

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

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 349 donors between 1 January 2017 and 31 December 2019, 105 of which were in 2019, 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 344 (99%) donors in the whole time period and for 104 (99%) in 2019.

RESULTS

- 3 In the latest year, of the 104 pancreas donors analysed, 102 were indicated to have been used for isolation and 91 (89%) had isolation completed. Of these 91 completed isolations, 55 met the release criteria and 30 (55%) 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 35% at Edinburgh, 35% at King's and 25% at Oxford.
- 4 Of the 104 pancreas donors, 16 (15%) were categorised as Grade A donors and had isolation was started and five (31%) 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 22%, 25% and 31% in 2017, 2018 and 2019, 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.

Claire Counter
Statistics and Clinical Studies

March 2020

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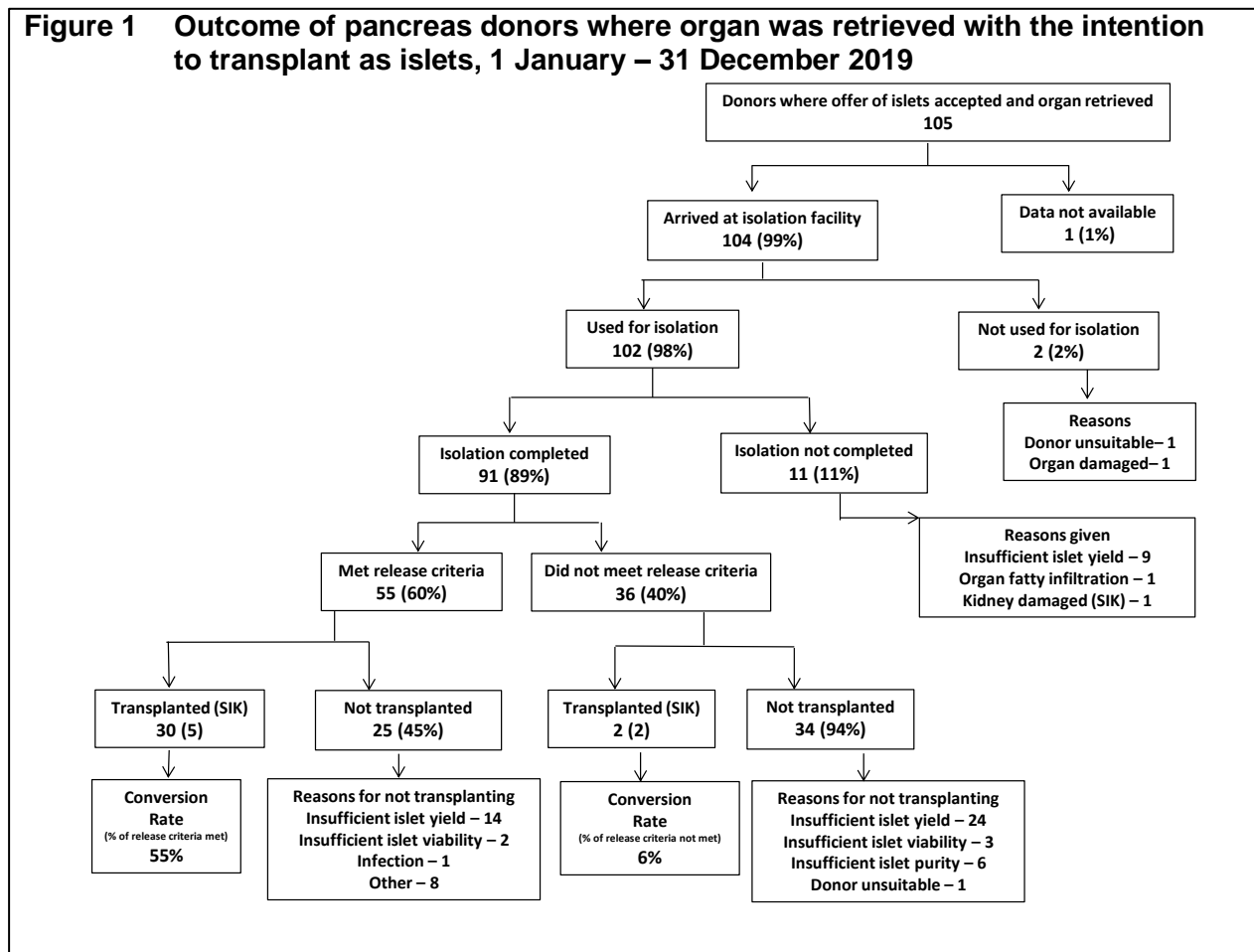
DATA

- 8 Data on 349 donors between 1 January 2017 and 31 December 2019, 105 of which were in the latest financial year 2019, 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 344 (99%) donors in the whole time period and for 104 (99%) in 2019.
- 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 104 donors, with information available, between 1 January and 31 December 2019 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 102 indicated to have isolation started, 32 were transplanted giving a conversion rate of 31%. The majority of reasons for not transplanting were insufficient islet yield.
- 11 The two transplants from isolations that did not meet the release criteria were for SIK transplants with islet yields of more than 100,000 IEQ.

Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 January – 31 December 2019



- 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 349 donors whose pancreas was taken and accepted for islet transplantation in the last three calendar years, 344 were indicated to have arrived at an isolation facility using information returned on the DDPI form. **Table 1** shows information on these 344, by year and isolation facility as reported on the islet page of the DDPI form. In 2017, the conversion rate from isolation started to transplanted ranged from 14% to 36% across the isolation facilities, but in the latest year it ranged from 25% to 35%.
- 14 **Table 2** shows the information for 2019 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 16 (15%) donors identified as Grade A compared to 88 (85%) non-Grade A donors. None of the donors at Edinburgh were identified as Grade A. Of those 16 Grade A donors where isolation started, 31% 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												
EDINBURGH	29		28	96.6	28	100	14	50.0	10	71.4	10	35.7
KINGS	44		44	100	42	95.5	27	61.4	10	37.0	10	22.7
OXFORD	52		49	94.2	40	81.6	14	28.6	6	42.9	7	14.3
TOTAL	125		121	96.8	110	90.9	55	45.5	26	47.3	27	22.3
2018												
EDINBURGH	26		25	96.2	24	96.0	12	48.0	5	41.7	6	24.0
KINGS	38		37	97.4	37	100	22	59.5	8	36.4	9	24.3
OXFORD	51		49	96.1	34	69.4	20	40.8	13	65.0	13	26.5
TOTAL	115		111	96.5	95	85.6	54	48.6	26	48.1	28	25.2
2019												
EDINBURGH	24		23	95.8	23	100	10	43.5	7	70	8	34.8
KINGS	43		43	100	39	90.7	29	67.4	15	51.7	15	34.9
OXFORD	37		36	97.3	29	80.6	16	44.4	8	50.0	9	25.0
TOTAL	104		102	98.1	91	89.2	55	53.9	30	54.5	32	31.4

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	9		9	100	8	88.9	6	66.7	2	33.3	2	22.2
OXFORD	7		7	100	7	100	6	85.7	3	50	3	42.9
TOTAL	16		16	100	15	93.8	12	75	5	41.7	5	31.3
NON-GRADE A												
EDINBURGH	24		23	95.8	23	100	10	43.5	7	70	8	34.8
KINGS	34		34	100	31	91.2	23	67.6	13	56.5	13	38.2
OXFORD	30		29	96.7	22	75.9	10	34.5	5	50	6	20.7
TOTAL	88		86	97.7	76	88.4	43	50	25	58.1	27	31.4

- 16 Of those 102 donors in 2019 whose pancreas was used for isolation, 67 (66%) were aged 50 years or younger and 35 (34%) were aged over 50 years. Of these 35 donors, 31 had isolation completed, 21 (68%) met the release criteria and 12 were transplanted. One additional SIK transplant occurred from a donor with an islet yield lower than 200,000. In total, of the 35 donors aged over 50 years in whom isolation commenced, 13 (37%) were transplanted. This is higher than the rate of 28% (19 of 67 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). Although a quarterly report is now issued to capture missing data, accurate and complete recording of data on the form initially would save time for all concerned.

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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 January – 31 December 2019

