



Blood and Transplant

ANNUAL REPORT ON PANCREAS AND ISLET TRANSPLANTATION

**REPORT FOR 2025/2026
(1 APRIL 2016 – 31 MARCH 2026)**

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Executive Summary

This report presents key figures about pancreas and islet transplantation in the UK. The period reported covers up to ten years of data, from 1 April 2016 to 31 March 2026. The report presents information on the pancreas and islet transplant waiting list, transplant activity and post-transplant outcomes, on a national and centre-specific basis.

Key findings

- On the 31 March 2026, there were 379 patients on the UK active pancreas and islet [transplant list](#), this is a 2% increase in number of patients a year earlier. However, both the pancreas and islet lists have seen a large increase over the last decade, with an overall increase of 69% compared to 31 March 2017.
- There were 1,443 pancreas transplants and 244 islet transplants performed in the UK in the ten-year period. In 2025/26, 58% of all transplants were from [donations after brain death](#) and 42% from [donations after circulatory death](#). Over the last few years there has been an increase in the percentage of transplants from [donations after circulatory death](#).
- The percentage of pancreas offers from [donations after brain death](#) which were declined for transplantation decreased to 46% in 2025/26 compared with 62% and 61% in the two preceding years.
- The national rates of [patient](#) survival one- and five-years after first simultaneous pancreas and kidney transplant from deceased donors are 96% and 92%, respectively. The [risk-adjusted](#) survival rates vary between centres, ranging from 84% to 100% at one-year and 84% to 100% at five-years.
- The national rates of [graft](#) survival one- and five-years after first simultaneous pancreas and kidney transplant are 89% and 87%, respectively. These rates vary between centres, ranging from 78% to 96% at one-year and 79% to 95% at five-years. All centre rates are [risk-adjusted](#).
- The national rate of one- and five-year [patient](#) survival from listing for deceased donor simultaneous pancreas and kidney transplant are 96% and 86% respectively. The rates at centres range from 89% to 99% for one-year and from 76% to 100% for five-year. All centre rates are [risk-adjusted](#).
- The national one- and five-year [graft](#) survival rates for patients receiving a first routine islet transplant are 92% and 59%. Due to the small number of islet and simultaneous islet and kidney transplants performed, these survival estimates should be interpreted alongside their 95% confidence intervals.
- Reductions in annual rate of severe [hypoglycaemic](#) events, median [HbA1c](#) and median insulin requirements have been reported at one-year post routine islet transplant.

Use of the contents of this report should be acknowledged as follows:

Annual Report on Pancreas and Islet Transplantation 2025/26, NHS Blood and Transplant.

Introduction

This report presents information on pancreas and islet transplant activity between 1 April 2016 and 31 March 2026, for all eight centres performing pancreas transplantation and five centres performing islet transplantation in the UK. Cambridge, Cardiff, Guy's and WLRTC only perform pancreas transplants while King's College only perform islet transplants. Throughout this report West London Renal and Transplant Centre is labelled as WLRTC, simultaneous pancreas and kidney transplants and simultaneous islet and kidney transplants are reported as SPK and SIK transplants, respectively.

Data were obtained from the UK Transplant Registry, at NHS Blood & Transplant, that holds information relating to donors, recipients and outcomes for all pancreas and islet transplants performed in the UK. [Graft](#) and [patient](#) pancreas survival estimates are reported at one-year post-transplant for the period 1 April 2021 to 31 March 2025 and five-year post-transplant for the period 1 April 2017 to 31 March 2021.

Islet transplant survival is measured by four key variables: graft survival, and a reduction in [HbA1c](#), insulin requirements and the annual rate of severe [hypoglycaemic](#) events. Islet outcomes are reported at one-year post-transplant for the period 1 April 2021 to 31 March 2025, and [graft](#) survival at five years post-transplant for the period 1 April 2016 to 31 March 2025, for the national cohort only. [Graft](#) survival at five years post SIK transplant is reported for the period 1 April 2017 to 31 March 2025. Islet outcomes are [unadjusted](#) for other risk factors and islet outcome data from the UK Transplant Registry is supplemented by data collected from the UK Islet Transplant Consortium.

One-year pancreas [patient](#) survival from listing is reported for all first deceased donor simultaneous pancreas and kidney transplants registered between 1 April 2021 and 31 March 2025. Five-year survival is reported for those registered between 1 April 2017 and 31 March 2021.

The centre specific results for survival estimates are adjusted for differences in [risk factors](#) between the centres. The risk models and methods used are described in the Appendix.

Patients requiring [multi-organ transplants](#) (except simultaneous pancreas and kidney or islets and kidney transplants (SPK and SIK)) are excluded from all analyses apart from the introduction. All results are described separately for pancreas and islet transplant recipients other than those presented in this introduction section. Intestinal transplants that involve a pancreas are excluded from all sections of the report.

The COVID-19 pandemic led to unprecedented challenges for UK transplantation. Concerns about the ability to care for transplant recipients, lack of access to resource because it was being used for patients in the pandemic, and the risk versus benefit for immunosuppressed transplant recipients, resulted in a major reduction in the number of organ transplants undertaken and the impact of the pandemic is still evident.

Figure 2.1 shows the number of patients on the pancreas and islet [transplant list](#) at 31 March each year between 2017 and 2026. The number of patients actively waiting for a pancreas or islet transplant has increased by 69% from 224 in 2017 to 379 in 2026, which is the highest number of patients on the list across the decade.

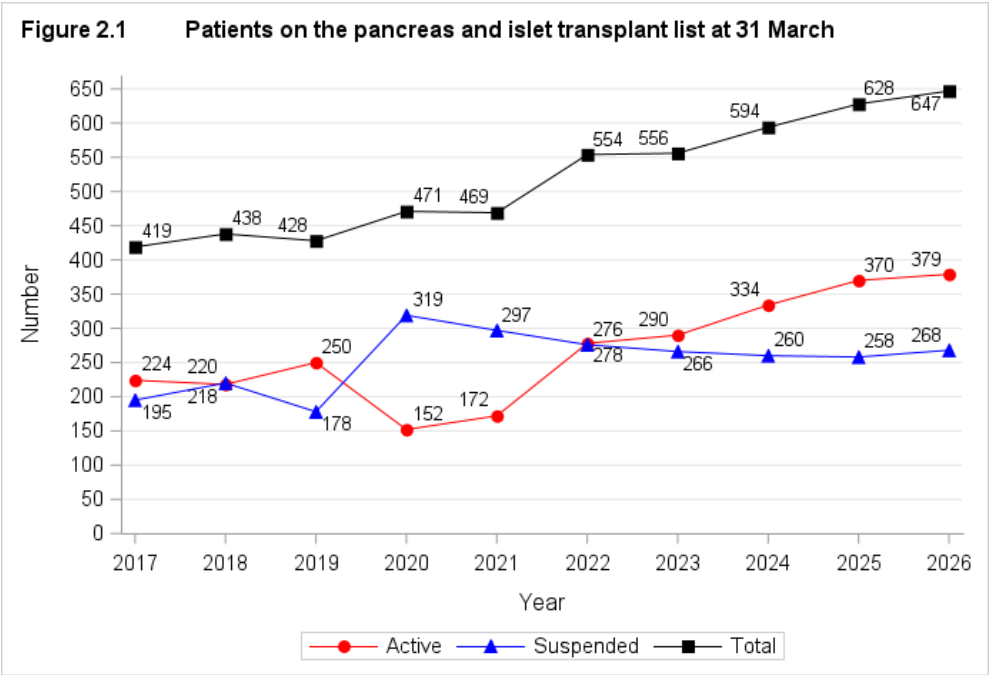


Figure 2.2 shows the number of patients on the pancreas and islet [transplant list](#) at 31 March 2026 for each transplant centre. Manchester has the largest [transplant list](#) with 131 patients registered for a pancreas or islet transplant. Across the UK, 329 (87%) patients were waiting for an SPK transplant, 5 (1%) for a pancreas alone, 19 (5%) for an islet alone and 26 (7%) for an SIK transplant.

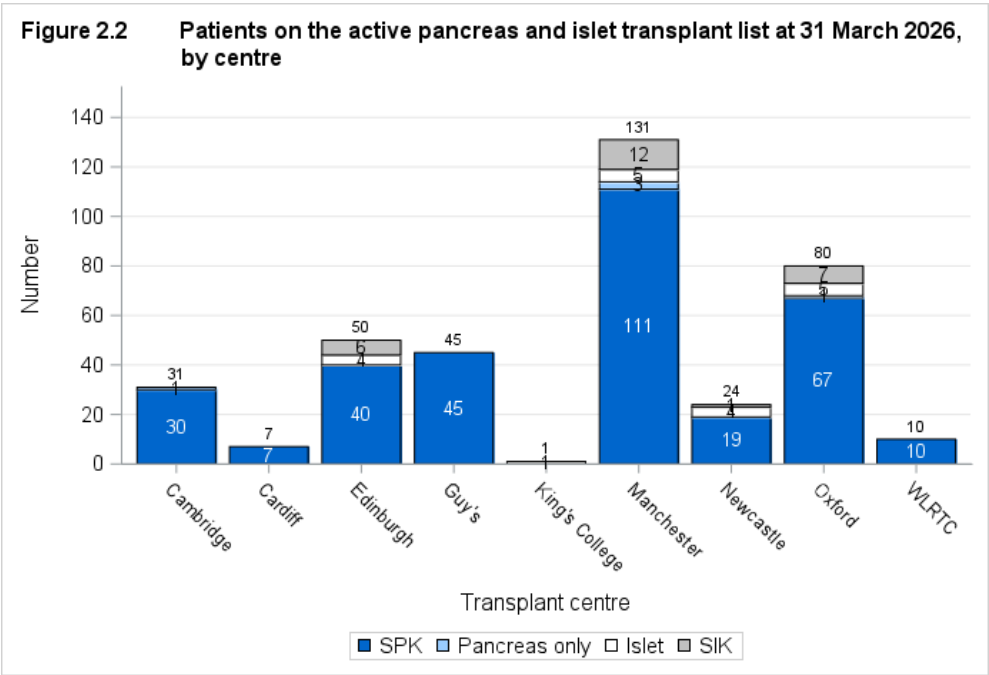


Figure 2.3 shows the total number of pancreas and islet transplants performed in the last ten financial years. Transplant numbers decreased slightly from 213 in 2016/17 to 203 in 2019/20 and then halved to 101 in 2020/21 due to the COVID-19 pandemic. In 2025/26 there were 153 transplants, which is relatively similar to the number of transplants performed in the 4 preceding years. The number of islet transplants in 2025/26 was the highest performed in the last 5 years, at 21 transplants.

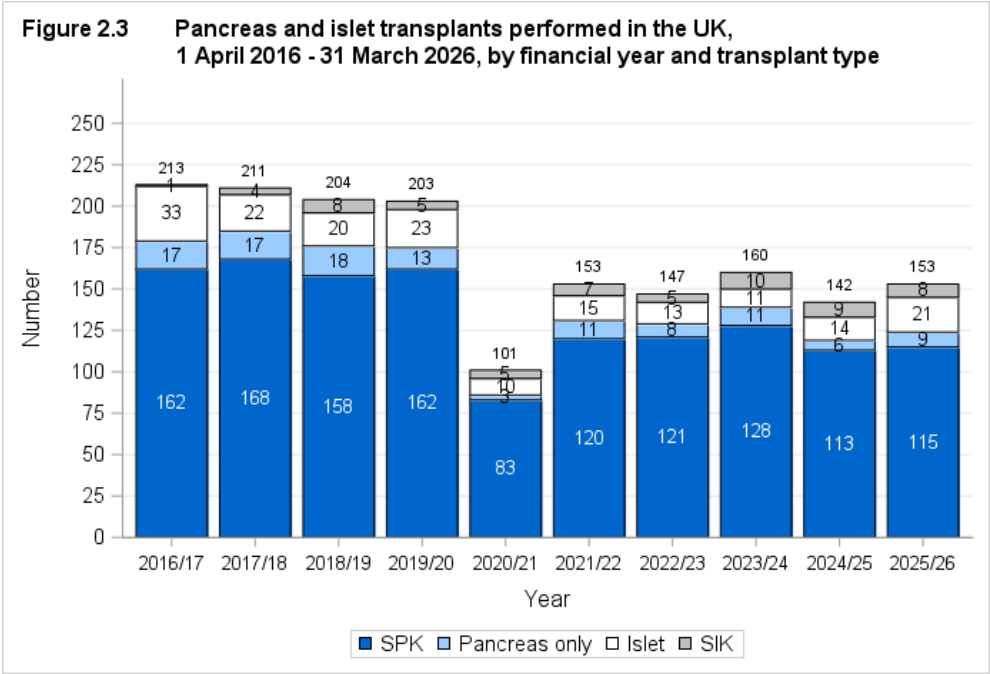


Figure 2.4 shows the total number of pancreas and islet transplants performed in 2025/26 at each transplant centre. Overall, Oxford performed the most transplants last year (n=39). Oxford performed the most whole pancreas (including SPK) transplants (n=33), whilst Edinburgh performed the most islet (including SIK) transplants (n=14).

