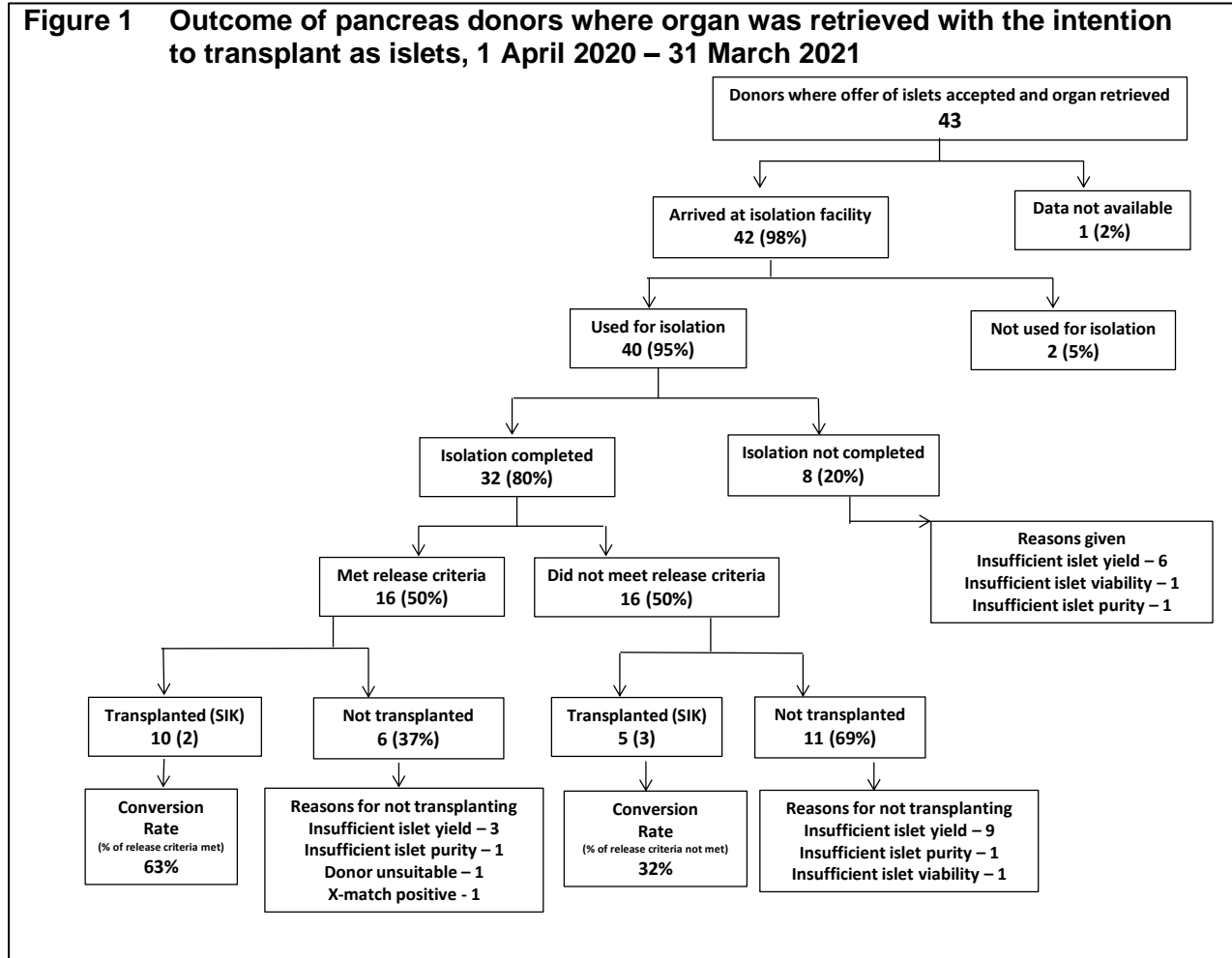
- 9 Data on 246 donors between 1 April 2018 and 31 March 2021, 43 of which were in the latest financial year 2020/2021, whose pancreas was taken and accepted for islet transplantation were analysed from the UK Transplant Registry (UKTR). Information from the islet isolation page of the Deceased Donor Pancreas Information (DDPI) form was used to identify those pancreases arriving at an isolation facility and whether the pancreas was isolated and subsequently transplanted.
- 10 Information was available for 245 (99.6%) donors in the whole time period and for 42 (98%) in 2020/2021. For three donors, a form had not been returned but as the islets were transplanted information was available from the transplant record form. For the one donor with missing information, the form was returned but had not been entered onto the database by the time this paper was produced.
- 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 all the 42 donors, with information available, between 1 April 2020 and 31 March 2021 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 40 indicated to have isolation started, 15 were transplanted giving a conversion rate of 38%. The majority of reasons for not transplanting were insufficient islet yield.

- 13 The five transplants from isolations that did not meet the release criteria included three SIK transplants with an islet yield of more than 100,000 IEQ. There were two ITA transplants where the information reported on the page 5 islet form for yield, viability and purity did not match the information reported on the transplant record form which did indicate the release criteria were met.

Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 April 2020 – 31 March 2021



- 14 In Appendix I, the same information as **Figure 1** is shown separately for those donors who were first offered for islet patients and those first offered for whole pancreas patients.
- 15 There were 246 donors whose pancreas was taken and accepted for islet transplantation in the last three financial years, 245 were indicated to have arrived at an isolation facility using information returned on the DDPI form. **Table 1** shows information on these 245, by year and isolation facility as reported on the islet page of the DDPI form. In 2018/2019, the conversion rate from isolation started to transplanted ranged from 26% to 28% across the isolation facilities, but in the latest year it ranged from 9% to 54%.

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	%
2018/2019												
EDINBURGH	24		23	95.8	23	100	9	39.1	4	44.4	6	26.1
KINGS	36		35	97.2	34	97.1	20	57.1	8	40	9	25.7
OXFORD	48		46	95.8	30	65.2	19	41.3	13	68.4	13	28.3
TOTAL	108		104	96.3	87	83.7	48	46.2	25	52.1	28	26.9
2019/2020												
EDINBURGH	24		22	91.7	22	100	14	63.6	9	64.3	9	40.9
KINGS	42		42	100	38	90.5	29	69	14	48.3	14	33.3
OXFORD	29		28	96.6	26	92.9	12	42.9	4	33.3	5	17.9
TOTAL	95		92	96.8	86	93.5	55	59.8	27	49.1	28	30.4
2020/2021												
EDINBURGH	16		16	100	16	100	8	50.0	6	75.0	7	43.8
KINGS	15		13	86.7	10	76.9	2	18.2	4	66.7	7	53.8
OXFORD	11		11	100	6	54.5	2	18.2	.	.	1	9.1
TOTAL	42		40	95.2	32	80.0	16	40.0	10	62.5	15	37.5

- 16 **Table 2** shows the information for 2020/2021 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 (19%) donors identified as Grade A compared to 34 (81%) non-Grade A donors. Two of the donors at Kings was identified as Grade A and three at each of Oxford and 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	3		3	100	3	100	1	33.3	1	100	1	33.3
KINGS	2		2	100	0	-	0	-	0	-	0	-
OXFORD	3		3	100	2	66.7	0	-	0	-	0	-
TOTAL	8		8	100	5	62.5	1	12.5	1	100	1	12.5
NON-GRADE A												
EDINBURGH	13		13	100	13	100	7	53.8	5	71.4	6	46.2
KINGS	13		11	84.6	10	90.9	6	54.5	4	66.7	7	63.6
OXFORD	8		8	100	4	50	2	25	0	-	1	12.5
TOTAL	34		32	94.1	27	84.4	15	46.9	9	60	14	43.8

- 18 Of those 42 donors in 2020/2021 whose pancreas was used for isolation and information was available, 26 (62%) were aged 50 years or younger and 16 (38%) were aged over 50 years. Of the 16 donors aged over 50 years, 14 had isolation started, 10 had isolation completed, four (40%) met the release criteria and two were transplanted. A further transplant resulted from a donor where release criteria were not met according to the information provided. This gives an overall conversion rate of those where isolation commenced of 21% (three out of 14). This is lower than the rate of 46% (12 of 26 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.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.

