

**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 359 donors between 1 April 2016 and 31 March 2019, 104 of which were in the latest financial year 2018/19, 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. Ideally, these data should be reported comprehensively on the Deceased Donor Pancreas Information (DDPI) form.

RESULTS

- 3 In the latest year, of the 104 pancreas donors analysed, 100 were indicated to have been used for isolation and 86 (86%) had isolation completed. Of these 86 completed isolations, 47 met the release criteria and 25 of those resulted in transplantation giving a conversion rate of 53%. The overall conversion rate from isolation started to islets transplanted is 28%. At each isolation facility, for this time period, the overall conversion rates were 26% at Edinburgh, 27% at King's and 30% at Oxford.
- 4 Of the 104 pancreas donors, nine (9%) were categorised as Grade A donors and had isolation was started and seven (78%) were subsequently transplanted.
- 5 For pancreas donors who had the relevant information reported, in the last three financial years the transplanted conversion rates of those where isolation was started were 26%, 22% and 28% in 2016/17, 2017/18 and 2018/19, 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 to ODT Hub Information Services. Although a chase is now performed to capture missing data, accurate and complete recording of data on the form would save time.

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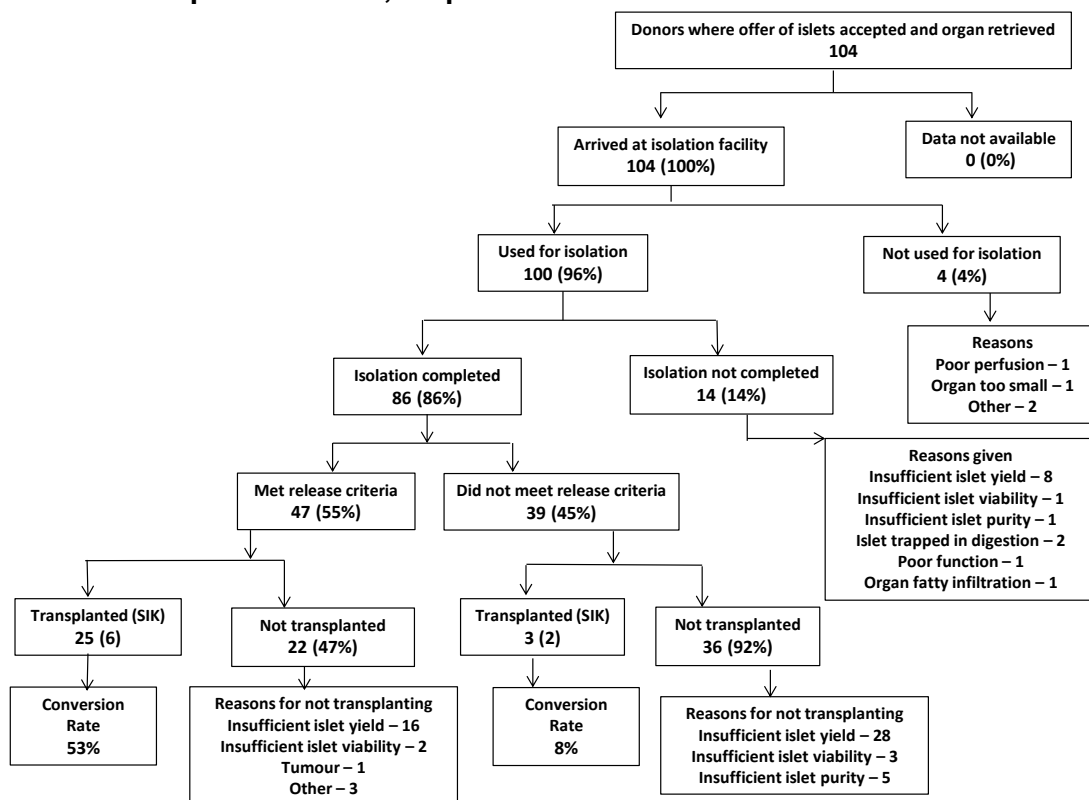
DATA

- 8 Data on 359 donors between 1 April 2016 and 31 March 2019, 104 of which were in the latest financial year 2018/19, 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 355 (99%) donors in the whole time period and for all 104 in the latest financial year.
- 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 between 1 April 2018 – 31 March 2019, where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 100 indicated to have isolation started, 28 were transplanted giving a conversion rate of 28%. The majority of reasons for not transplanting were insufficient islet yield.
- 11 Of the three transplants from isolations that did not meet the release criteria, two were for SIK and had an islet yield of more than 100,000 IEQ and one was a priority top-up graft which had a yield of less than 100,000 IEQ.

Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 April 2018 – 31 March 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 was a total of 359 donors whose pancreas was taken and accepted for islet transplantation between 1 April 2016 – 31 March 2019 and 355 of those were indicated to have arrived at an isolation facility using information returned on the DDPI form. **Table 1** shows information on these 355, by year and isolation facility as reported on the islet page of the DDPI form. In 2016/17 the conversion rate from isolation started to transplanted ranged from 12% to 38% across the isolation facilities, but in the latest year it ranged from 26% to 30%.
- 14 **Table 2** shows the information for 2018/2019 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 9 (9%) donors that were considered Grade A donors, compared to 95 (91%) Non-Grade A donors. Of those Grade A donors where isolation started, 77.8% 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	%
2016/17												
EDINBURGH	41		40	97.6	40	100	20	50.0	15	75.0	15	37.5
KINGS	44		43	97.7	41	95.3	19	44.2	13	68.4	13	30.2
OXFORD	50		49	98.0	39	79.6	8	16.3	5	62.5	6	12.2
TOTAL	135		132	97.8	120	90.9	47	35.6	33	70.2	34	25.8
2017/18												
EDINBURGH	24		24	100	23	95.8	12	50.0	8	66.7	8	33.3
KINGS	44		44	100	43	97.7	29	65.9	9	31.0	9	20.5
OXFORD	48		46	95.8	37	80.4	17	37.0	7	41.2	8	17.4
TOTAL	116		114	98.3	103	90.4	58	50.9	24	41.4	25	21.9
2018/19												
EDINBURGH	24		23	95.8	23	100	9	39.1	4	44.4	6	26.1
KINGS	35		34	97.1	33	97.1	19	55.9	8	42.1	9	26.5
OXFORD	45		43	95.6	30	69.8	19	44.2	13	68.4	13	30.2
TOTAL	104		100	96.2	86	86	47	47.0	25	53.2	28	28.0

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	2		2	100	2	100	2	100	2	100	2	100
KINGS	3		3	100	3	100	2	66.7	2	100	3	100
OXFORD	4		4	100	3	75	2	50.0	2	100	2	50.0
TOTAL	9		9	100	8	88.9	6	66.7	6	100	7	77.8
NON-GRADE A												
EDINBURGH	22		21	95.5	21	100	7	33.3	2	28.6	4	19.0
KINGS	32		31	96.9	30	96.8	17	54.8	6	35.3	6	19.4
OXFORD	41		39	95.1	27	69.2	17	43.6	11	64.7	11	28.2
TOTAL	95		91	95.8	78	85.7	41	45.1	19	46.3	21	23.1

16 **Table 3** shows, for the three financial years, the number of donors where isolation was completed by whether the release criteria was met and the proportion that were subsequently transplanted. In the whole time period, 309 donors had isolation completed.

Met release criteria	2016/17		Financial year 2017/18		2018/19	
	N	% transplanted	N	% transplanted	N	% transplanted
Yes	47	70	58	41	47	53
No	73	1	45	2	39	8
TOTAL	120	28	103	24	86	33

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 to ODT Hub Information Services. Although a quarterly report is now issued to capture missing data, accurate and complete recording of data on the form would save time.