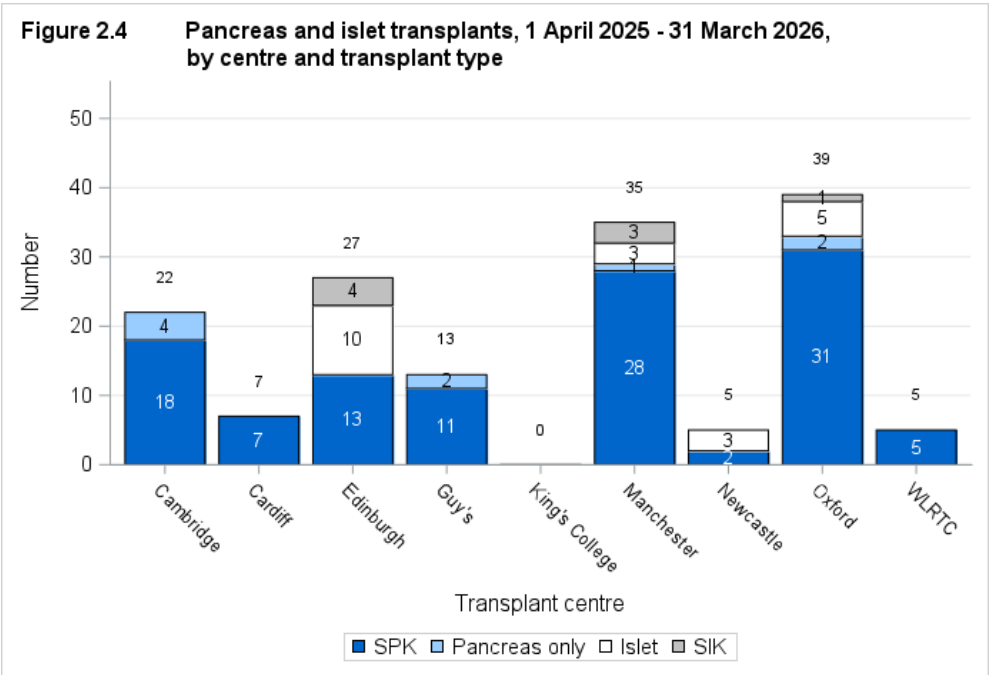
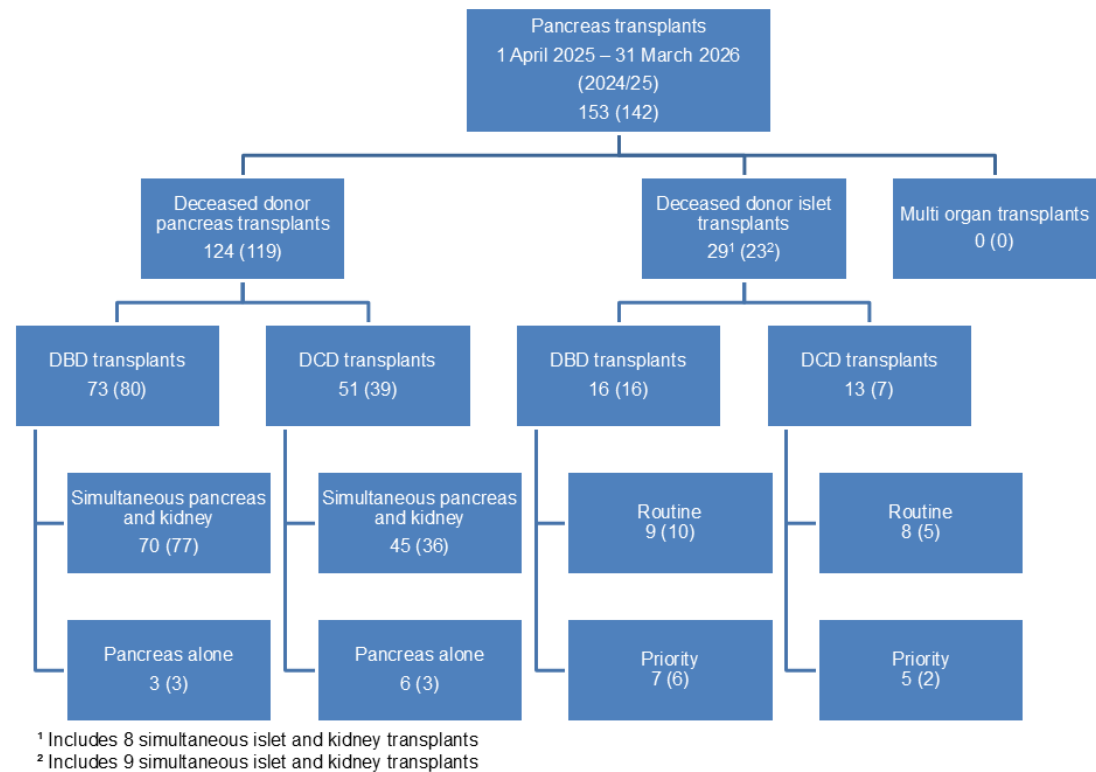


Figure 2.5 details the 153 pancreas and islet transplants performed in the UK between 1 April 2025 and 31 March 2026. Data for transplants performed in 2024/25 are also presented. The overall number of whole pancreas transplants performed in 2025/26 has increased by five to 124 compared to 119 in 2024/25. The number of islet transplants has increased by six compared with 2024/25 to 29.

**Figure 2.5 Pancreas and islet transplants performed in the UK,
1 April 2025 – 31 March 2026 (1 April 2024 – 31 March 2025)**



Geographical variation in registration and transplant rates

Figure 2.6 shows rates of registration to the pancreas and islet transplant list per million population (pmp) between 1 April 2025 and 31 March 2026 along with the pancreas and islet transplant rates pmp for the same time period, by recipient country/NHS region of residence. **Table 2.1** shows the breakdown of these numbers by recipient country/NHS region of residence. No adjustments have been made for potential demographic differences in populations. If a patient has had more than one registration or transplant in the period, each registration or transplant is considered. Note that this analysis only considered NHS Group 1 patients.

Since there will inevitably be some random variation in rates between areas, the [systematic coefficient component of variation](#) (SCV) was used to identify if the variation is more (or less) than a random effect for the different NHS regions in England only. Only first registrations and transplants in this period were considered. The larger the [SCV](#) the greater the evidence of a high level of systematic variation between areas. Registration and transplant rates yielded an [SCV](#) of 0.0039 (p-value = 0.261) and 0.0026 (p-value = 0.302), respectively. The p-value shows the probability that an [SCV](#) of this size (or higher) would be observed by chance if only random variation existed. Therefore, there was little evidence of geographical variation beyond what would be expected at random. No adjustment has been made for area-specific demographic characteristics that may impact the rates of registration to the transplant list and transplantation such as age and sex. Therefore, these results should be interpreted with caution.

Figure 2.6 Comparison of pancreas and islet registration rates (pmp) with transplant rates (pmp) by recipient country/NHS region of residence, 1 April 2025 – 31 March 2026

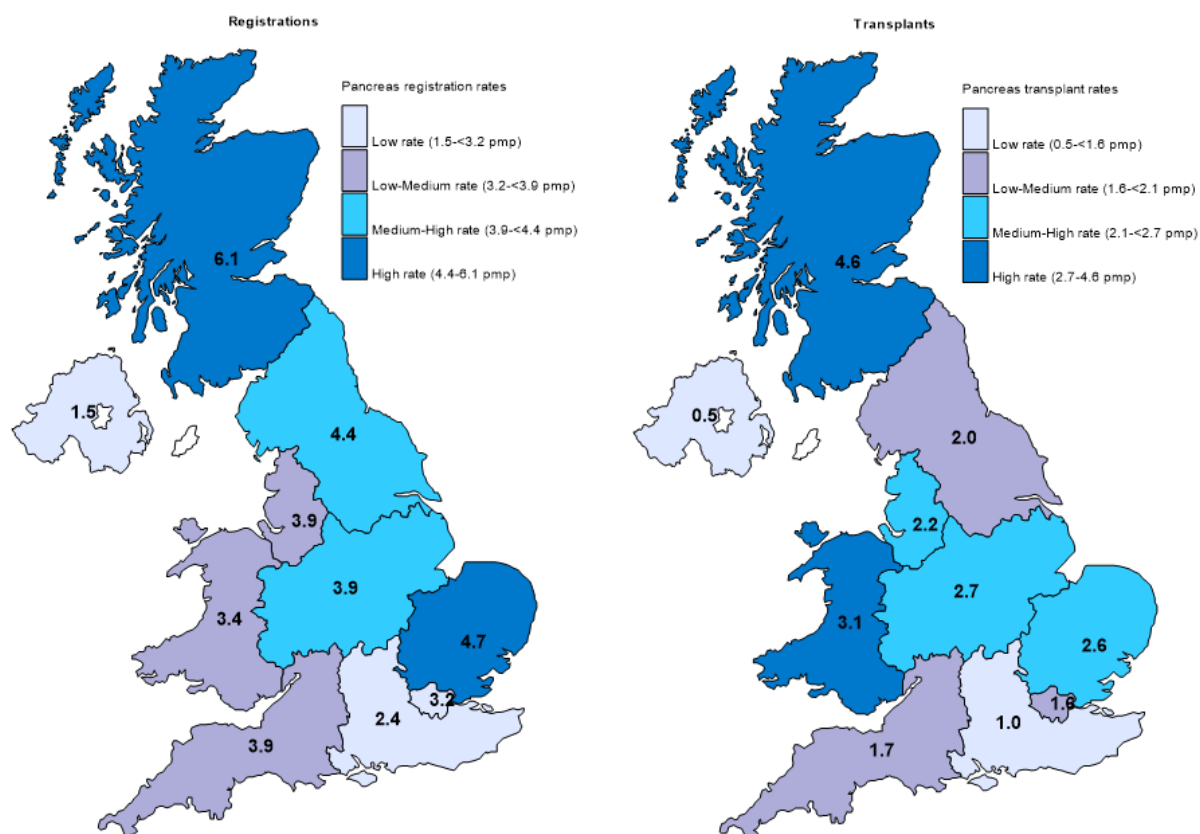


Table 2.1 Pancreas and islet registration and transplant rates per million population (pmp) in the UK, 1 April 2025 - 31 March 2026, by Country/NHS region

Country/NHS region	Registrations (pmp)		Transplants (pmp)	
North East and Yorkshire	37	(4.4)	17	(2.0)
North West	30	(3.9)	17	(2.2)
Midlands	44	(3.9)	30	(2.7)
East of England	31	(4.7)	17	(2.6)
London	29	(3.2)	15	(1.6)
South East	23	(2.4)	10	(1.0)
South West	23	(3.9)	10	(1.7)
England	217	(3.7)	116	(2.0)
Isle of Man	1	(12.5)	0	(0.0)
Channel Islands	0	(0.0)	0	(0.0)
Wales	11	(3.4)	10	(3.1)
Scotland	34	(6.1)	26	(4.6)
Northern Ireland	3	(1.5)	1	(0.5)
TOTAL	266	(3.8)	153	(2.2)

Pancreas transplant list

3.1 Patients on the pancreas transplant list as at 31 March, 2017 – 2026

Figure 3.1 shows the number of patients on the pancreas [transplant list](#) at 31 March each year from 2017. The number of patients actively waiting for a pancreas transplant was the highest in 2026 at 334, an increase of 61% from 208 in 2019 prior to the COVID-19 pandemic. The number of suspended patients has gradually decreased since the spike caused by COVID-19 in 2020.

