

**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 204 donors between 1 April 2019 and 31 March 2022, 67 of which were in 2021/2022, 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 199 (98%) donors in the whole time period and 62 (93%) donors in 2021/2022.

**RESULTS**

- 4 In the latest year, of the 62 pancreas donors analysed, 61 were indicated to have been used for isolation and 51 (84%) had isolation completed. Of these 51 completed isolations, 31 met the release criteria and 20 (65%) of those resulted in transplantation. The overall conversion rate from isolation started to islets transplanted is 34%. At each isolation facility, for this time period, the overall conversion rates were 50% at Edinburgh, 25% at King's and 30% at Oxford.
- 5 Of the 62 pancreas donors, 12 (19%) were categorised as Grade A donors and had isolation started and three (25%) were subsequently transplanted.
- 6 For pancreas donors who had the relevant information reported, the transplant conversion rates of those where isolation was started were 31%, 37% and 34% in 2019/2022, 2020/2021 and 2021/2022, 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

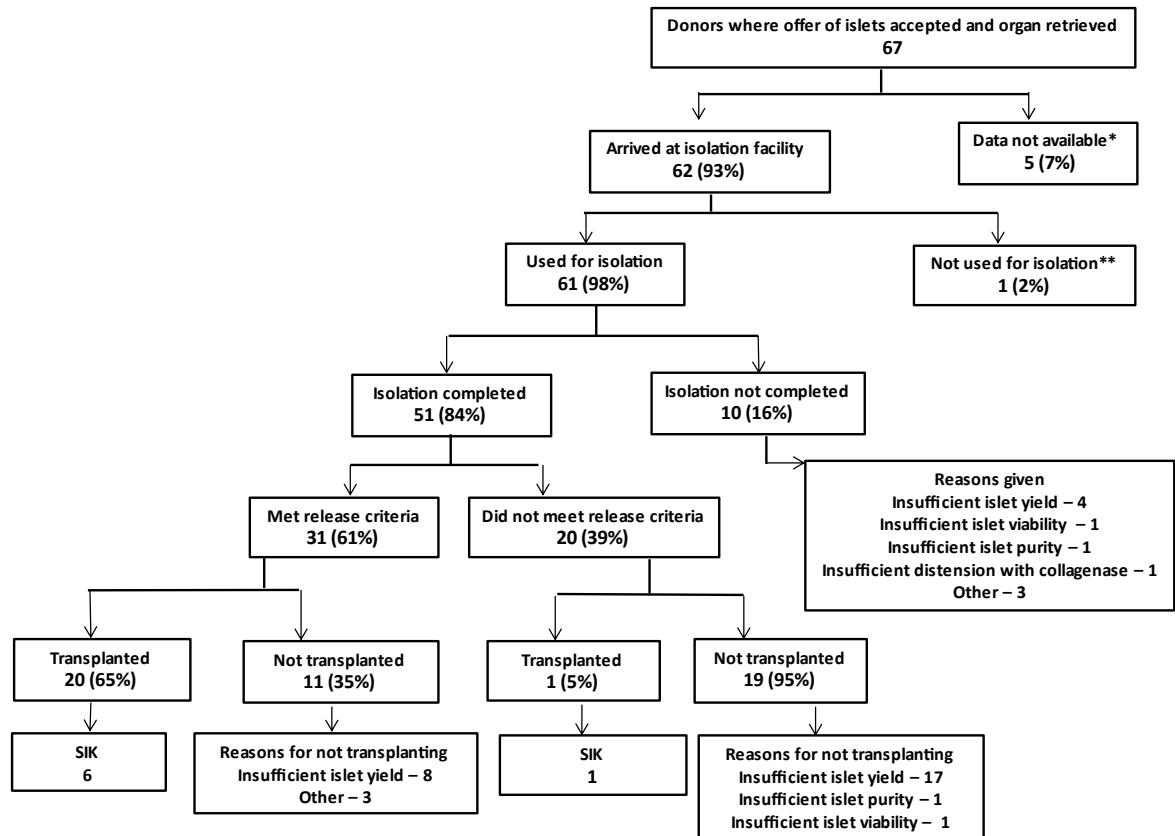
- 9 Data on 204 donors between 1 April 2019 and 31 March 2022, 67 of which were in the latest financial year 2021/2022, whose pancreas was taken and accepted for islet transplantation were analysed from the UK Transplant Registry (UKTR). Information from the islet isolation page of the Deceased Donor 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 199 (98%) donors in the whole time period and for 62 (93%) in 2021/2022.
- 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 67 donors between 1 April 2021 and 31 March 2022 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 61 indicated to have isolation started, 21 were transplanted giving a conversion rate of 34%. Of the 40 not transplanted, the main reason given was insufficient islet yield for the patient (68%).
- 13 The one transplant from isolations that did not meet the release criteria was an SIK transplant with an islet yield of more than 100,000 IEQ.

