

**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 164 donors between 1 April 2020 and 31 March 2023, 54 of which were in 2022/2023, 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 164 (100%) donors in the whole time period and 54 (100%) donors in 2022/2023.

**RESULTS**

- 4 In the latest year, of the 54 pancreas donors analysed, 54 were indicated to have been used for isolation and 48 (89%) had isolation completed. Of these 48 completed isolations, 33 met the release criteria and 19 (40%) of those resulted in transplantation. The overall conversion rate from isolation started to islets transplanted is 35%. At each isolation facility, for this time period, the overall conversion rates were 44% at Edinburgh, 39% at King's and 22% at Oxford.
- 5 Of the 54 pancreas donors, four (7%) were categorised as Grade A donors and had isolation started and two (50%) were subsequently transplanted.
- 6 For pancreas donors who had the relevant information reported, the transplant conversion rates of those where isolation was started were 37%, 33% and 35% in 2020/2021, 2021/2022 and 2022/2023, 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](mailto: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

### 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

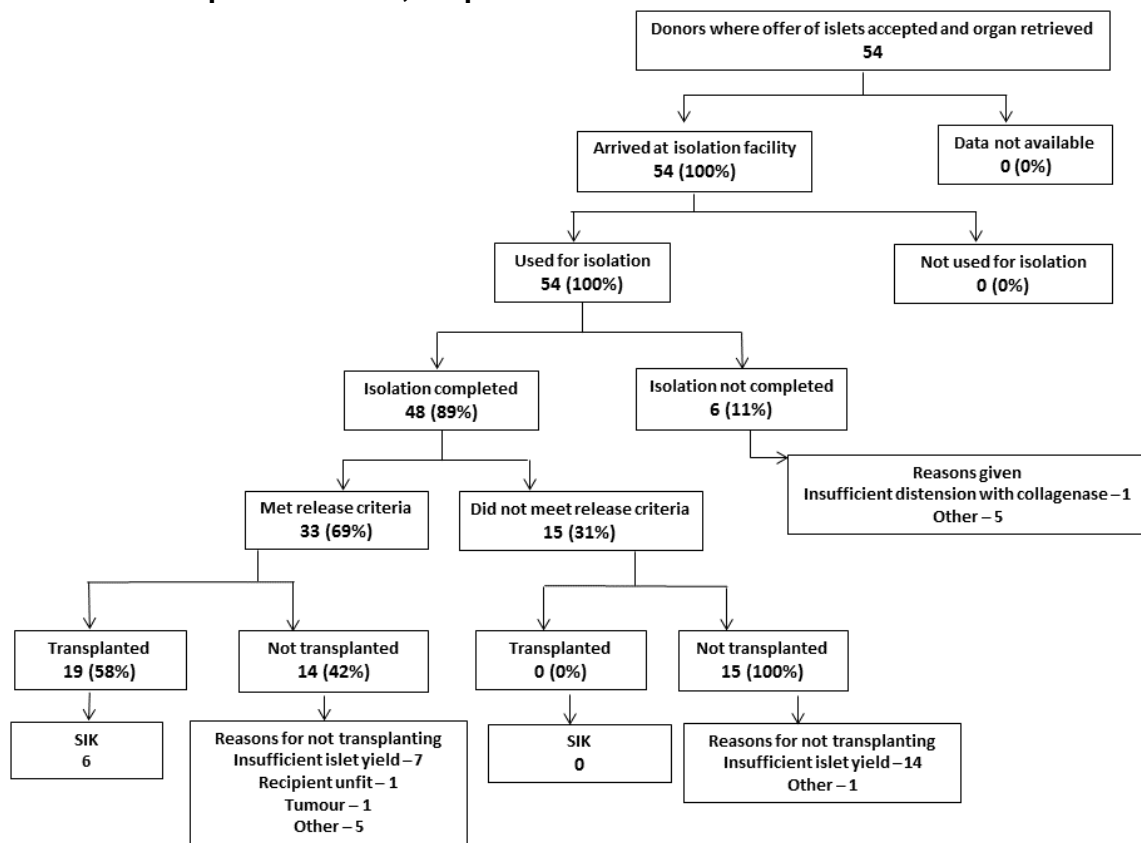
- 9 Data on 164 donors between 1 April 2020 and 31 March 2023, 54 of which were in the latest financial year 2022/2023, whose pancreas was taken and accepted for islet transplantation were analysed from the UK Transplant Registry (UKTR). Information from the islet isolation page of the Deceased Donor 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.
- 10 Information was available for 164 (100%) donors in the whole time period and for 54 (100%) in 2022/2023.
- 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 the 54 donors between 1 April 2022 and 31 March 2023 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 54 indicated to have isolation started, 19 were transplanted giving a conversion rate of 35%. Of the 35 not transplanted, the main reason given was insufficient islet yield for the patient (63%).
- 13 There were no transplants from isolations that did not meet the release criteria.

