

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 325 donors between 1 April 2017 and 31 March 2020, 94 of which were in 2019/20, 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. Information was available for 319 (98%) donors in the whole time period and for 92 (98%) in 2019/20.

RESULTS

- 3 In the latest year, of the 92 pancreas donors analysed, 90 were indicated to have been used for isolation and 84 (93%) had isolation completed. Of these 84 completed isolations, 53 met the release criteria and 27 (51%) 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 43% at Edinburgh, 34% at King's and 18% at Oxford.
- 4 Of the 92 pancreas donors, 18 (20%) were categorised as Grade A donors and had isolation started and five (28%) were subsequently transplanted.
- 5 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 21%, 27% and 31% in 2017/18, 2018/19 and 2019/20, respectively.

ACTION

- 6 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). Although a chase is now performed to capture missing data, accurate and complete recording of all data on the form initially would save time for all concerned.

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September 2020

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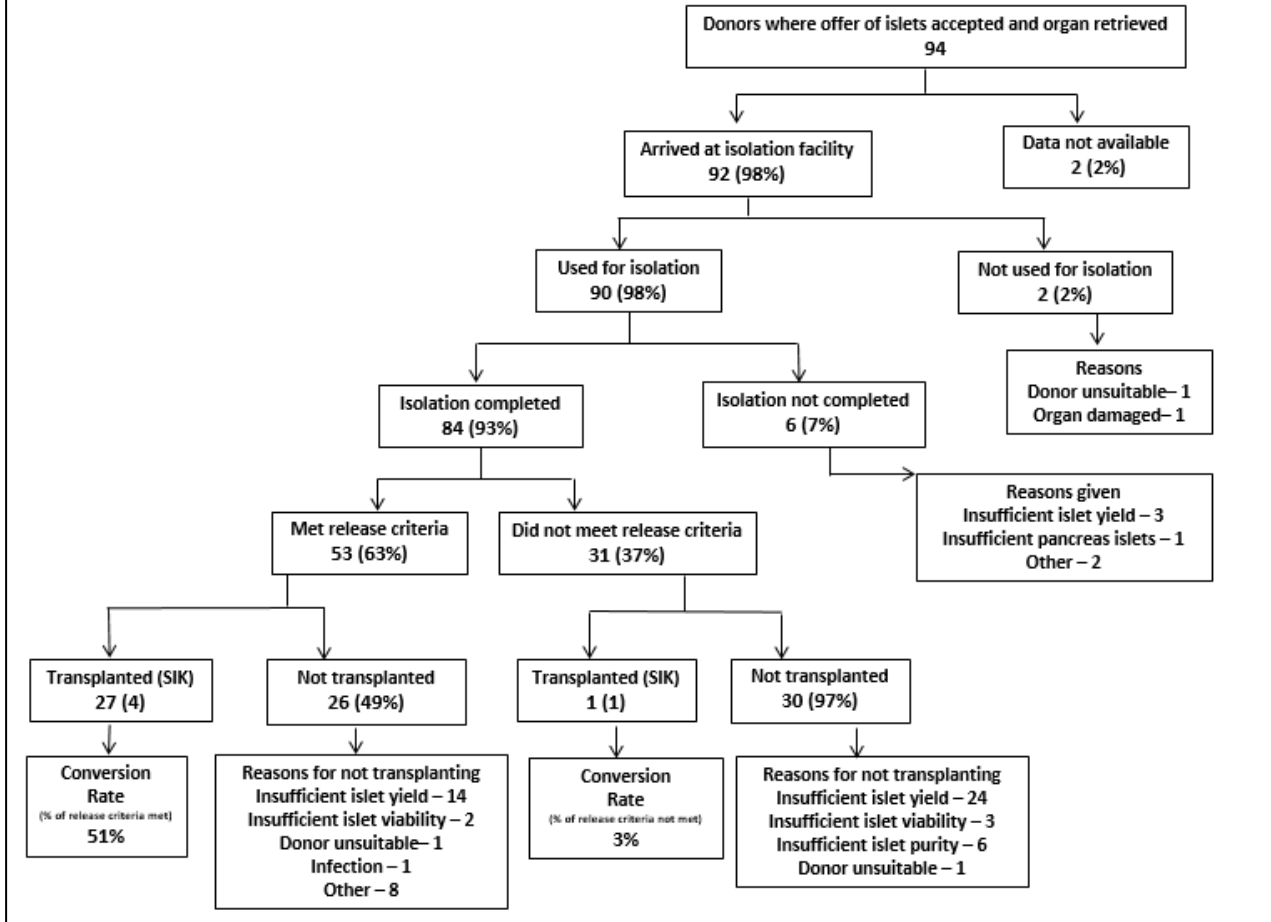
DATA

