

**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 270 donors between 1 January 2018 and 31 December 2020, 49 of which were in 2020, 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.
- 3 Information was available for 257 (95%) donors in the whole time period and for 37 (74%) in 2020. Of the 12 with missing forms in 2020, Hub Operations notes indicated the organs went to isolation facilities: King's (10), Edinburgh (1) and Oxford (1).

**RESULTS**

- 4 In the latest year, of the 37 pancreas donors analysed, 36 were indicated to have been used for isolation and 31 (86%) had isolation completed. Of these 31 completed isolations, 18 met the release criteria and nine (50%) 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 42% at Edinburgh, 42% at King's and 8% at Oxford.
- 5 Of the 37 pancreas donors, nine (24%) were categorised as Grade A donors and had isolation started and one (11%) was subsequently transplanted.
- 6 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 25%, 31% and 31% in 2018, 2019 and 2020, 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.odthtaforms@nhs.net](mailto:NHSBT.odthtaforms@nhs.net)). Please include the donor id and "islet page 5" in the subject of the email. 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.

**Joseph Parsons**  
**Statistics and Clinical Studies**

**March 2021**

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

**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.

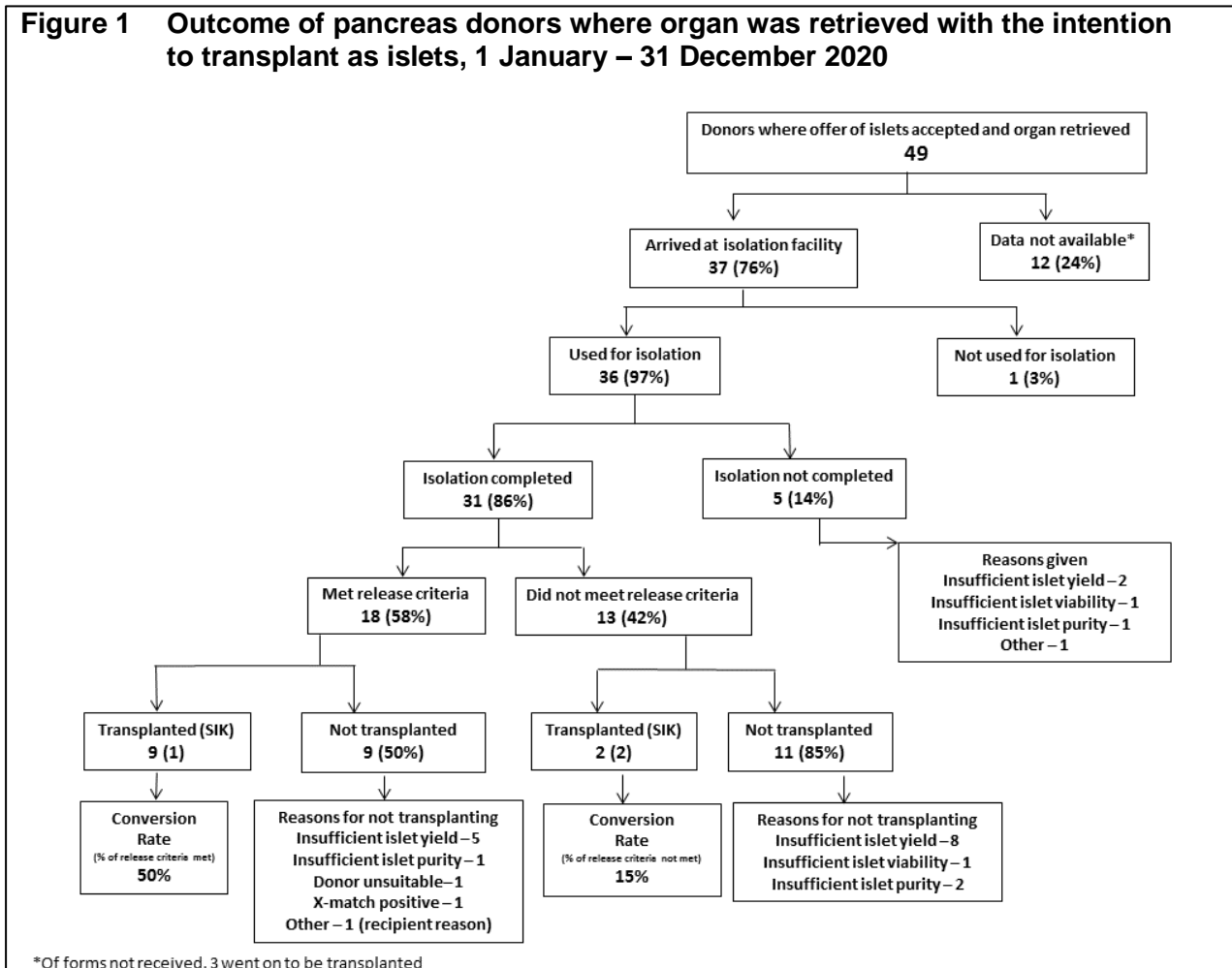
## DATA

- 9 Data on 270 donors between 1 January 2018 and 31 December 2020, 49 of which were in the latest calendar year 2020, 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.
- 10 Information was available for 257 (95%) donors in the whole time period and for 37 (74%) in 2020. Of the 12 with missing forms in 2020, Hub Operations notes indicated the organs went to isolation facilities: King's (10), Edinburgh (1) and Oxford (1).
- 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 all the 37 donors, with information available, between 1 January and 31 December 2020 where the pancreas was accepted and retrieved with the intention to transplant as islets. Overall, of the 36 indicated to have isolation started, 11 were transplanted giving a conversion rate of 31%. The majority of reasons for not transplanting were insufficient islet yield.