- 14 The 'other' reasons given for isolation not being completed in five cases were: high HbA1c result (pre-diabetic) (1), long cold ischemia time (1), poor tissue quality (1), blood warmer bag broken so isolation stopped (1) and no islets being seen (1). The 'other' reasons given when the prep met release criteria but was not transplanted in five cases were: patient was ill (4), recipient centre declined due to staffing issues (1).

**Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 April 2022 – 31 March 2023**



- 15 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).
- 16 There were 164 donors whose pancreas was taken and accepted for islet transplantation in the last three financial years, 164 were indicated to have arrived at an isolation facility using information available. **Table 1** shows information on these 164, by year and isolation facility as reported on the islet page of the DDPI form. In 2020/2021, the conversion rate from isolation started to transplanted ranged from 9% to 54% across the isolation facilities, and in the latest year it ranged from 22% to 44%. The proportion of isolations started that met the release criteria was similar across the isolation facilities in the latest year.

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	%
<b>2020/2021</b>												
EDINBURGH	17		17	100	17	100	9	53	7	78	7	41
KINGS	15		13	87	10	77	7	54	5	71	7	54
OXFORD	11		11	100	6	55	2	18	0	-	1	9
<b>TOTAL</b>	<b>43</b>		<b>41</b>	<b>95</b>	<b>33</b>	<b>81</b>	<b>18</b>	<b>44</b>	<b>12</b>	<b>67</b>	<b>15</b>	<b>37</b>
<b>2021/2022</b>												
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
<b>TOTAL</b>	<b>67</b>		<b>66</b>	<b>99</b>	<b>55</b>	<b>83</b>	<b>33</b>	<b>50</b>	<b>21</b>	<b>64</b>	<b>22</b>	<b>33</b>
<b>2022/2023</b>												
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
<b>TOTAL</b>	<b>54</b>		<b>54</b>	<b>100</b>	<b>48</b>	<b>89</b>	<b>33</b>	<b>61</b>	<b>19</b>	<b>58</b>	<b>19</b>	<b>35</b>

17 **Table 2** shows the information for 2022/2023 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.

18 **Table 2** shows that there were four (7%) donors identified as Grade A compared to 50 (93%) non-Grade A donors. Three of the donors at Oxford were identified as Grade A, one at Kings and none at Edinburgh. Of those four Grade A donors where isolation started, two (50%) 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	%
<b>GRADE A</b>												
EDINBURGH	0		0	-	0	-	0	-	0	-	0	-
KINGS	1		1	100	0	-	0	-	0	-	0	-
OXFORD	3		3	100	3	100	2	67	2	100	2	67
<b>TOTAL</b>	<b>4</b>		<b>4</b>	<b>100</b>	<b>3</b>	<b>75</b>	<b>2</b>	<b>50</b>	<b>2</b>	<b>100</b>	<b>2</b>	<b>50</b>
<b>NON-GRADE A</b>												
EDINBURGH	18		18	100	17	94	11	61	8	73	8	44
KINGS	17		17	100	15	88	12	71	7	58	7	41
OXFORD	15		15	100	13	87	8	53	2	25	2	13
<b>TOTAL</b>	<b>50</b>		<b>50</b>	<b>100</b>	<b>45</b>	<b>90</b>	<b>31</b>	<b>62</b>	<b>17</b>	<b>55</b>	<b>17</b>	<b>34</b>

- 19 Of those 54 donors in 2022/2023 whose pancreas was used for isolation and information was available, 40 (74%) were aged 50 years or younger and 14 (26%) were aged over 50 years. Of the 14 donors aged over 50 years with isolation started, 12 had isolation completed, eight (67%) met the release criteria and seven were transplanted. This gives an overall conversion rate of those where isolation commenced of 50% (seven out of 14). This is higher than the rate of 30% (12 of 40 donors) for donors aged 50 years or younger.