- 8 Data on 325 donors between 1 April 2017 and 31 March 2020, 94 of which were in the latest financial year 2019/20, 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. Information was available for 319 (98%) donors in the whole time period and for 92 (98%) in 2019/20.
- 9 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

- 10 **Figure 1** shows the outcome for all the 92 donors, with information available, between 1 April and 31 March 2020 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 90 indicated to have isolation started, 28 were transplanted giving a conversion rate of 31%. The majority of reasons for not transplanting were insufficient islet yield.
- 11 The one transplant from isolations that did not meet the release criteria was for a 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 April 2019 – 31 March 2020



- 12 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 transplantation.
- 13 There were 325 donors whose pancreas was taken and accepted for islet transplantation in the last three financial years, 319 were indicated to have arrived at an isolation facility using information returned on the DDPI form. **Table 1** shows information on these 319, by year and isolation facility as reported on the islet page of the DDPI form. In 2017/18, the conversion rate from isolation started to transplanted ranged from 17% to 32% across the isolation facilities, but in the latest year it ranged from 18% to 43%.
- 14 **Table 2** shows the information for 2019/20 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.
- 15 **Table 2** shows that there were 18 (20%) donors identified as Grade A compared to 74 (80%) non-Grade A donors. None of the donors at Edinburgh were identified as Grade A. Of those 18 Grade A donors where isolation started, 27.8% were 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	%
2017/18												
EDINBURGH	25		25	100.0	24	96.0	12	48.0	8	66.7	8	32.0
KINGS	45		45	100.0	44	97.8	30	66.7	9	30.0	9	20.0
OXFORD	49		47	95.9	37	78.7	17	36.2	7	41.2	8	17.0
TOTAL	119		117	98.3	105	89.7	59	50.4	24	40.7	25	21.4
2018/19												
EDINBURGH	24		23	95.8	23	100.0	9	39.1	4	44.4	6	26.1
KINGS	36		35	97.2	34	97.1	20	57.1	8	40.0	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
2019/20												
EDINBURGH	22		21	95.5	21	100.0	13	61.9	9	69.2	9	42.9
KINGS	41		41	100.0	37	90.2	28	68.3	14	50.0	14	34.1
OXFORD	29		28	96.6	26	92.9	12	42.9	4	33.3	5	17.9
TOTAL	92		90	97.8	84	93.3	53	58.9	27	50.9	28	31.1

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	11		11	100	10	90.9	7	63.6	3	42.9	3	27.3
OXFORD	7		7	100	7	100	5	71.4	2	40	2	28.6
TOTAL	18		18	100	17	94.4	12	66.7	5	41.7	5	27.8
NON-GRADE A												
EDINBURGH	22		21	95.5	21	100	13	61.9	9	69.2	9	42.9
KINGS	30		30	100	27	90	21	70	11	52.4	11	36.7
OXFORD	22		21	95.5	19	90.5	7	33.3	2	28.6	3	14.3
TOTAL	74		72	97.3	67	93.1	41	56.9	22	53.7	23	31.9

- 16 Of those 92 donors in 2019/20 whose pancreas was used for isolation, 54 (59%) were aged 50 years or younger and 38 (41%) were aged over 50 years. Of these 38 donors, 34 had isolation completed, 24 (71%) met the release criteria and 11 were transplanted. One additional SIK transplant occurred from a donor with an islet yield lower than 200,000. In total, of the 38 donors aged over 50 years in whom isolation commenced, 12 (32%) were transplanted. This is slightly higher than the rate of 31% (16 of 52 donors) for donors aged 50 years or younger.