- 13 The two transplants from isolations that did not meet the release criteria were for SIK transplants 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 January – 31 December 2020**



- 14 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.
- 15 There were 270 donors whose pancreas was taken and accepted for islet transplantation in the last three calendar years, 257 were indicated to have arrived at an isolation facility using information returned on the DDPI form. **Table 1** shows information on these 257, by year and isolation facility as reported on the islet page of the DDPI form. In 2018, the conversion rate from isolation started to transplanted ranged from 24% to 27% across the isolation facilities, but in the latest year it ranged from 8% to 42%.
- 16 **Table 2** shows the information for 2020 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.
- 17 **Table 2** shows that there were nine (24%) donors identified as Grade A compared to 28 (76%) non-Grade A donors. One of the donors at Edinburgh was identified as Grade A and four at each of Oxford and Kings. Of those nine Grade A donors where isolation started, one (11.1%) 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>2018</b>												
EDINBURGH	26		25	96.2	24	96.0	12	48.0	5	41.7	6	24.0
KINGS	38		37	97.4	37	100.0	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
<b>TOTAL</b>	<b>115</b>		<b>111</b>	<b>96.5</b>	<b>95</b>	<b>85.6</b>	<b>54</b>	<b>48.6</b>	<b>26</b>	<b>48.1</b>	<b>28</b>	<b>25.2</b>
<b>2019</b>												
EDINBURGH	25		24	96.0	24	100.0	11	45.8	7	63.6	8	33.3
KINGS	43		43	100.0	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
<b>TOTAL</b>	<b>105</b>		<b>103</b>	<b>98.1</b>	<b>92</b>	<b>89.3</b>	<b>56</b>	<b>54.4</b>	<b>30</b>	<b>53.6</b>	<b>32</b>	<b>31.1</b>
<b>2020</b>												
EDINBURGH	13		12	92.3	12	100.0	7	58.3	5	71.4	5	41.7
KINGS	12		12	100.0	11	91.7	9	75.0	4	44.4	5	41.7
OXFORD	12		12	100.0	8	66.7	2	16.7	0	0	1	8.3
<b>TOTAL</b>	<b>37</b>		<b>36</b>	<b>97.3</b>	<b>31</b>	<b>86.1</b>	<b>18</b>	<b>50.0</b>	<b>9</b>	<b>50.0</b>	<b>11</b>	<b>30.6</b>