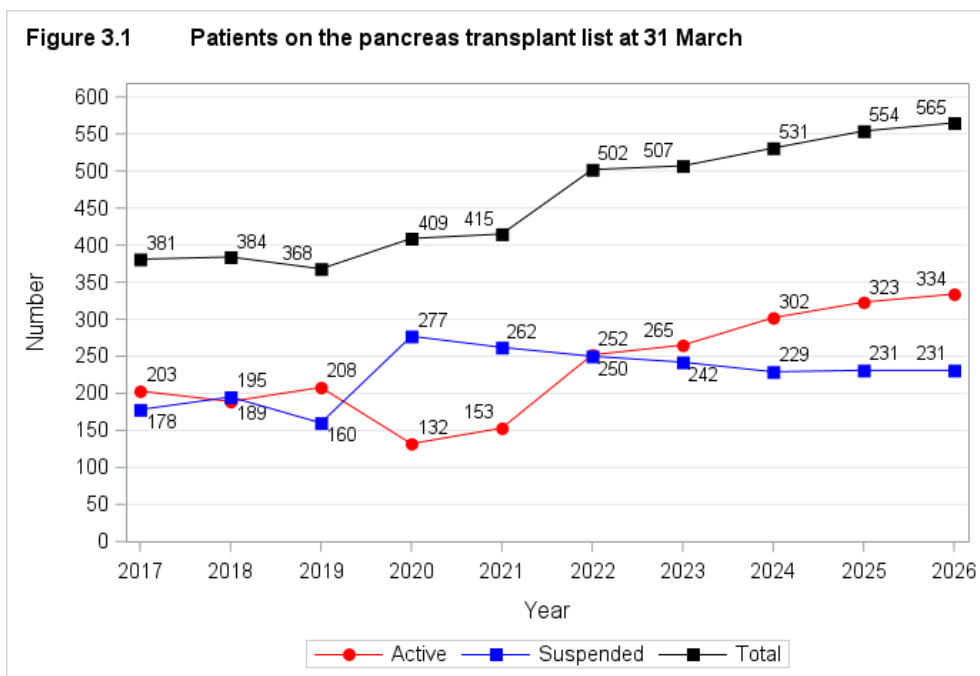


Figure 3.2 shows the number of patients on the active pancreas [transplant list](#) at 31 March 2026 by centre. Manchester had the largest proportion of the [transplant list](#) (34%), followed by Oxford with 20%.

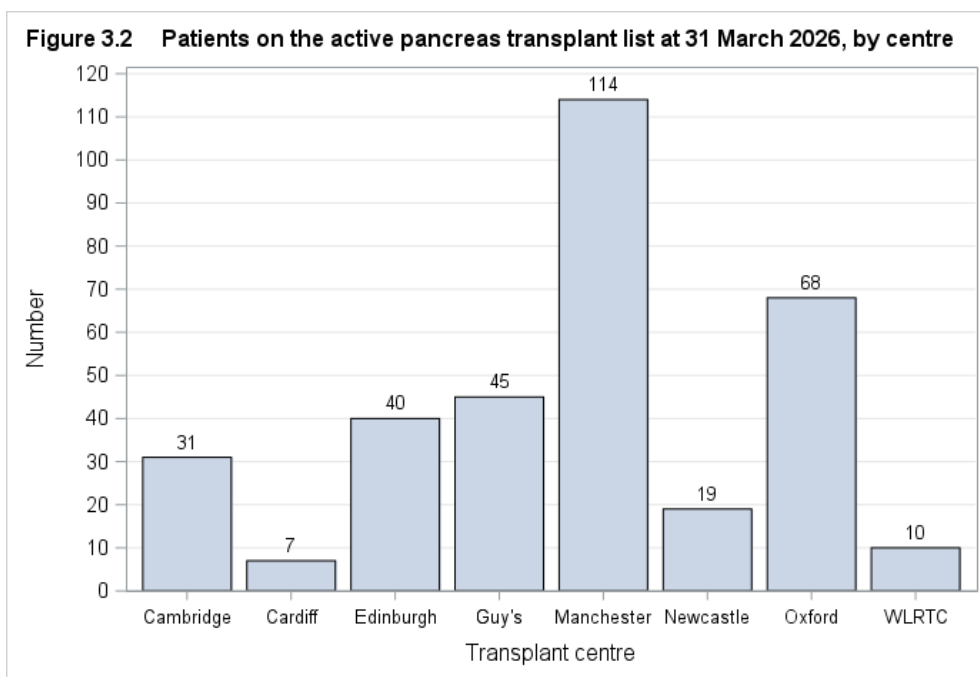
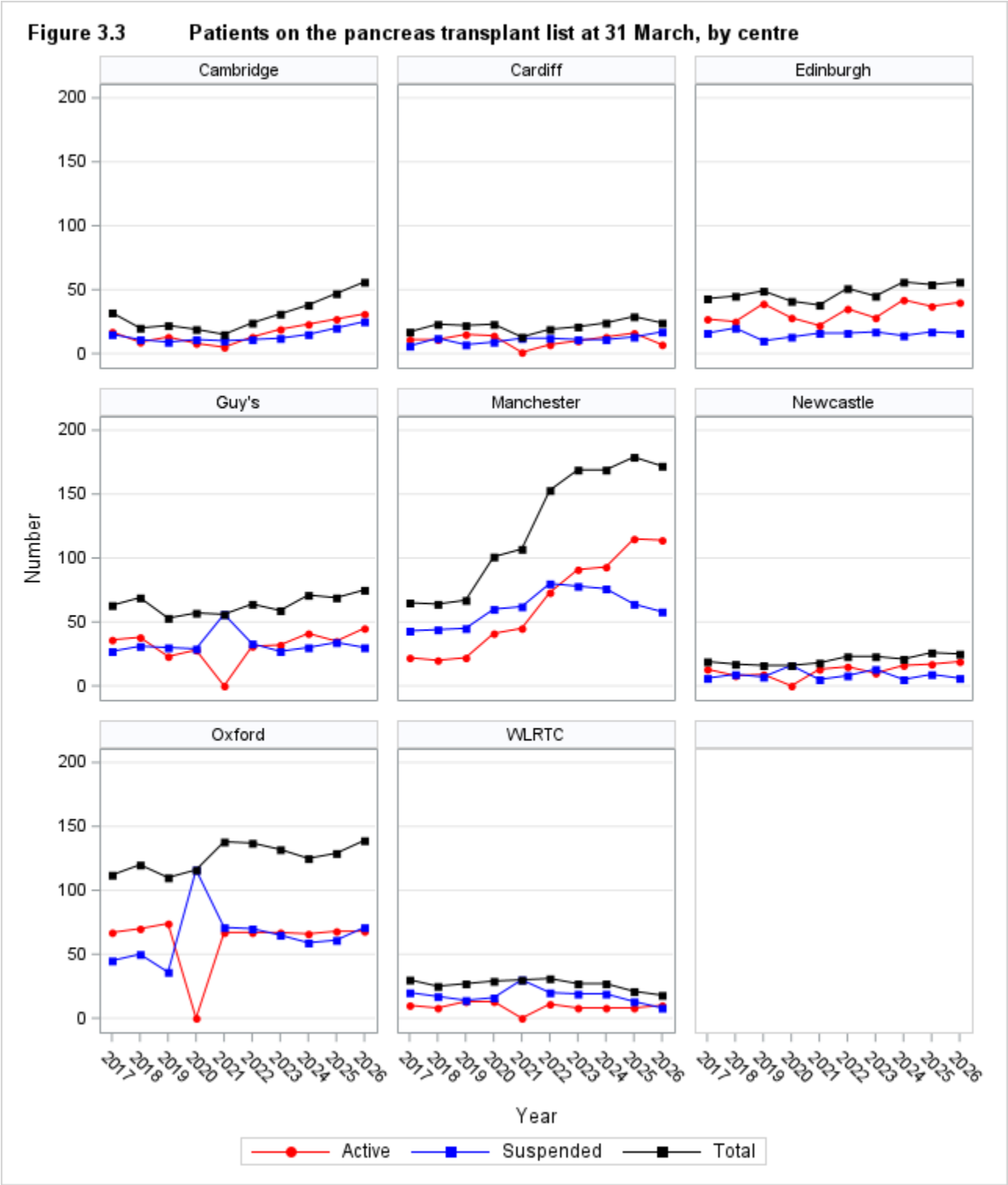


Figure 3.3 shows the number of patients on the pancreas [transplant list](#) at 31 March each year from 2017 by transplant centre. Manchester and Cambridge have seen an increase in the size of their pancreas [transplant list](#) in the last five years.



3.2 Post-registration outcomes, 1 April 2022 – 31 March 2023

An indication of outcomes for patients listed for a pancreas transplant is summarised in **Figure 3.4**. This shows the proportion of patients transplanted or still waiting one and three years after joining the list. It also shows the proportion removed from the [transplant list](#) (typically because they become too unwell for transplant or were transferred to other renal transplant lists) and patients who died while on the [transplant list](#).

There were 209 patients registered between 1 April 2022 and 31 March 2023 and 18% were transplanted within one year. Three years after listing only 44% of patients had received a transplant, 14% had been removed from the pancreas waiting list and 9% had died whilst waiting for a transplant.

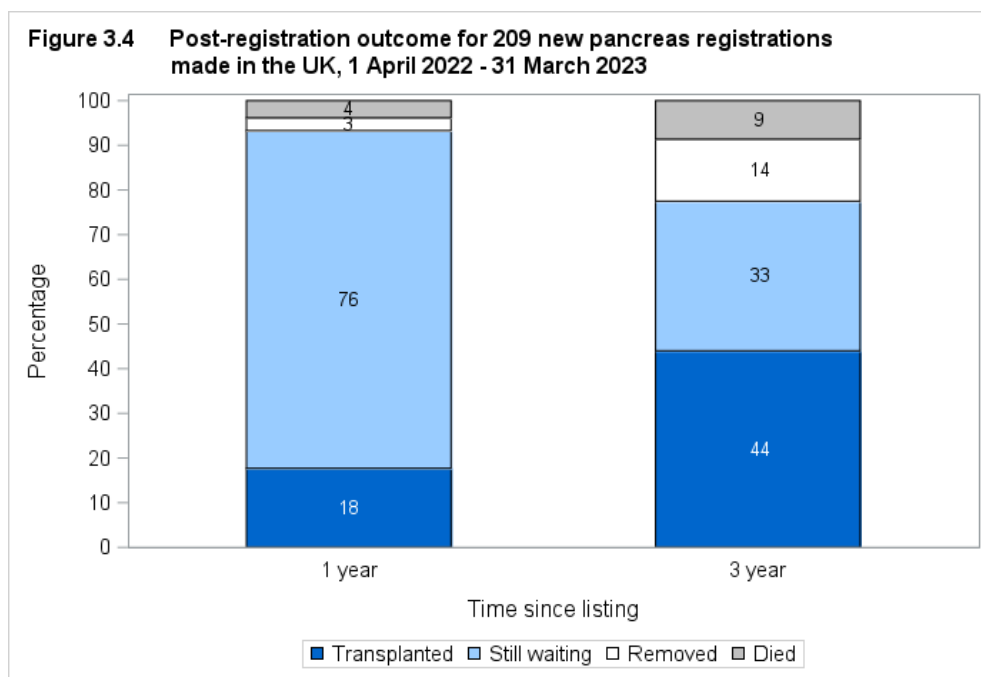
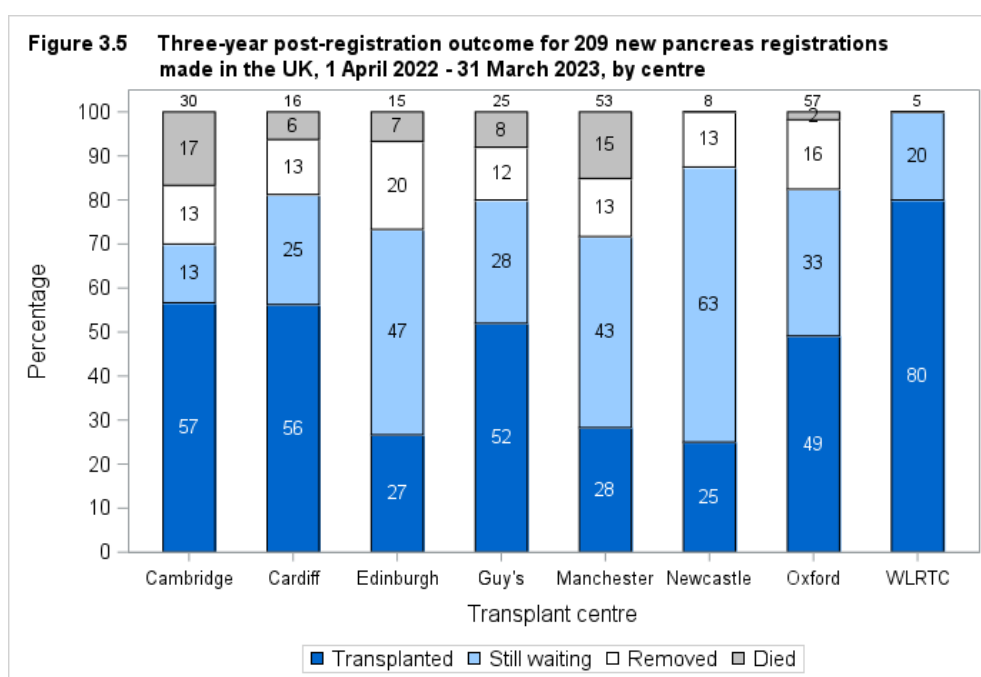


Figure 3.5 shows the proportion of patients transplanted or still waiting three years after joining the list by centre. Please note some centres had small numbers of new registrations in this time period. Of the centres with more than 10 patients, the percentage of patients transplanted at three years ranged from 27% at Edinburgh to 57% at Cambridge.