- 14 The 'other' reasons given for isolation not being completed in three cases were: equipment failure (1) and no islets being seen (2). The 'other' reasons given when the prep met release criteria but was not transplanted in three cases were: Cancer found in donor (2) and recipient had positive blood and urine cultures (1).

**Figure 1 Outcome of pancreas donors where organ was retrieved with the intention to transplant as islets, 1 April 2021 – 31 March 2022**



\* Of pancreases where data was not available, 1 was transplanted  
\*\*Of pancreases not used for isolation, 1 was due to anatomical reasons

- 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 204 donors whose pancreas was taken and accepted for islet transplantation in the last three financial years, 199 were indicated to have arrived at an isolation facility using information available. **Table 1** shows information on these 204, by year and isolation facility as reported on the islet page of the DDPI form. In 2019/2020, the conversion rate from isolation started to transplanted ranged from 18% to 43% across the isolation facilities, and in the latest year it ranged from 25% to 50%.

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>2019/2020</b>												
EDINBURGH	23		21	91	21	100	13	62	9	69	9	43
KINGS	42		42	100	38	91	29	69	14	48	14	33
OXFORD	29		28	97	25	89	12	43	4	33	5	18
<b>TOTAL</b>	<b>94</b>		<b>91</b>	<b>97</b>	<b>84</b>	<b>92</b>	<b>54</b>	<b>59</b>	<b>27</b>	<b>50</b>	<b>28</b>	<b>31</b>
<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	18		18	100	18	100	11	61	8	73	9	50
KINGS	20		20	100	16	80	9	45	5	56	5	25
OXFORD	24		23	96	17	74	11	48	7	64	7	30
<b>TOTAL</b>	<b>62</b>		<b>61</b>	<b>98</b>	<b>51</b>	<b>84</b>	<b>31</b>	<b>51</b>	<b>20</b>	<b>65</b>	<b>21</b>	<b>34</b>

- 17 **Table 2** shows the information for 2021/2022 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 12 (19%) donors identified as Grade A compared to 50 (81%) non-Grade A donors. Six of the donors at Kings and Oxford were identified as Grade A and none at Edinburgh. Of those 12 Grade A donors where isolation started, three (25%) 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	6		6	100.0	5	83.3	2	33.3	1	50.0	1	16.7
OXFORD	6		6	100.0	5	83.3	4	66.7	2	50.0	2	33.3
<b>TOTAL</b>	<b>12</b>		<b>12</b>	<b>100.0</b>	<b>10</b>	<b>83.3</b>	<b>6</b>	<b>50.0</b>	<b>3</b>	<b>50.0</b>	<b>3</b>	<b>25.0</b>
<b>NON-GRADE A</b>												
EDINBURGH	18		18	100.0	18	100.0	11	61.1	8	72.7	9	50
KINGS	14		14	100.0	11	78.6	7	50.0	4	57.1	4	28.6
OXFORD	18		17	94.4	12	70.6	7	41.2	5	71.4	5	29.4
<b>TOTAL</b>	<b>50</b>		<b>49</b>	<b>98.0</b>	<b>41</b>	<b>83.7</b>	<b>25</b>	<b>51.0</b>	<b>17</b>	<b>68.0</b>	<b>18</b>	<b>36.7</b>

- 19 Of those 61 donors in 2021/2022 whose pancreas was used for isolation and information was available, 45 (74%) were aged 50 years or younger and 16 (26%) were aged over 50 years. Of the 16 donors aged over 50 years with isolation started, 14 had isolation completed, 10 (71%) met the release criteria and five were transplanted. This gives an overall conversion rate of those where isolation commenced of 31% (five out of 16). This is slightly lower than the rate of 36% (16 of 45 donors) for donors aged 50 years or younger.