**ACTION**

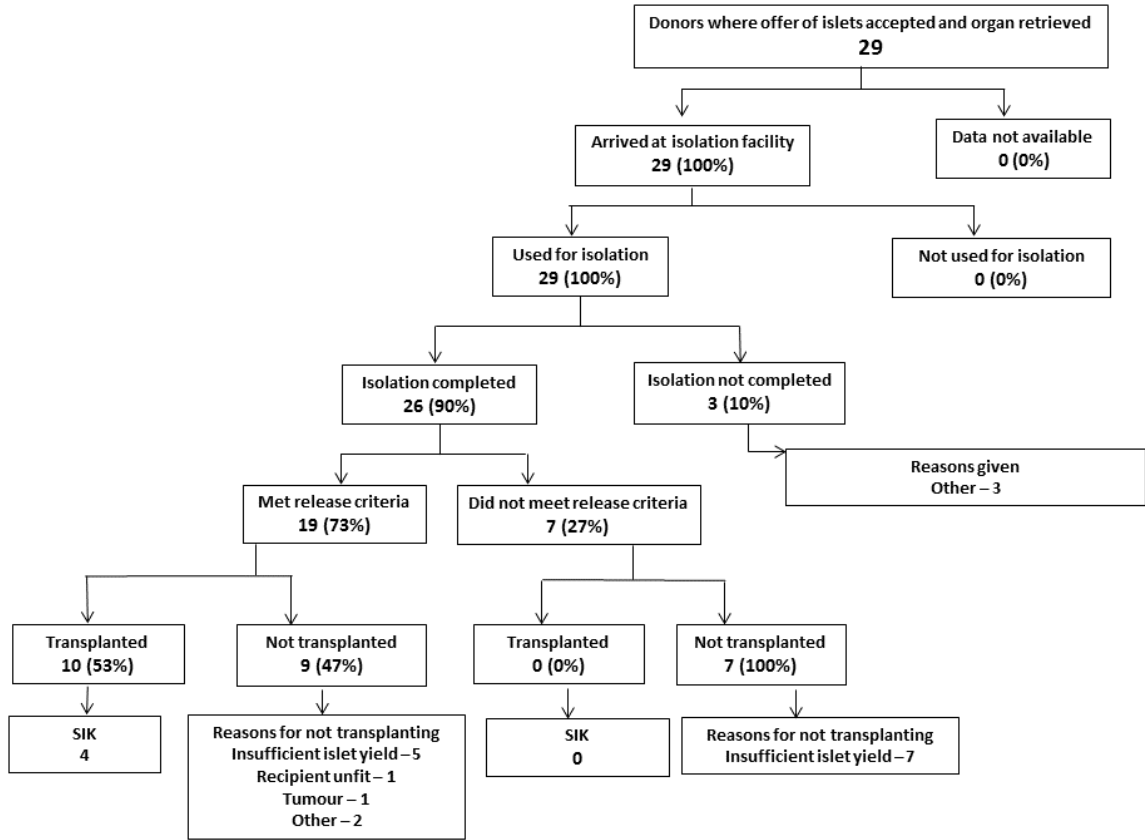
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**Joseph Parsons**  
**Statistics and Clinical Research**

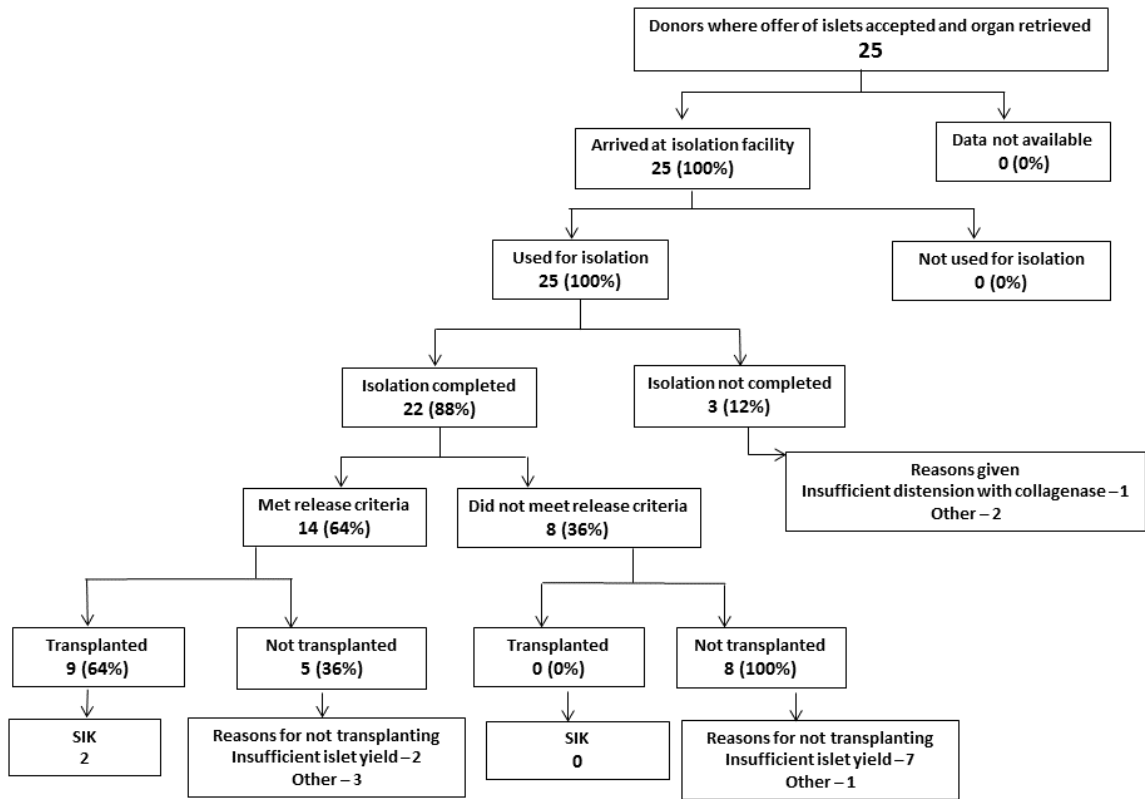
**October 2023**

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 2022 – 31 March 2023**



**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 2022 – 31 March 2023**



## 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