3.3 Demographic characteristics, 1 April 2025 – 31 March 2026

The sex, ethnicity, age group, [sensitisation](#) group ([cRF%](#)) and [matchability points score](#) group of patients registered on the pancreas [transplant list](#) in 2025/26 are shown by centre and overall for the UK in **Figures 3.6, 3.7, 3.8, 3.9** and **3.10** respectively.

Of the 206 patients registered on the pancreas transplant list, 199 (97%) were waiting for an SPK transplant. Of these SPK registrations, 61% were male, 82% were white, the median age was 40 years and the median [cRF](#) was 0%. Of the 7 (3%) patients on the pancreas only transplant list, 42% were male, 100% were white, the median age was 44 years and the median [cRF](#) was 0%. Note that all percentages quoted are based only on data where the relevant information was available. Sex was not reported for one patient, and ethnicity was not reported for 43 patients.

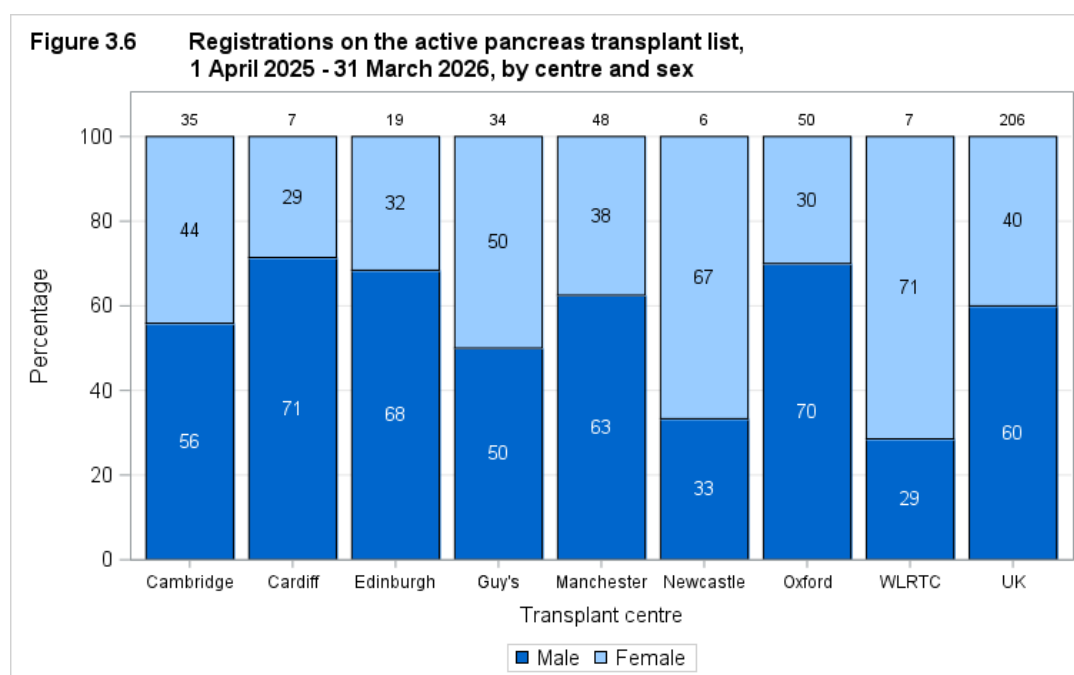


Figure 3.7 Registrations on the active pancreas transplant list, 1 April 2025 - 31 March 2026, by centre and ethnicity

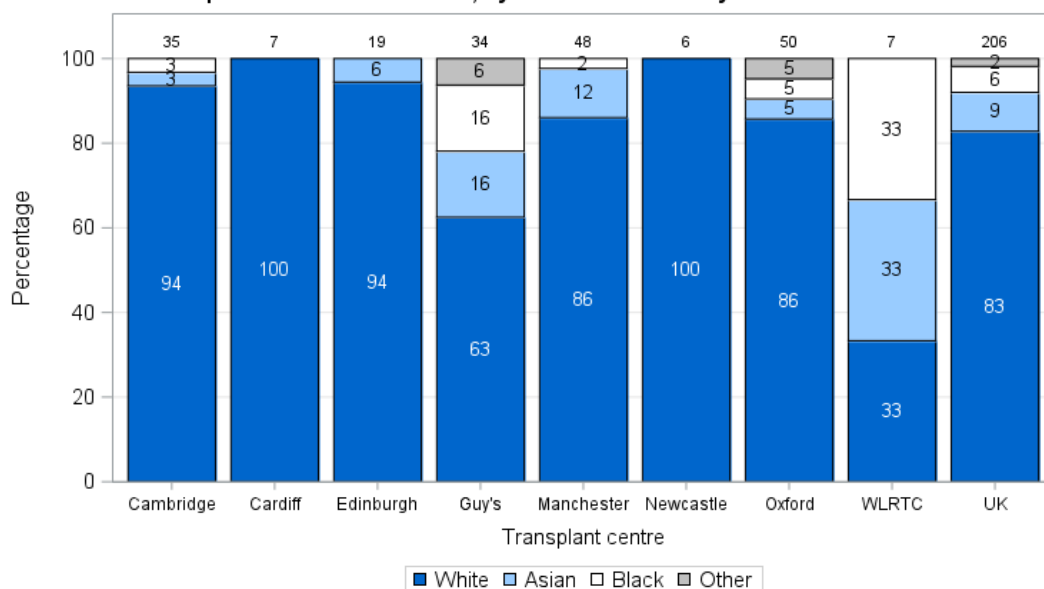


Figure 3.8 Registrations on the active pancreas transplant list, 1 April 2025 - 31 March 2026, by centre and age group

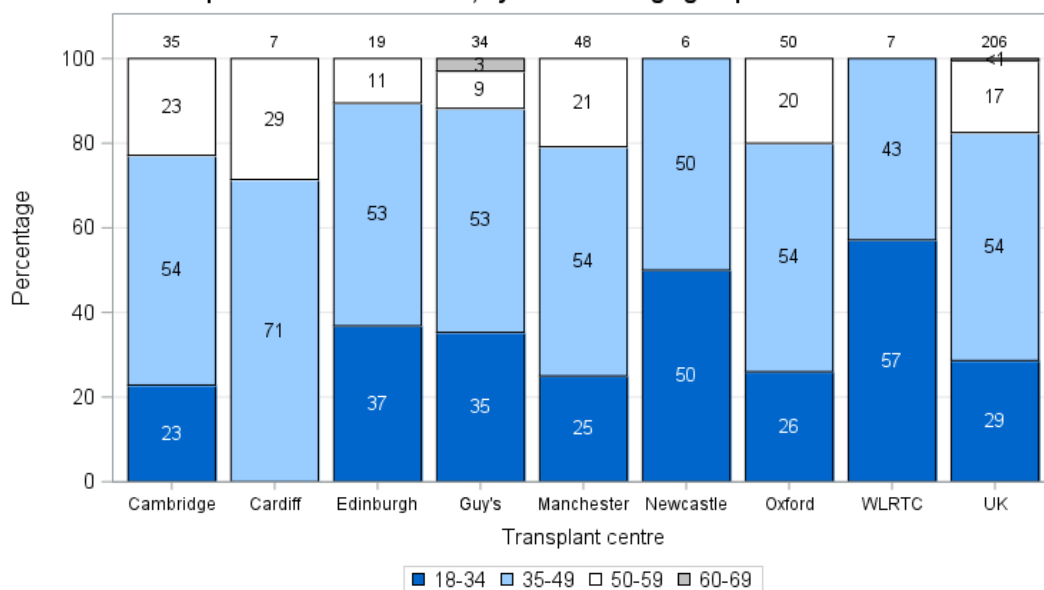


Figure 3.9 Registrations on the active pancreas transplant list, 1 April 2025 - 31 March 2026, by centre and sensitisation group (cRF%)

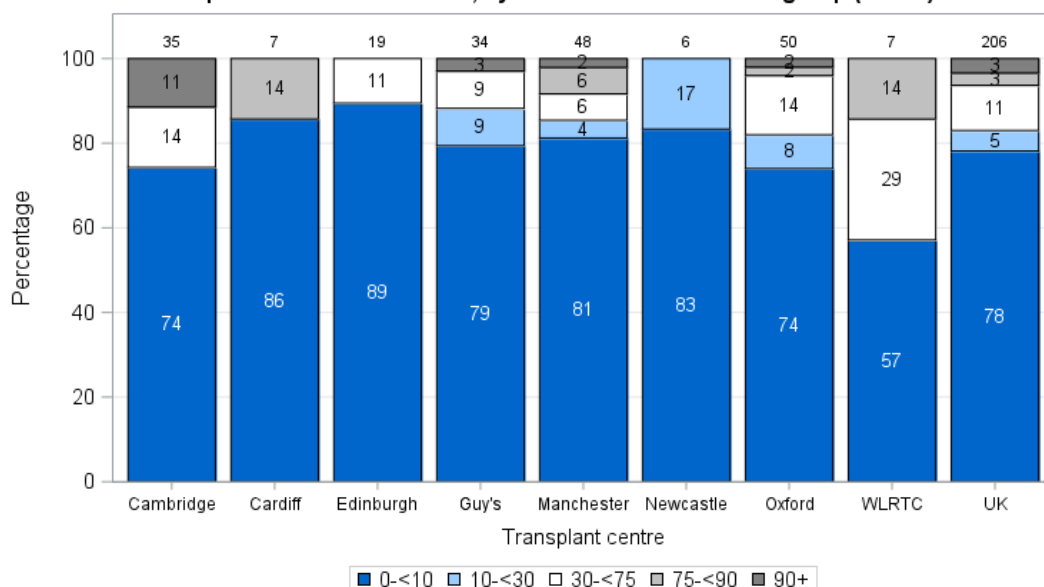
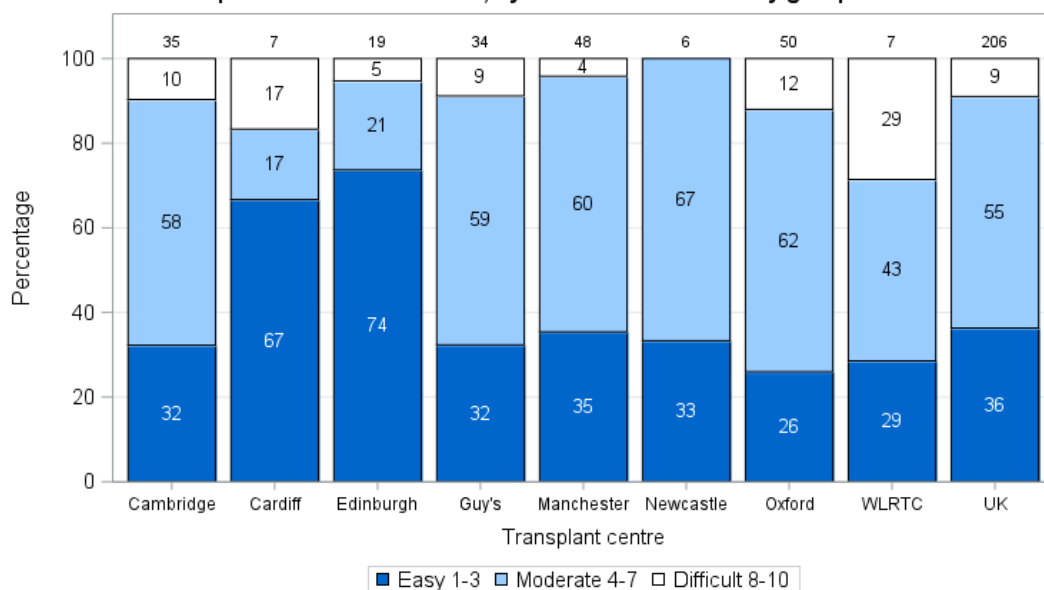
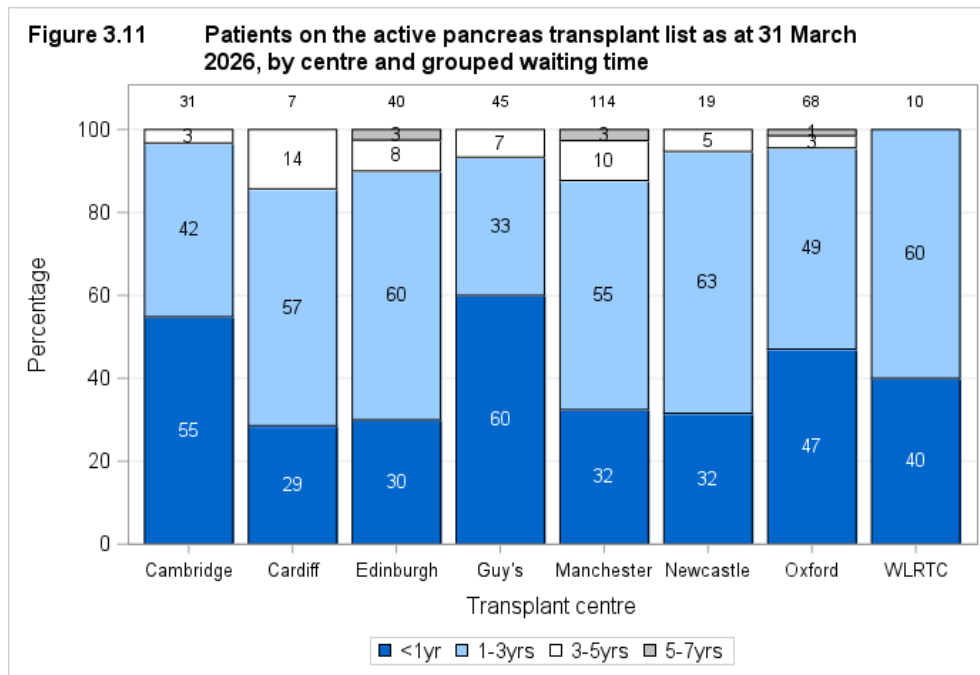