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	1		1	100.0	1	100.0	0	0	0	0	0	0
KINGS	4		4	100.0	4	100.0	3	75.0	1	33.3	1	25.0
OXFORD	4		4	100.0	3	75.0	0	0	0	0	0	0
<b>TOTAL</b>	<b>9</b>		<b>9</b>	<b>100.0</b>	<b>8</b>	<b>88.9</b>	<b>3</b>	<b>33.3</b>	<b>1</b>	<b>33.3</b>	<b>1</b>	<b>11.1</b>
<b>NON-GRADE A</b>												
EDINBURGH	12		11	91.7	11	100.0	7	63.6	5	71.4	5	45.5
KINGS	8		8	100.0	7	87.5	6	75.0	3	50.0	4	50.0
OXFORD	8		8	100.0	5	62.5	2	25.0	0	0	1	12.5
<b>TOTAL</b>	<b>28</b>		<b>27</b>	<b>96.4</b>	<b>23</b>	<b>85.2</b>	<b>15</b>	<b>55.6</b>	<b>8</b>	<b>53.3</b>	<b>10</b>	<b>37.0</b>

- 18 Of those 37 donors in 2020 whose pancreas was used for isolation and information was available, 14 (38%) were aged 50 years or younger and 23 (62%) were aged over 50 years. Of the 23 donors aged over 50 years, 15 had isolation started, 14 had isolation completed, nine (64%) met the release criteria and three (20% of those where isolation commenced) were transplanted. This is lower than the rate of 50% (eight of 16 donors) for donors aged 50 years or younger.