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October 2021

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 2020 – 31 March 2021

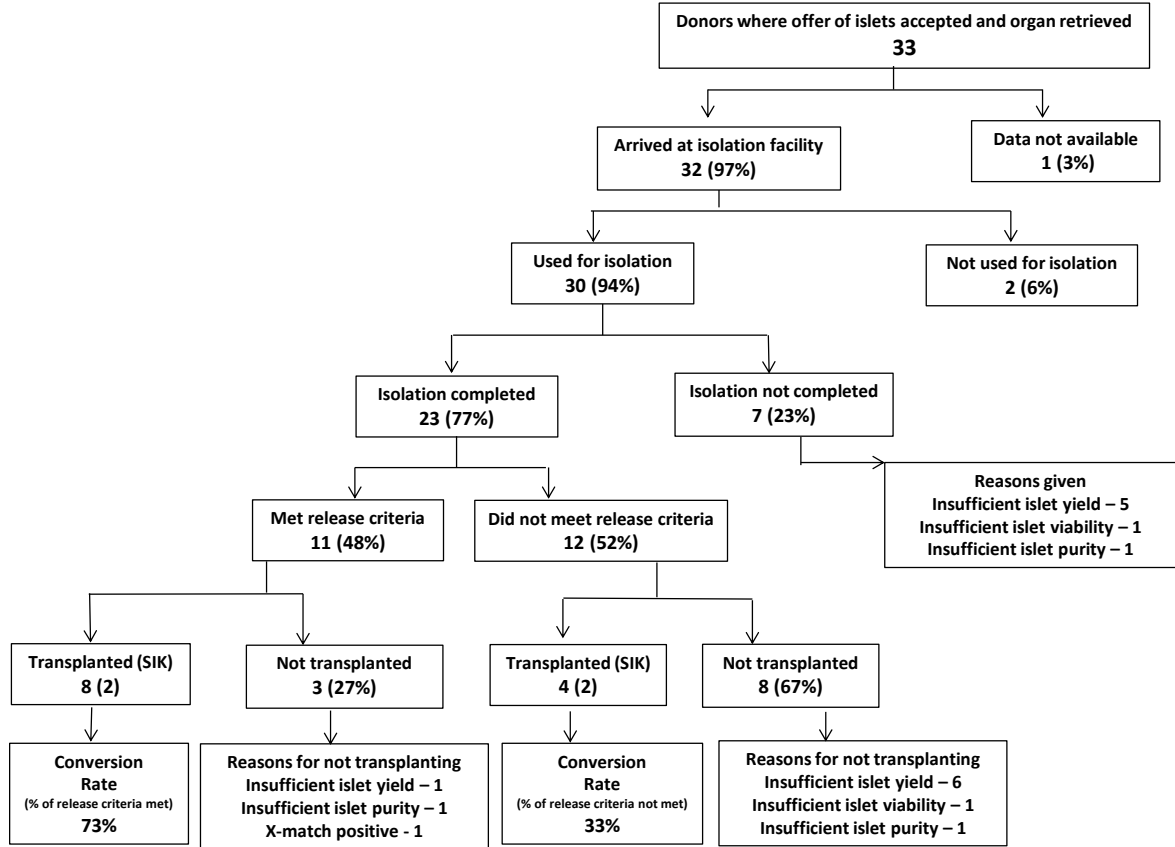
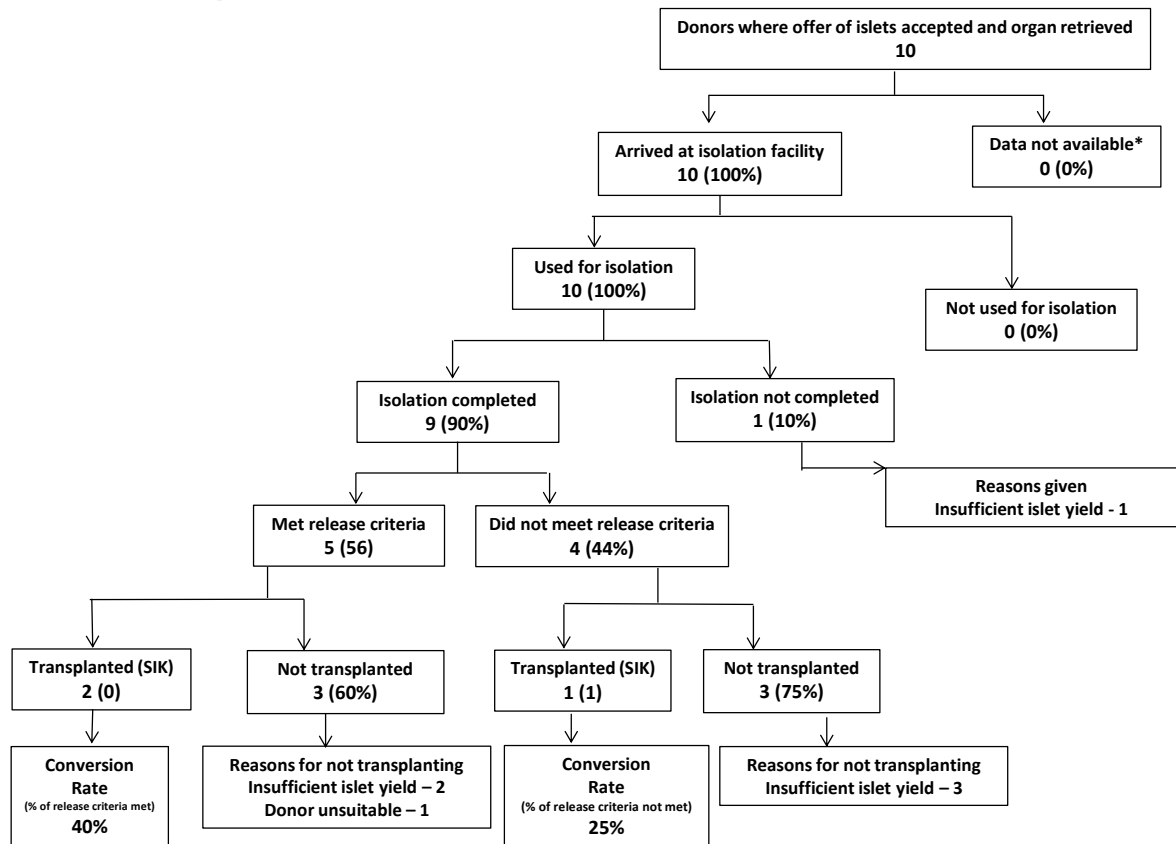


Figure II Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to a whole pancreas patient first, 1 April 2020 – 31 March 2021



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