Figure 3.10 Registrations on the active pancreas transplant list, 1 April 2025 - 31 March 2026, by centre and matchability group



3.4 Patient waiting times for those currently on the list, 31 March 2026

Figure 3.11 shows the length of time active patients have been waiting on the pancreas [transplant list](#) at 31 March 2026 by centre. Most patients currently listed have been waiting between one and three years.



3.5 Median active waiting time to transplant, 1 April 2020 - 31 March 2024

The length of time a patient waits for a pancreas transplant varies across the UK. The [median](#) active waiting time for deceased donor pancreas transplantation is calculated using the [Kaplan-Meier method](#) and is shown in **Figure 3.12** and **Table 3.1** for patients registered at each individual centre.

The [median](#) active waiting time to transplant for patients registered on the pancreas [transplant list](#) between 1 April 2020 and 31 March 2024 is 597 days. This ranged from 205 days at Cambridge to 916 days at Edinburgh.

Figure 3.12 Median active waiting time to deceased donor transplant for patients registered on the pancreas transplant list, 1 April 2020 - 31 March 2024

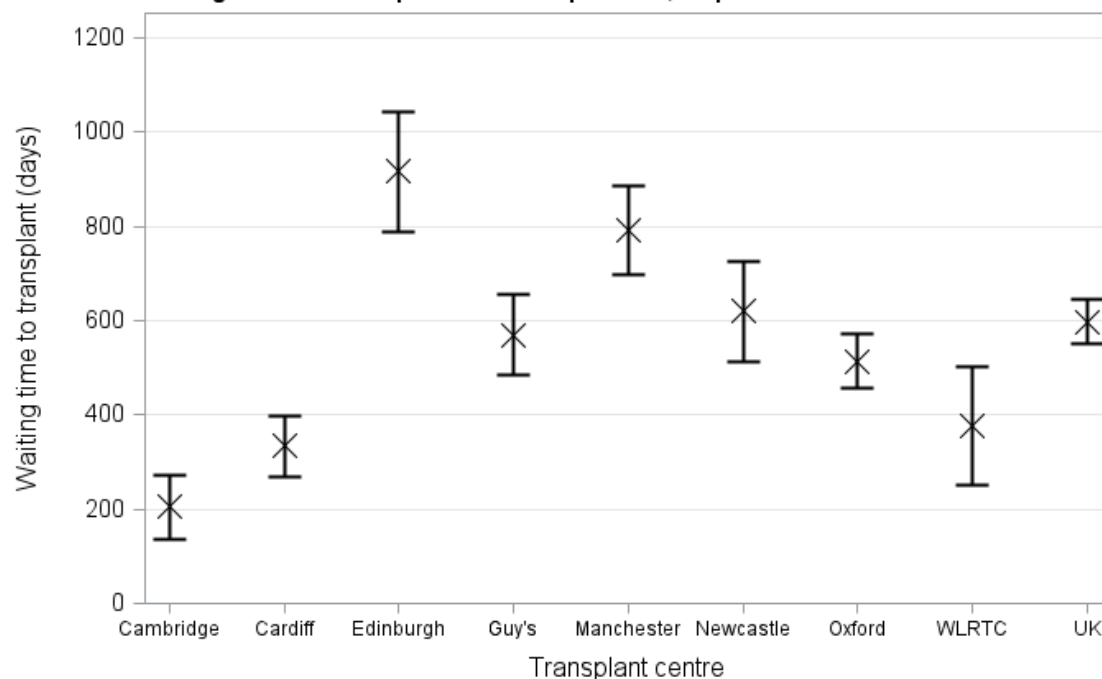


Table 3.1 Median active waiting time to pancreas transplant in the UK, for patients registered 1 April 2020 - 31 March 2024

Transplant centre	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Cambridge	114	205	138 - 272
Cardiff	45	334	269 - 399
Edinburgh	82	916	789 - 1043
Guy's	106	570	484 - 656
Manchester	204	792	698 - 886
Newcastle	43	620	514 - 726
Oxford	216	514	456 - 572
WLRTC	29	377	253 - 501
UK	839	597	550 - 644

Response to pancreas offers

4.1 Offer decline rates, 1 April 2023 – 31 March 2026

Pancreas offers from [DBD](#) and [DCD](#) donors whose pancreas was retrieved, offered directly on behalf of a named individual patient and resulted in transplantation were analysed separately. Any offers of pancreases ultimately declined for transplantation, pancreases offered for [multi-organ](#) or small bowel transplant were excluded, as were offers made through the fast track scheme or the reallocation of the pancreas.

[Funnel plots](#) are used to compare centre specific offer decline rates and indicate how consistent the rates of the individual transplant centres are with the national rate. Patient [case mix](#) is known to influence the number of offers a centre may receive. In this analysis however, only individual offers for named patients were considered which excluded any [ABO](#)- and [HLA](#)-incompatible patients. For this reason, it was decided not to risk adjust for known centre differences in patient [case mix](#).

Figure 4.1 compares individual centre [DBD](#) offer decline rates with the national rate over the time period, 1 April 2023 and 31 March 2026. Centres can be identified by the information shown in **Table 4.1**. The offer decline rate in the most recent year decreased to 46% from 61%. Edinburgh had an offer decline rate significantly higher than the national rate, however this improved to be 58% in the most recent year reported. Cambridge had an offer decline rate lower than the national average. All other centre decline rates were comparable with the national rate.

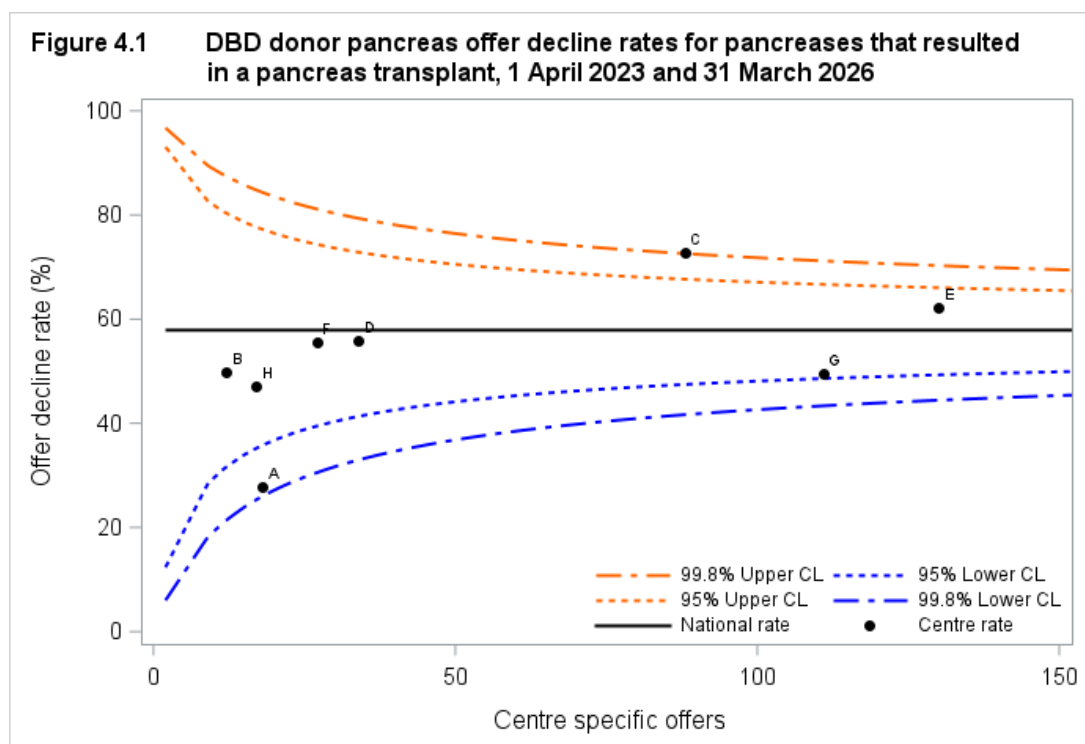


Table 4.1 compares individual centre [DBD](#) offer decline rates over time by financial year. The overall offer decline rate decreased from 62% in 2023/24 to 46% in 2025/26.

Centre	Code	2023/24		2024/25		2025/26		Overall	
		N	(%)	N	(%)	N	(%)	N	(%)
Cambridge	A	4	(25)	6	(33)	8	(25)	18	(28)
Cardiff	B	8	(38)	3	(67)	1	(100)	12	(50)
Edinburgh	C	34	(85)	28	(71)	26	(58)	88	(73)
Guy's	D	13	(69)	14	(57)	7	(29)	34	(56)
Manchester	E	54	(67)	44	(66)	32	(50)	130	(62)
Newcastle	F	10	(40)	12	(67)	5	(60)	27	(56)
Oxford	G	50	(52)	40	(55)	21	(33)	111	(50)
WLRTC	H	7	(43)	6	(50)	4	(50)	17	(47)
UK		180	(62)	153	(61)	104	(46)	437	(58)

	Centre has reached the upper 99.8% confidence limit
	Centre has reached the upper 95% confidence limit
	Centre has reached the lower 95% confidence limit
	Centre has reached the lower 99.8% confidence limit

Figure 4.2 compares individual centre [DCD](#) offer decline rates with the national rate over the time period, 1 April 2023 and 31 March 2026. The national offer decline rate was 54%, which was consistent over the three years. Edinburgh had an offer decline rate higher than the national rate, whereas Cambridge had an offer decline rate lower than the national average. Centres can be identified by the information shown in **Table 4.2**.