**ACTION**

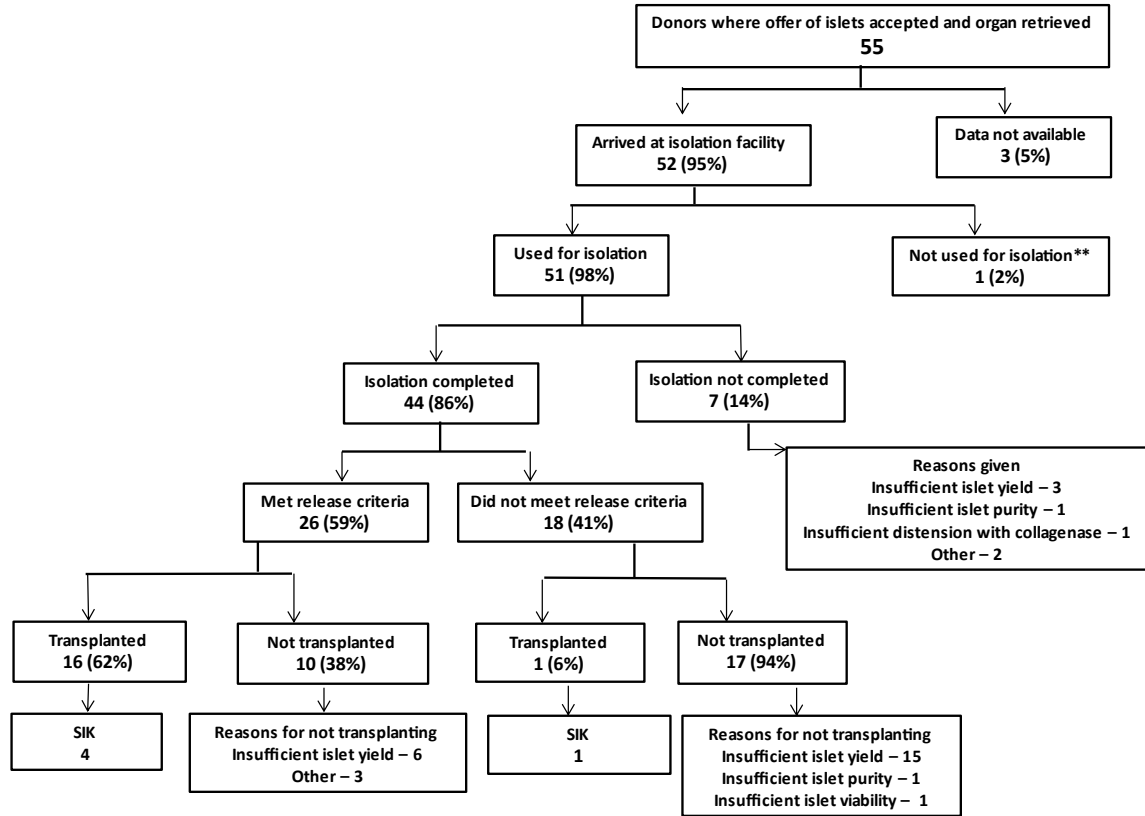
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**Joseph Parsons**  
**Statistics and Clinical Research**

**September 2022**

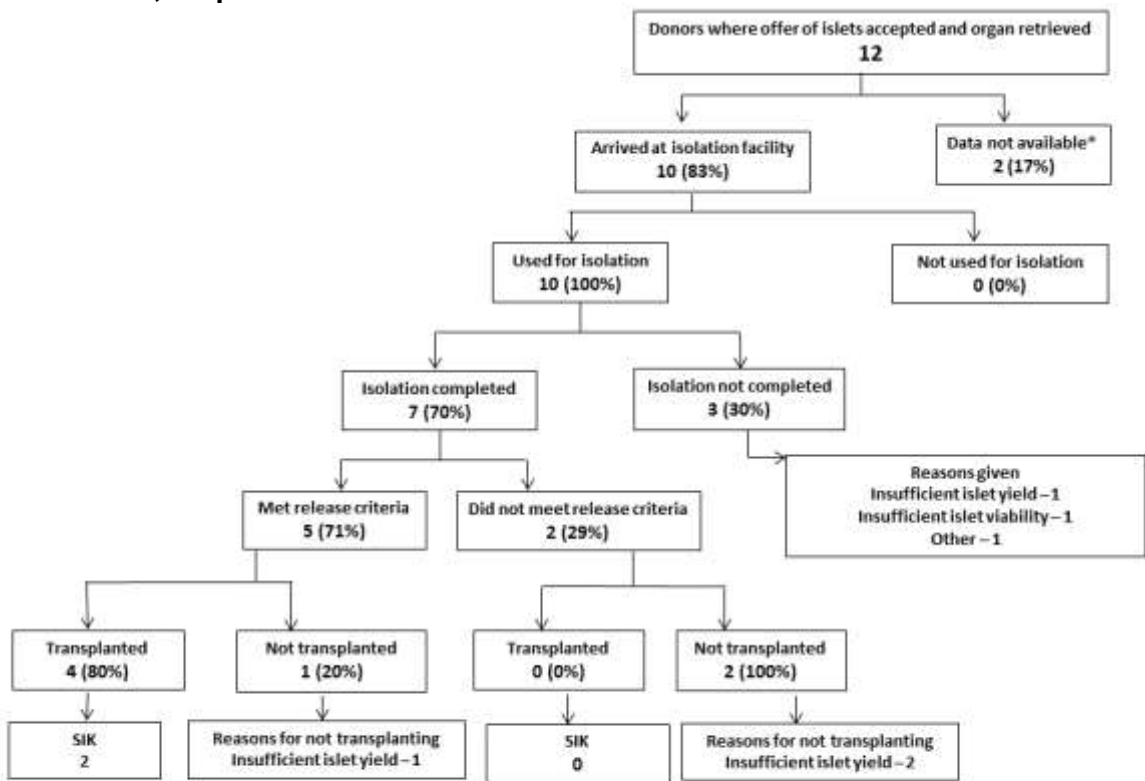
Appendix I

**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 2021 – 31 March 2022**



\*\*Of pancreases not used for isolation, 1 was due to anatomical reasons

**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 2021 – 31 March 2022**



\* Of pancreases where data was not available, 1 was transplanted

## 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