**Jo Bunnett and Claire Counter
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September 2019

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 2018 – 31 March 2019

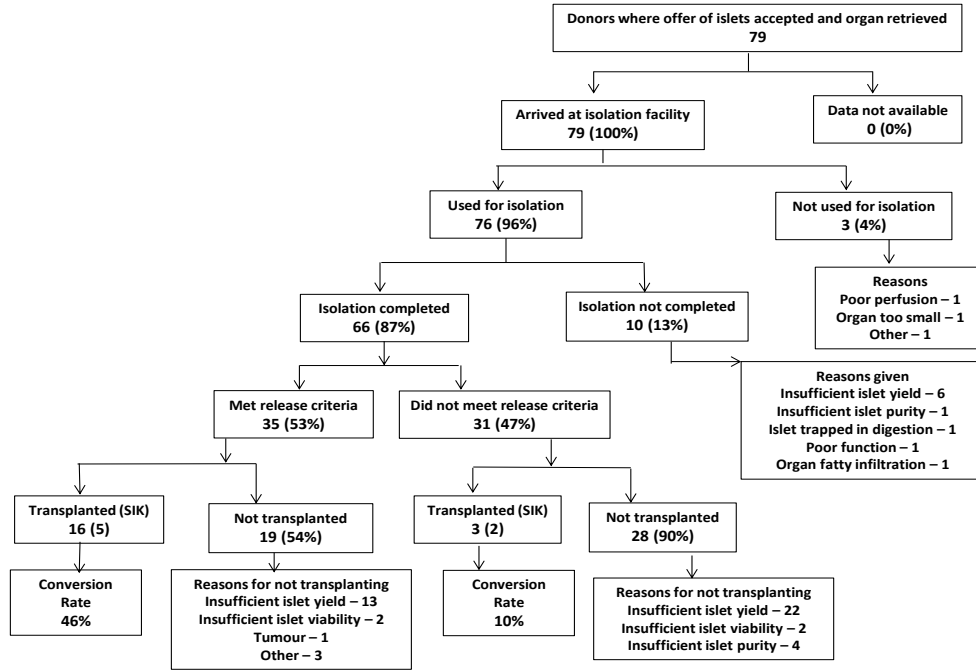
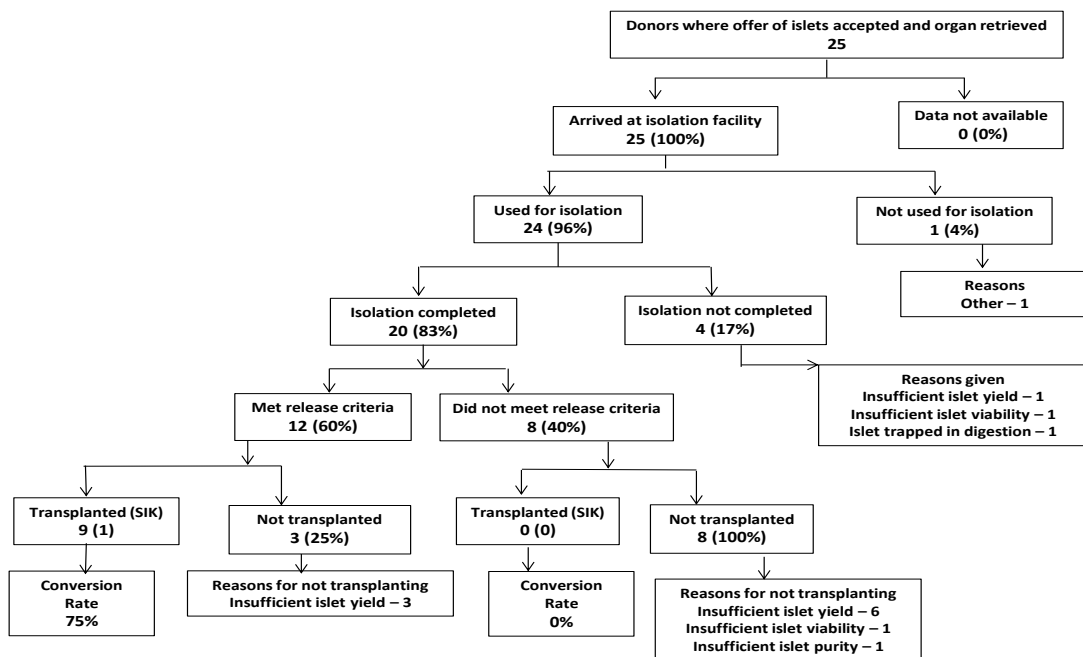


Figure II Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets and donor was offered to a whole pancreas patient first, 1 April 2018 – 31 March 2019



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