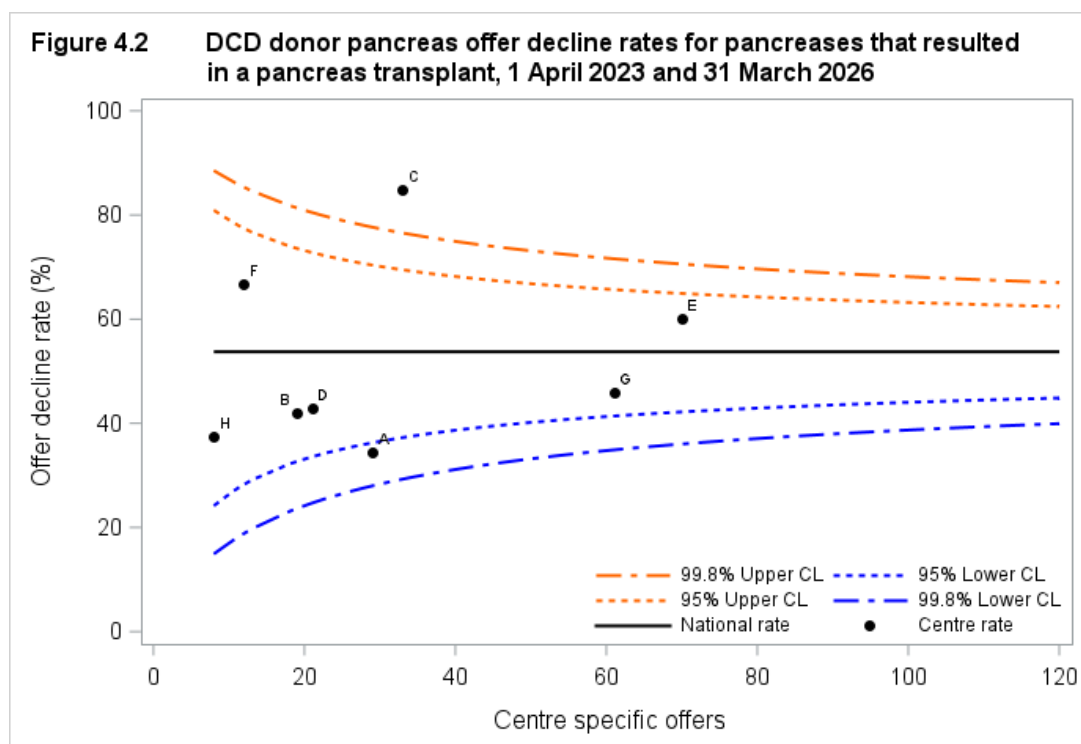


Table 4.2 compares individual [DCD](#) centre offer decline rates over time by financial year.

Table 4.2 DCD donor pancreas offer decline rates by transplant centre, 1 April 2023 and 31 March 2026									
Centre	Code	2023/24		2024/25		2025/26		Overall	
		N	(%)	N	(%)	N	(%)	N	(%)
Cambridge	A	16	(31)	7	(43)	6	(33)	29	(34)
Cardiff	B	6	(50)	6	(33)	7	(43)	19	(42)
Edinburgh	C	14	(93)	7	(71)	12	(83)	33	(85)
Guy's	D	10	(50)	4	(25)	7	(43)	21	(43)
Manchester	E	29	(59)	17	(76)	24	(50)	70	(60)
Newcastle	F	6	(67)	5	(60)	1	(100)	12	(67)
Oxford	G	25	(44)	21	(48)	15	(47)	61	(46)
WLRTC	H	3	(33)	3	(33)	2	(50)	8	(38)
UK		109	(54)	70	(54)	74	(53)	253	(54)
Centre has reached the upper 99.8% confidence limit Centre has reached the upper 95% confidence limit Centre has reached the lower 95% confidence limit Centre has reached the lower 99.8% confidence limit									

Pancreas transplants

5.1 Pancreas transplants, 1 April 2016 – 31 March 2026

Figure 5.1 shows the total number of pancreas transplants performed in the last ten financial years, by type of donor. There were 124 pancreas transplants performed in 2025/26. In 2025/26 there were 51 (41%) [DCD](#) transplants, this is an increase compared to 39 (33%) [DCD](#) transplants in 2024/25. In 2016/17, 74% of transplants were [DBD](#) transplants, however, this has decreased to 59% in 2025/26.

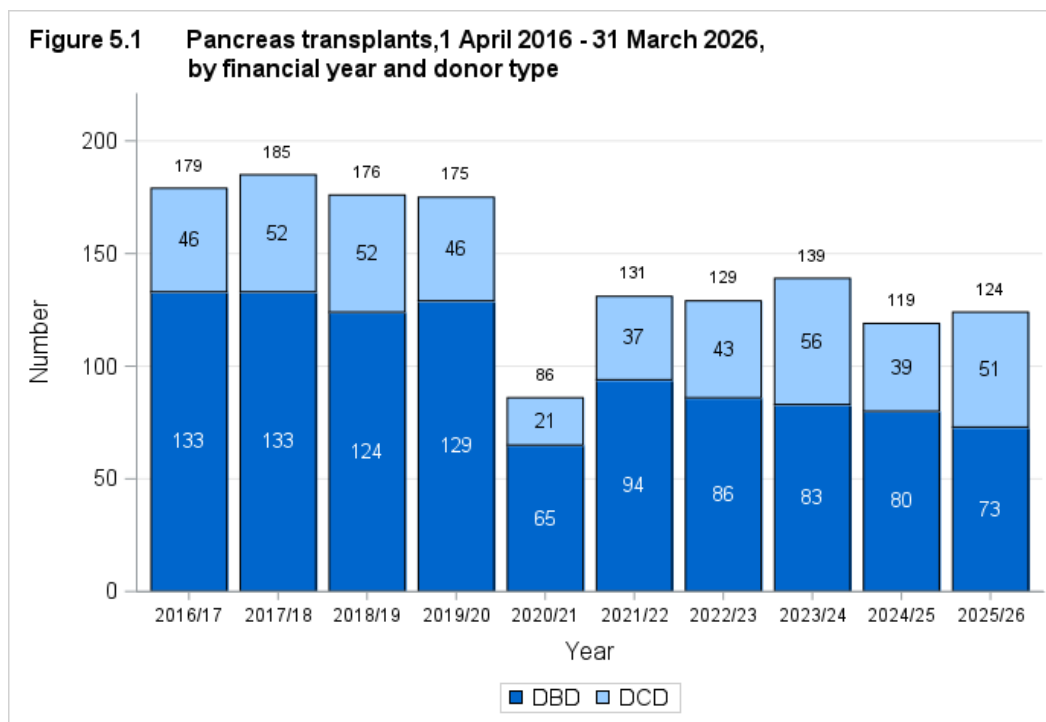


Figure 5.2 shows the total number of pancreas transplants performed in 2025/26, by centre and type of donor. The same information is presented in **Figure 5.3** but this shows the proportion of [DBD](#) and [DCD](#) transplants performed at each centre. Oxford performed the most [DBD](#) and [DCD](#) transplants (n=33). Although overall numbers are small, Cardiff performed the highest proportion of [DCD](#) transplants with 5 (71%) [DCD](#) transplants compared to two [DBD](#) transplants.

Figure 5.2 Pancreas transplants, 1 April 2025 - 31 March 2026, by centre and donor type

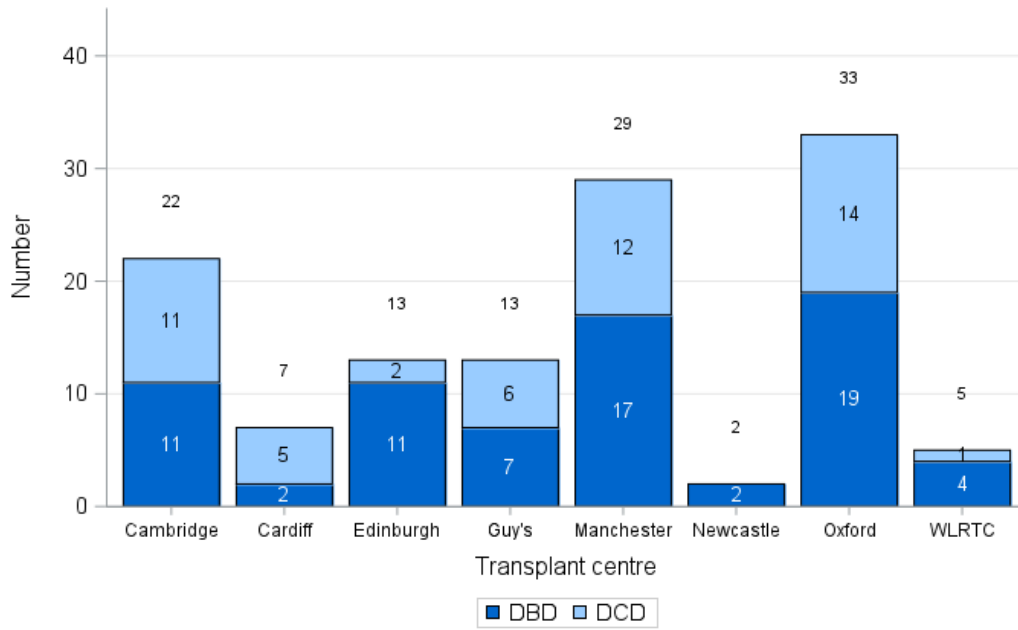


Figure 5.3 Pancreas transplants, 1 April 2025 - 31 March 2026, by centre and donor type

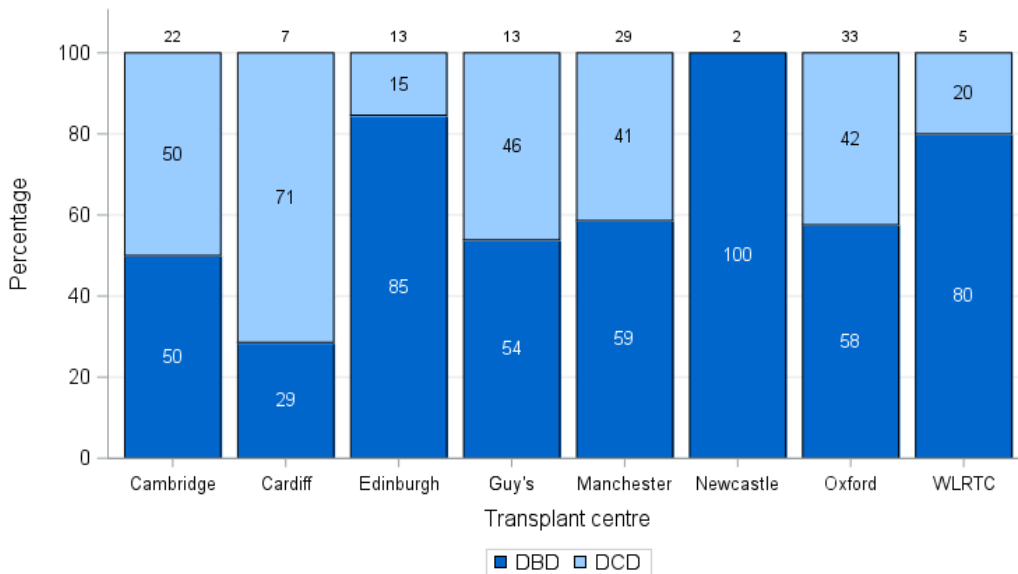
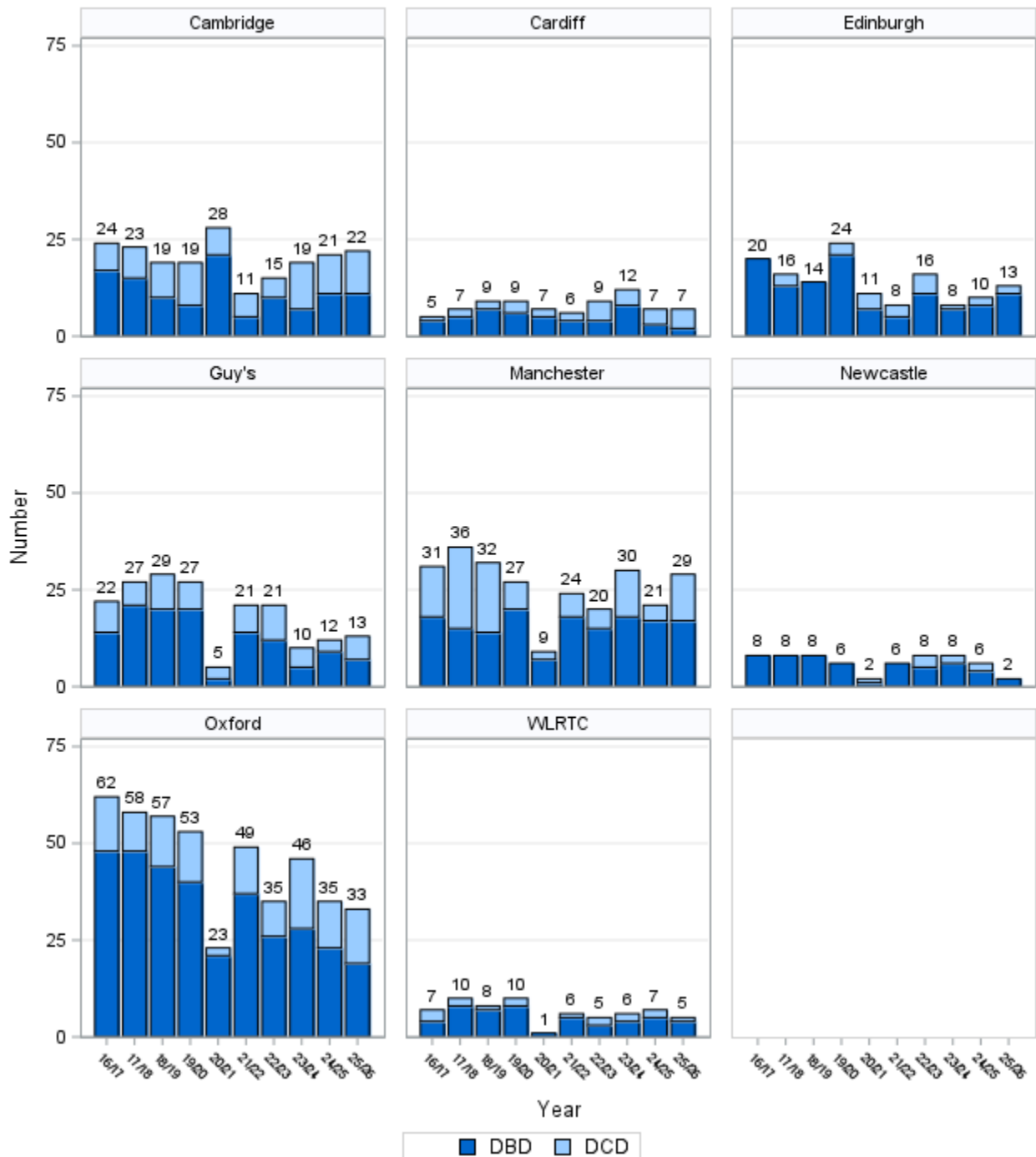