**ACTION**

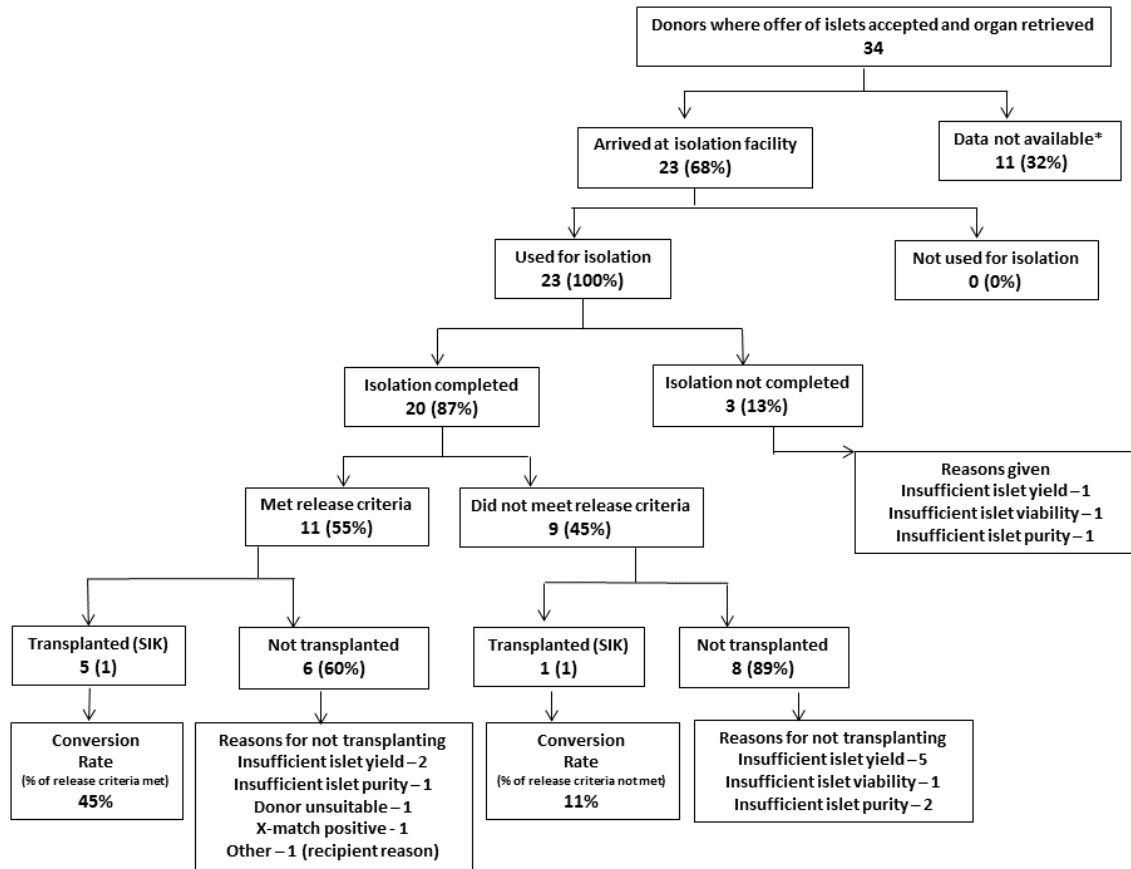
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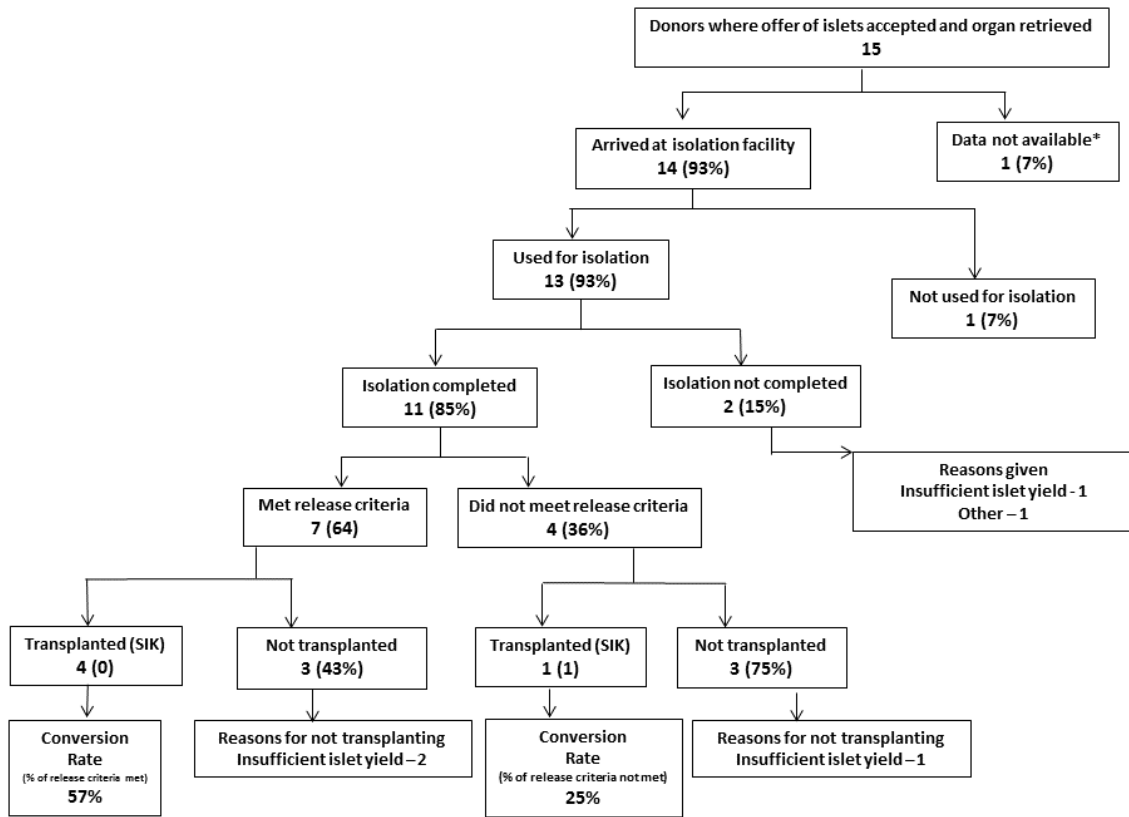
Appendix I

**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 2020**



\*Of forms not received, 3 went on to be transplanted

**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 2020**



\*Of forms not received, 1 went on to be 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