ACTION

- 17 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). A quarterly report is now issued to capture missing data, although accurate and complete recording of data on the form initially would save time for all.

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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 2019 – 31 March 2020

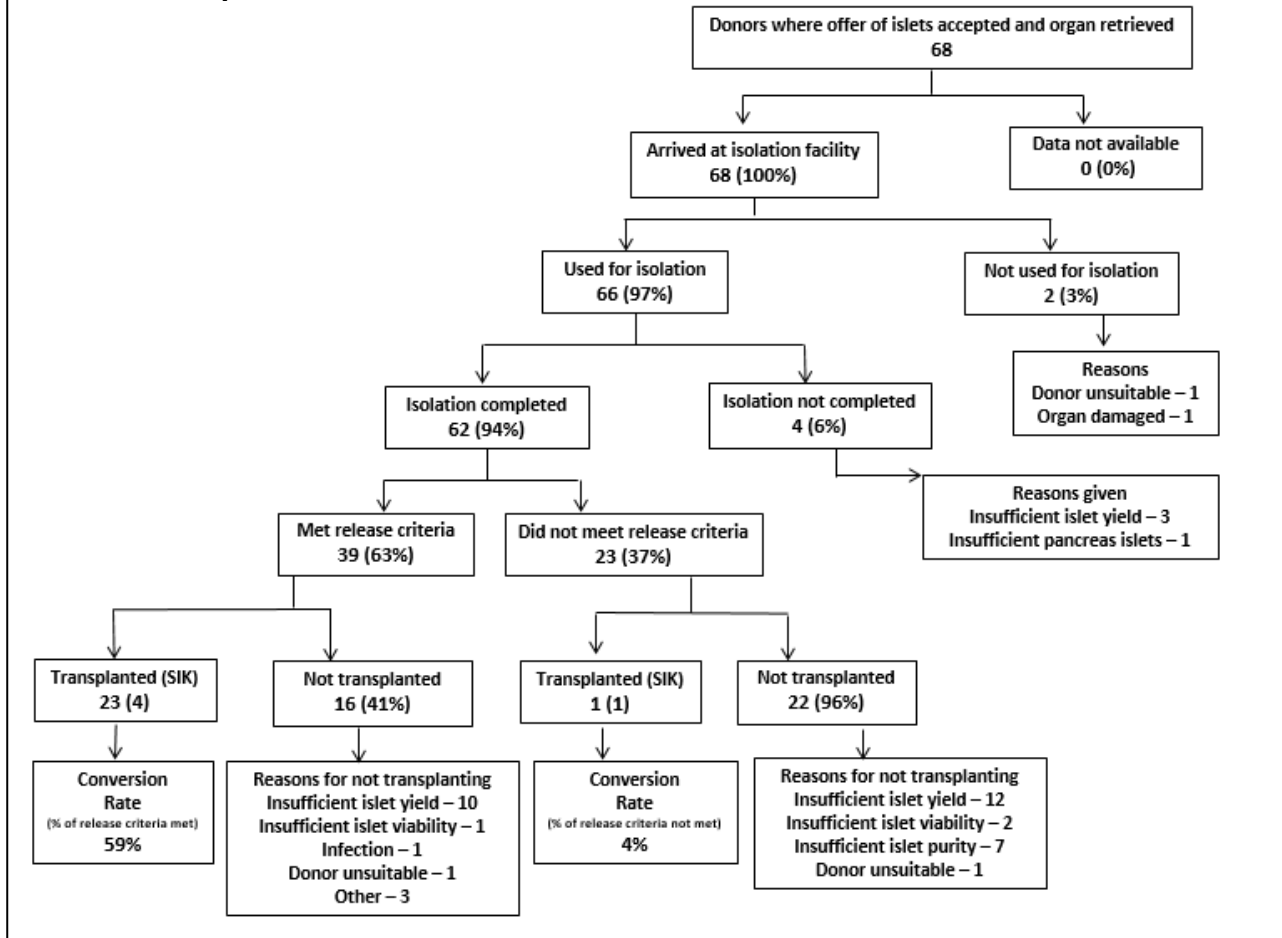
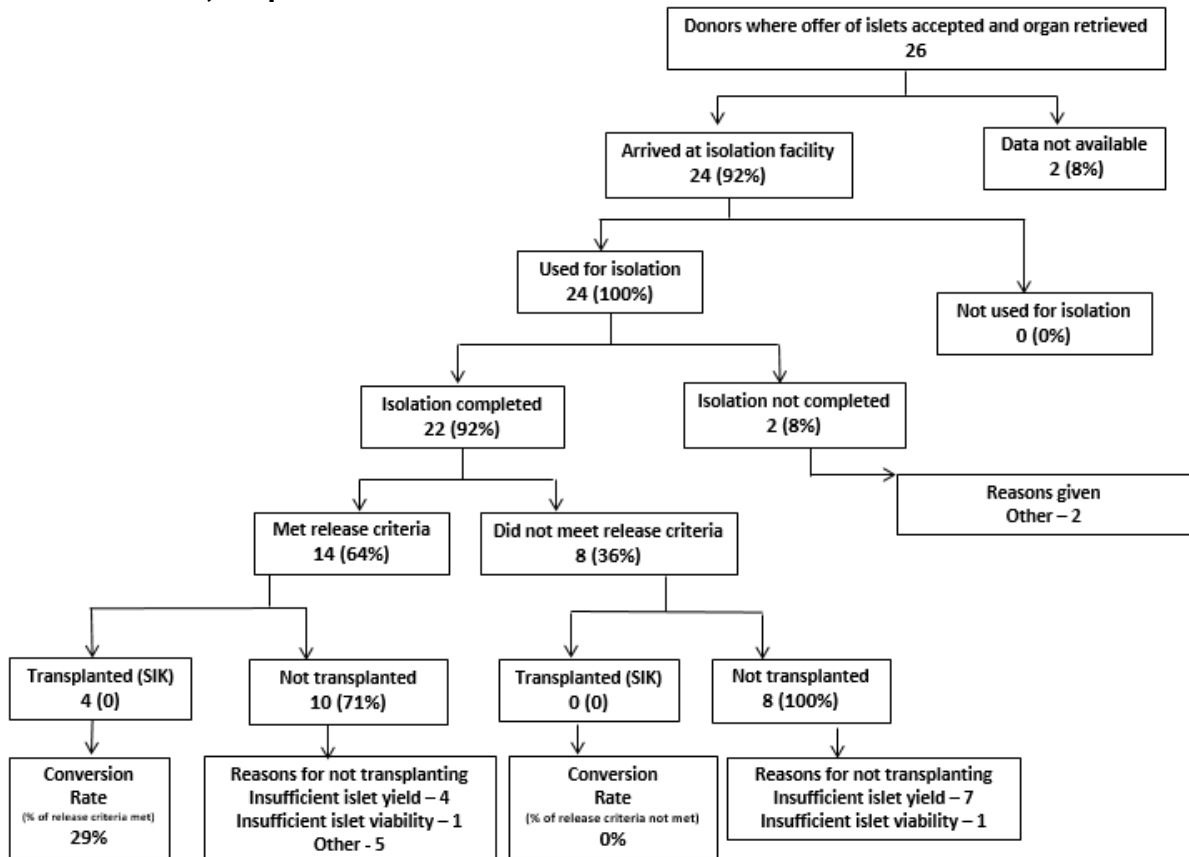


Figure II Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to a whole pancreas patient first, 1 April 2019 – 31 March 2020



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