Figure 5.4 shows the total number of pancreas transplants performed in the last ten financial years, by centre and type of donor. Whilst some centres have seen a decline in pancreas transplant activity over the last decade, others are performing a similar number of transplants in the most recent years when compared to ten years ago.

Figure 5.4 Pancreas transplants, 1 April 2016 - 31 March 2026, by centre, financial year and donor type



5.2 Demographic characteristics, 1 April 2025 - 31 March 2026

The sex, ethnicity, age group, [sensitisation](#) group ([cRF](#)%) and [matchability points score](#) group of transplant recipients that received a pancreas transplant in 2025/26 are shown by centre in **Figures 5.5, 5.6, 5.7** and **5.8** respectively.

Overall, 124 patients were transplanted, with 115 (93%) SPK transplants. Of which 62% were male, 83% were white, the [median](#) age was 41 years, the [median cRF](#) was 0% and 16% were in the 'difficult' to match group.

Of the 9 (7%) patients transplanted as a pancreas only transplant, 55% were male, 100% were white, the [median](#) age was 44 years, the [median cRF](#) was 5% and none were in the 'difficult' to match group.

Note that all percentages quoted are based only on data where relevant information was available. Nine patients had no ethnicity data reported.

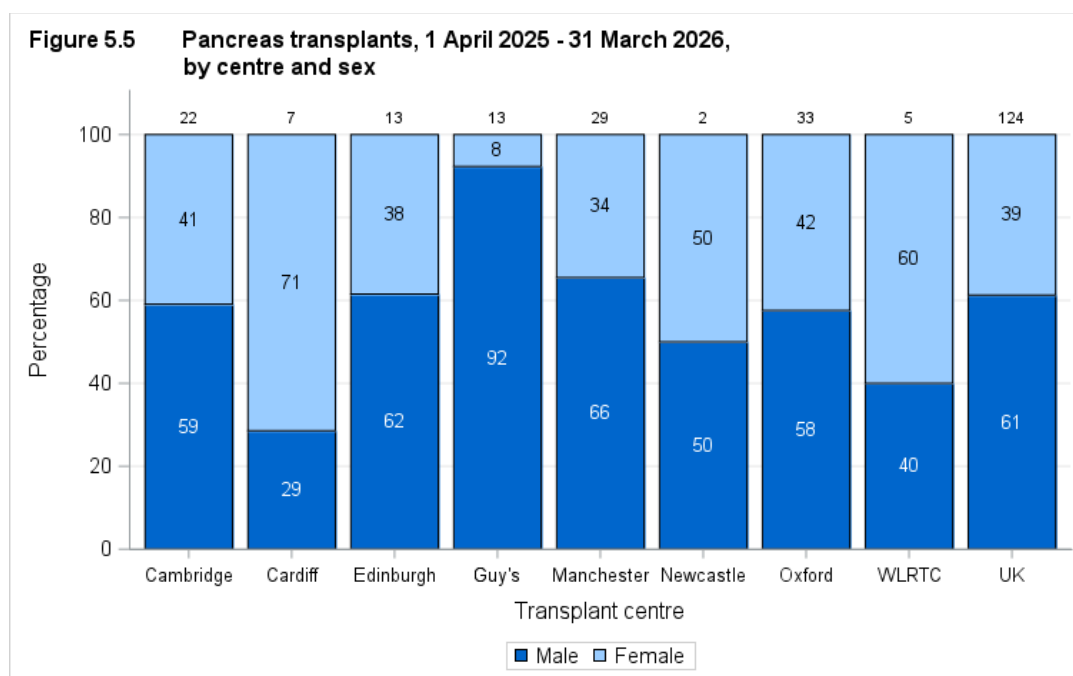


Figure 5.6 Pancreas transplants, 1 April 2025 - 31 March 2026, by centre and ethnicity

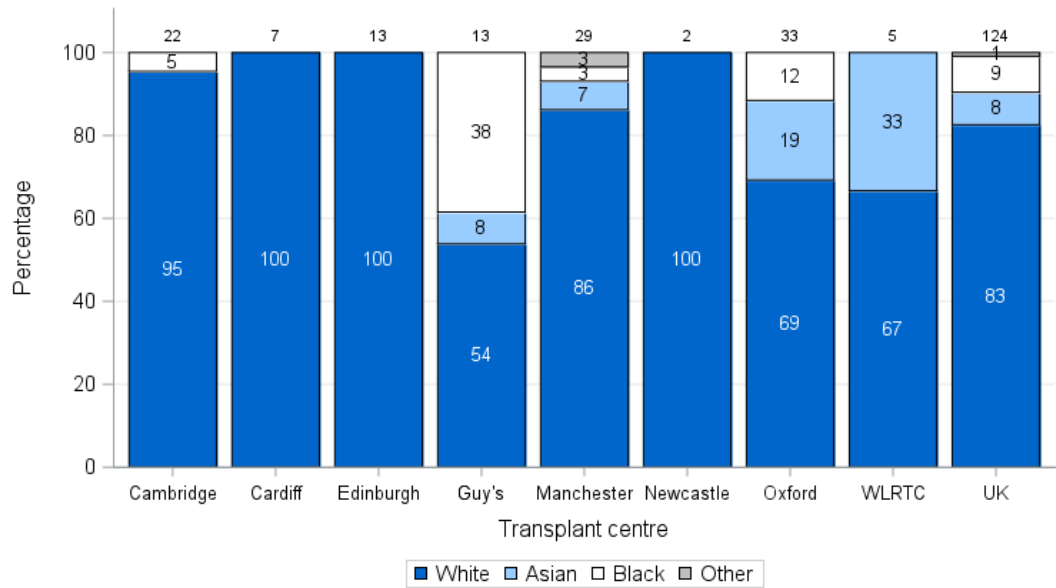


Figure 5.7 Pancreas transplants, 1 April 2025 - 31 March 2026, by centre and age group

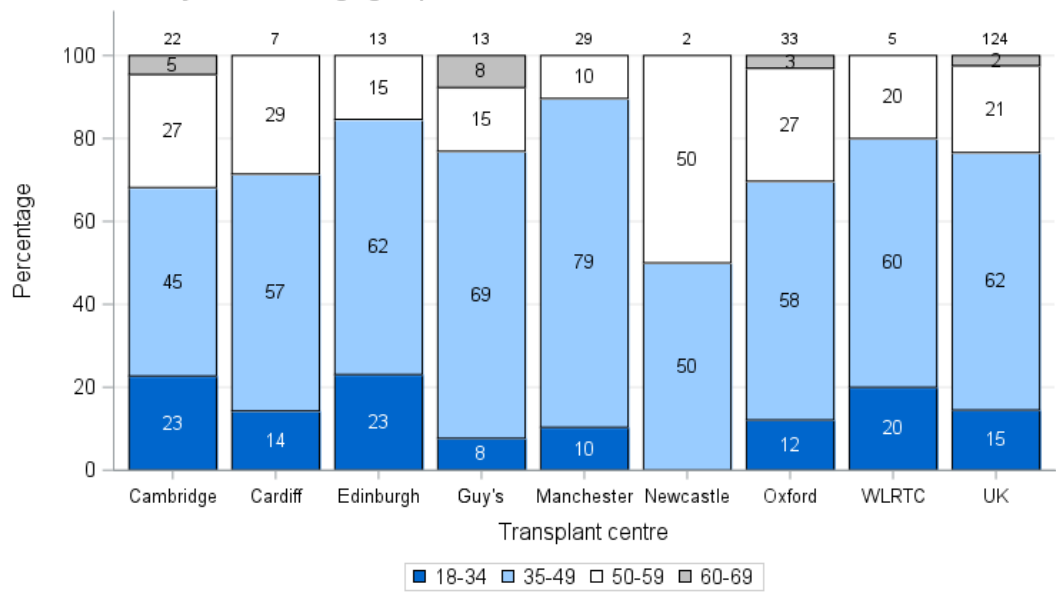


Figure 5.8 Pancreas transplants, 1 April 2025 - 31 March 2026, by centre and sensitisation (cRF%) group

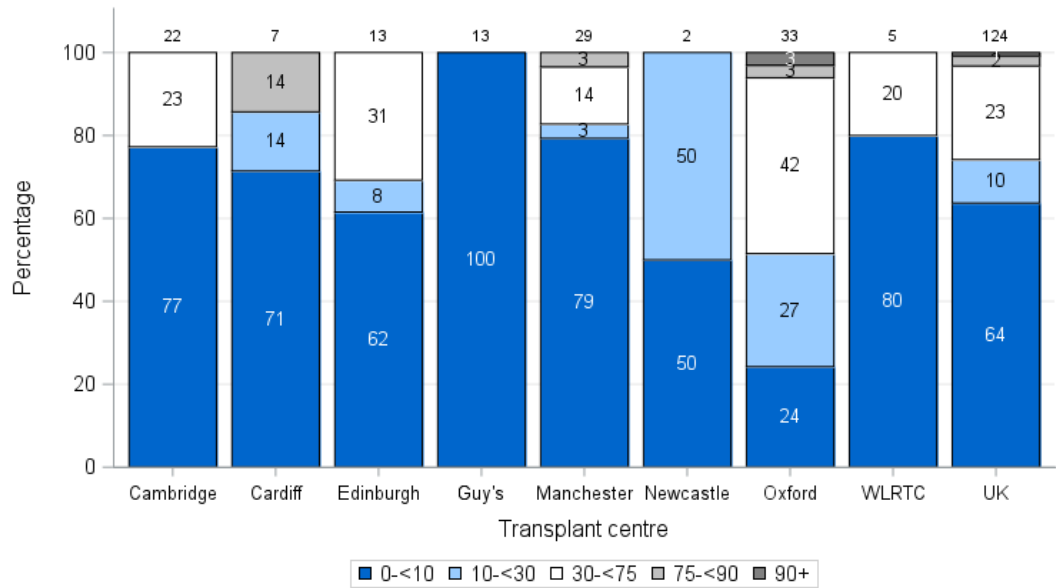
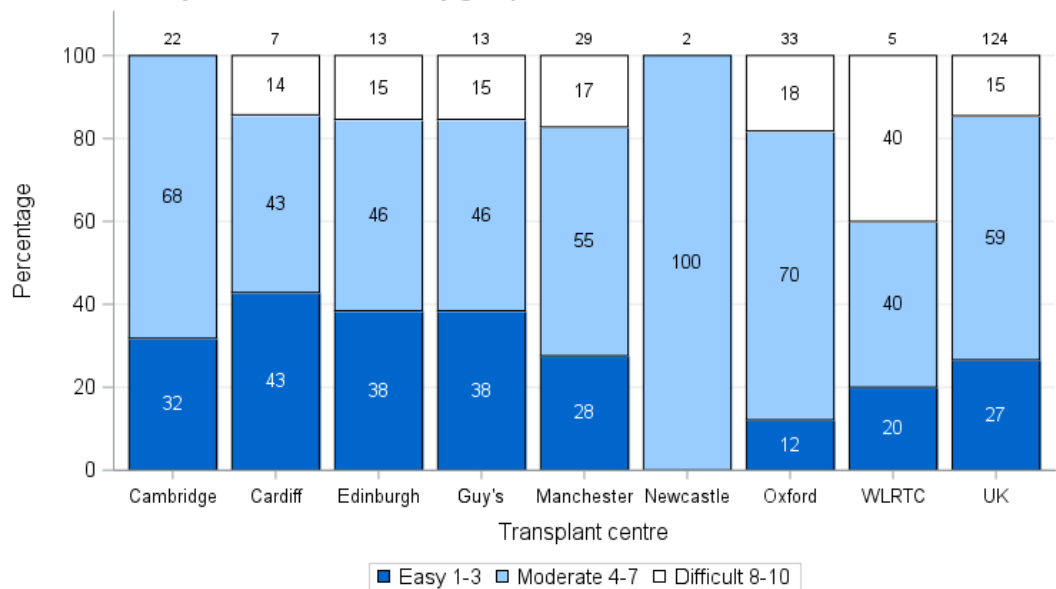


Figure 5.9 Pancreas transplants, 1 April 2025 - 31 March 2026, by centre and matchability group



5.3 Total preservation time, 1 April 2016 – 31 March 2026

Median total preservation times (TPT) are shown in addition to inter-quartile ranges in **Figures 5.10 to 5.15**. Fifty percent of the transplants will have a TPT within the inter-quartile range (indicated by a box). Where there is only one observation to report, the single data point is represented by a circle and the median for multiple observations is represented by a line. TPT values considered to be outliers within a particular group are represented by individual circles.