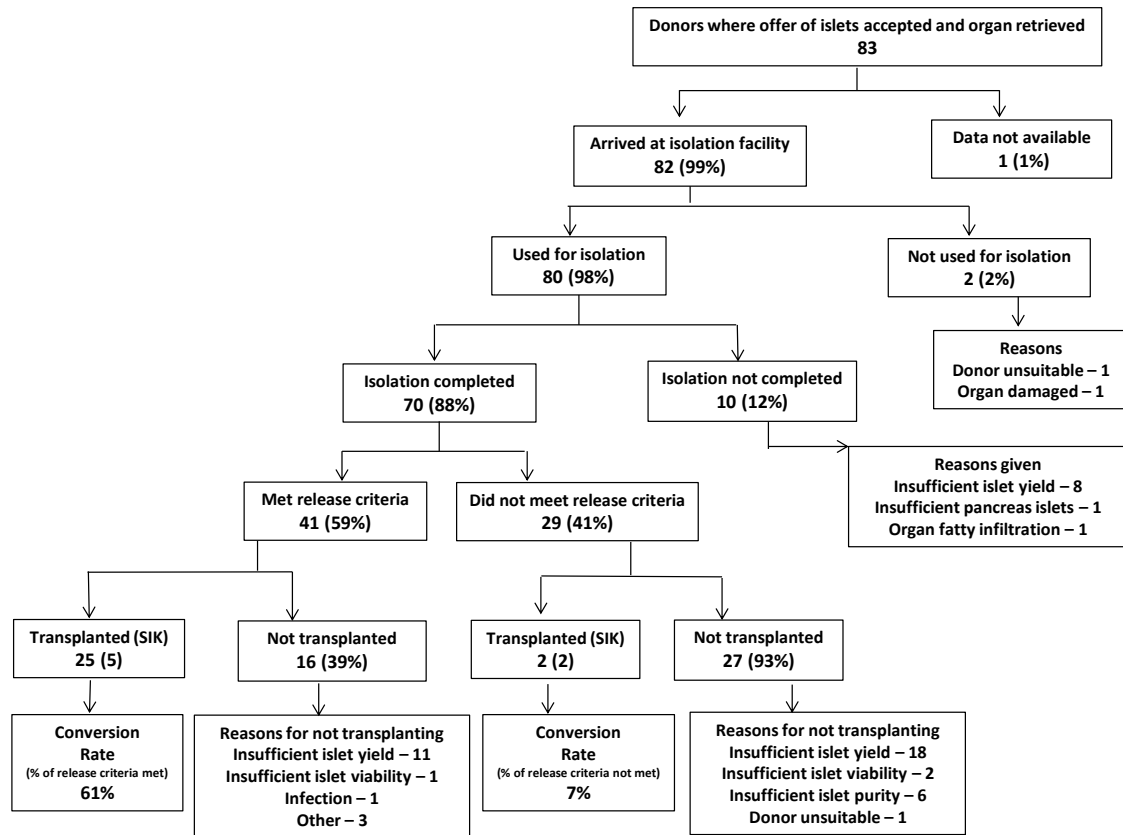
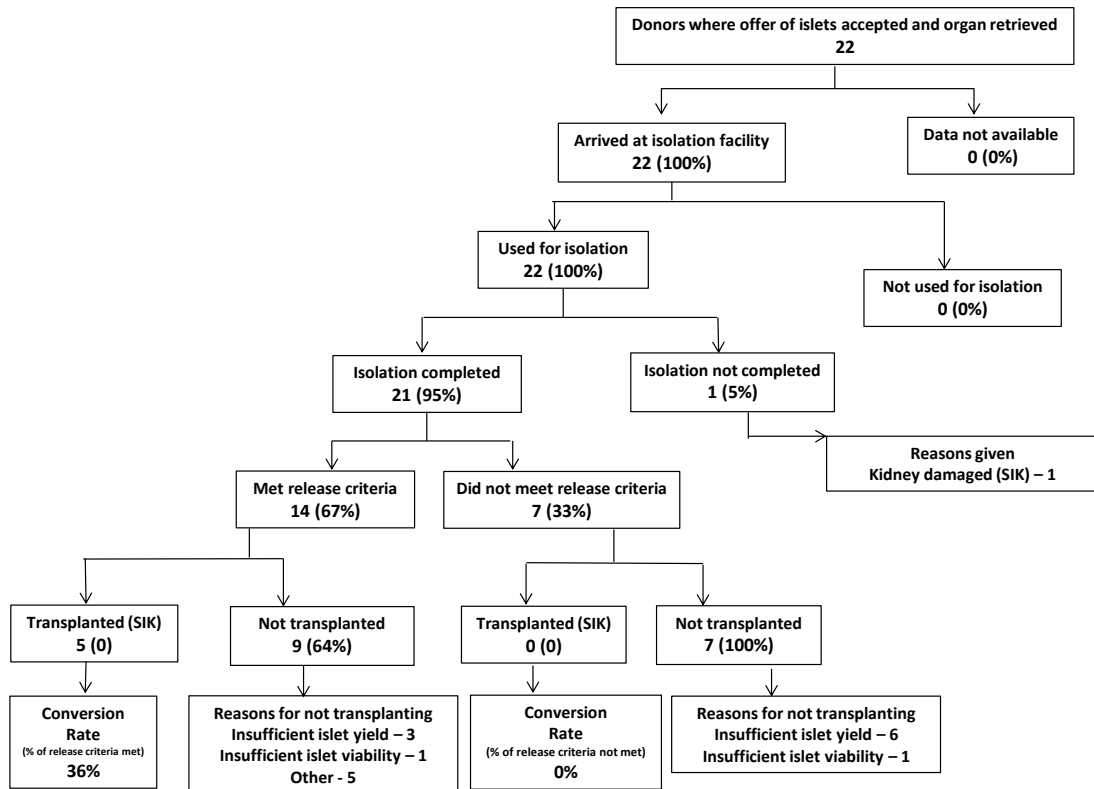


Figure II Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to a whole pancreas patient first, 1 January – 31 December 2019



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