The total preservation times are as reported on the pancreas transplant record form and may include periods of machine perfusion; no adjustment has been made for this. Over this ten-year period, 107 (7%) of transplants were missing data for TPT.

Figure 5.10 shows the median total preservation time in DBD donor pancreas transplants over the last ten years. During this time period, the median total preservation time was 11 hours in most years.

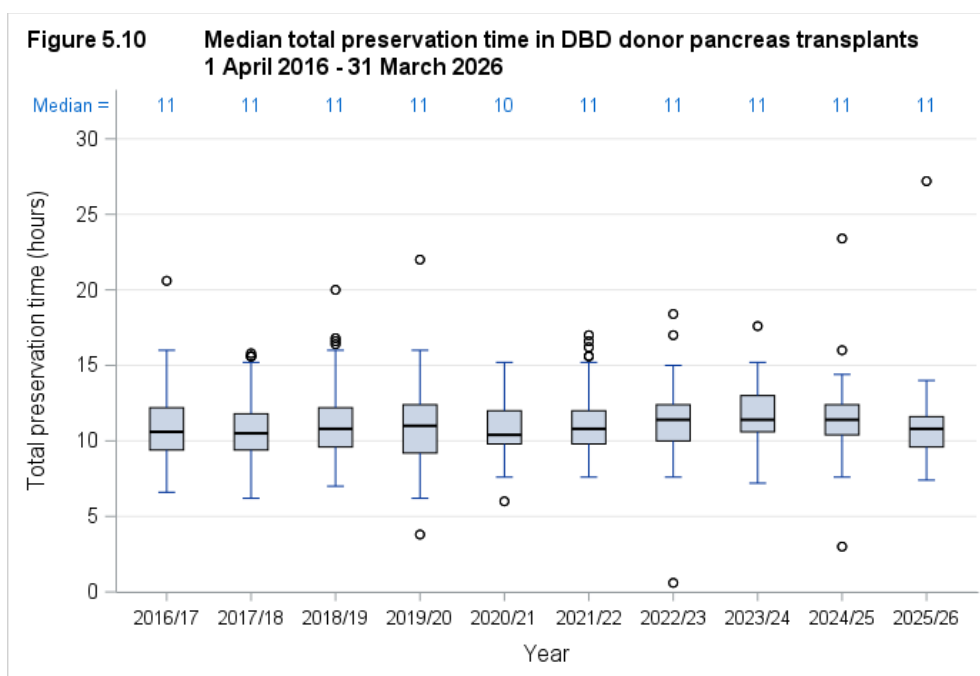


Figure 5.11 shows the median total preservation time (TPT) in DBD donor pancreas transplants in 2025/26 for each transplant centre. Please note the small numbers used in the calculations for each centre and interpret these results with caution. **Figure 5.12** shows the median total preservation time in DBD donor pancreas transplants over the last ten years for each transplant centre. Outliers have been excluded from this figure to improve the interpretation of the figure.

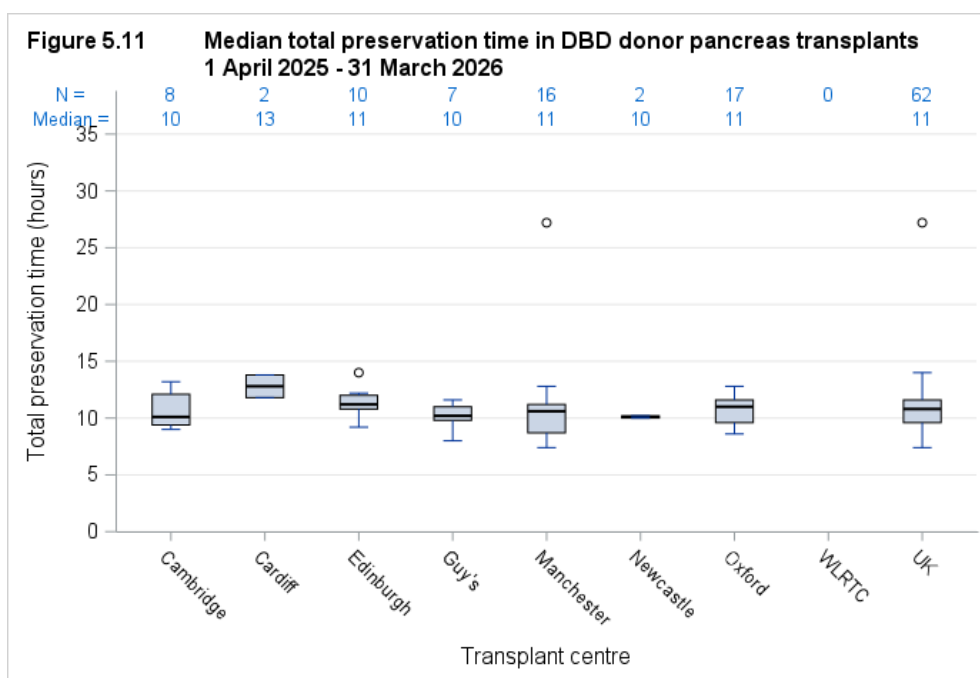


Figure 5.12 Median total preservation time in DBD donor pancreas transplants,
1 April 2016 - 31 March 2026

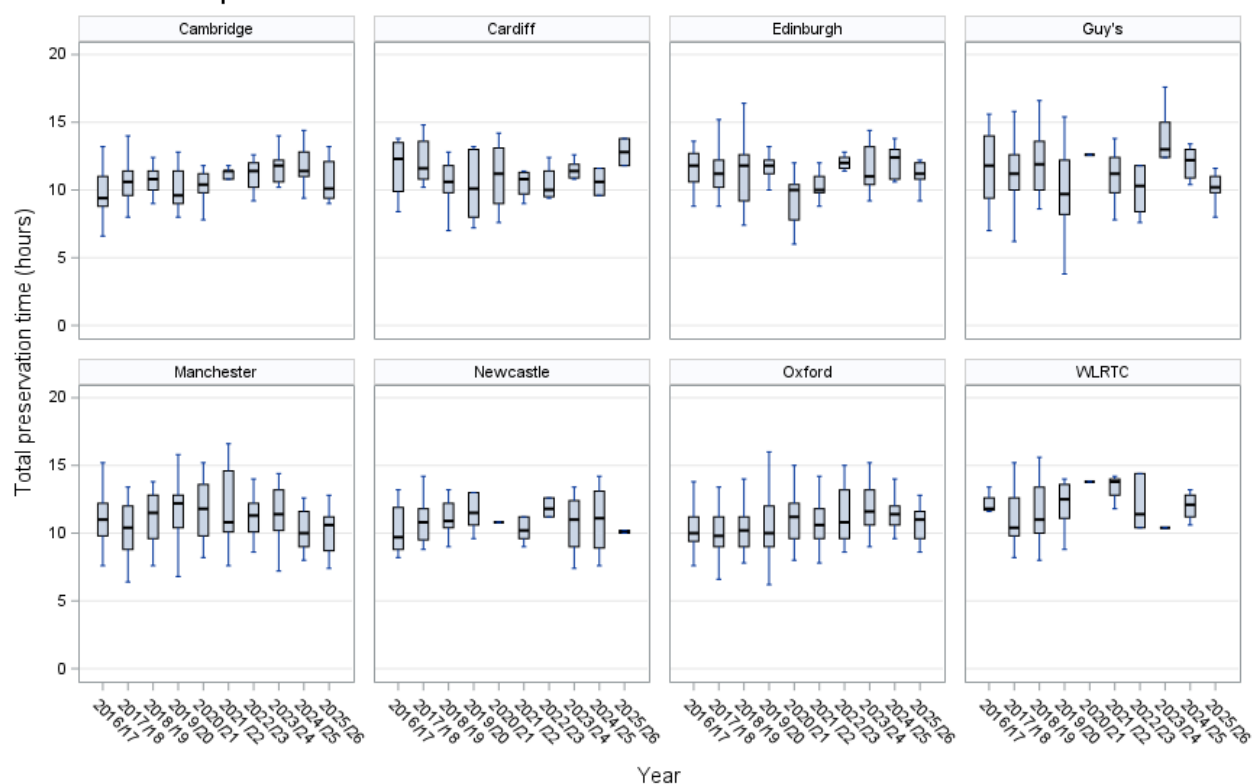


Figure 5.13 shows the [median](#) total preservation time ([TPT](#)) in [DCD](#) donor pancreas transplants over the last ten years. In most years the median [TPT](#) for [DCD](#) transplants was 10 hours.

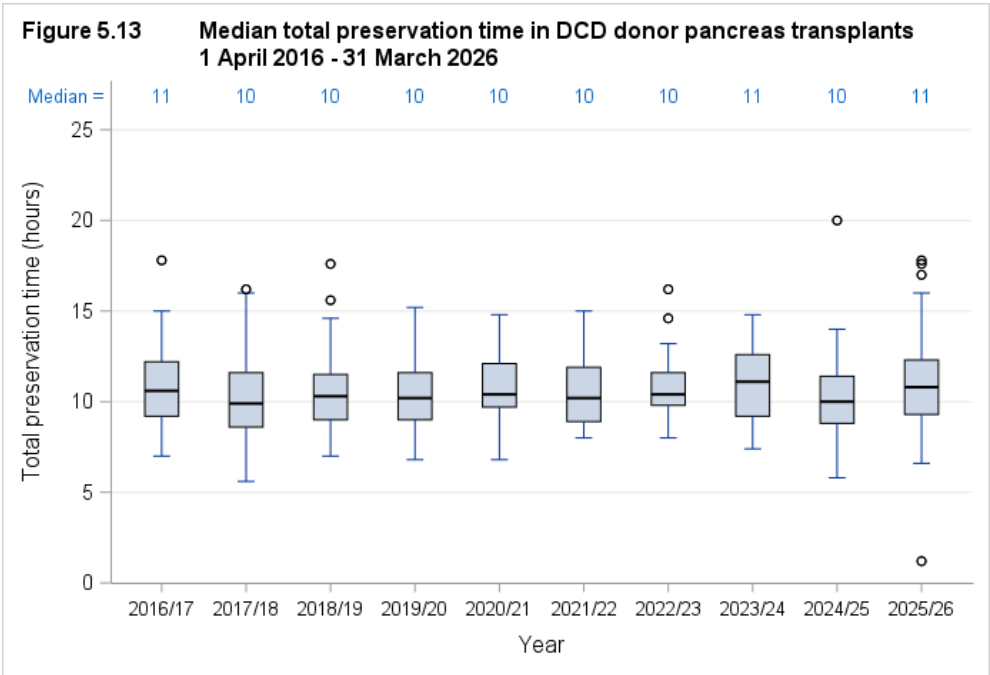


Figure 5.14 shows the [median](#) total preservation time ([TPT](#)) in [DCD](#) donor pancreas transplants in 2025/26 for each transplant centre. Please note the small numbers used in the calculations for each centre.

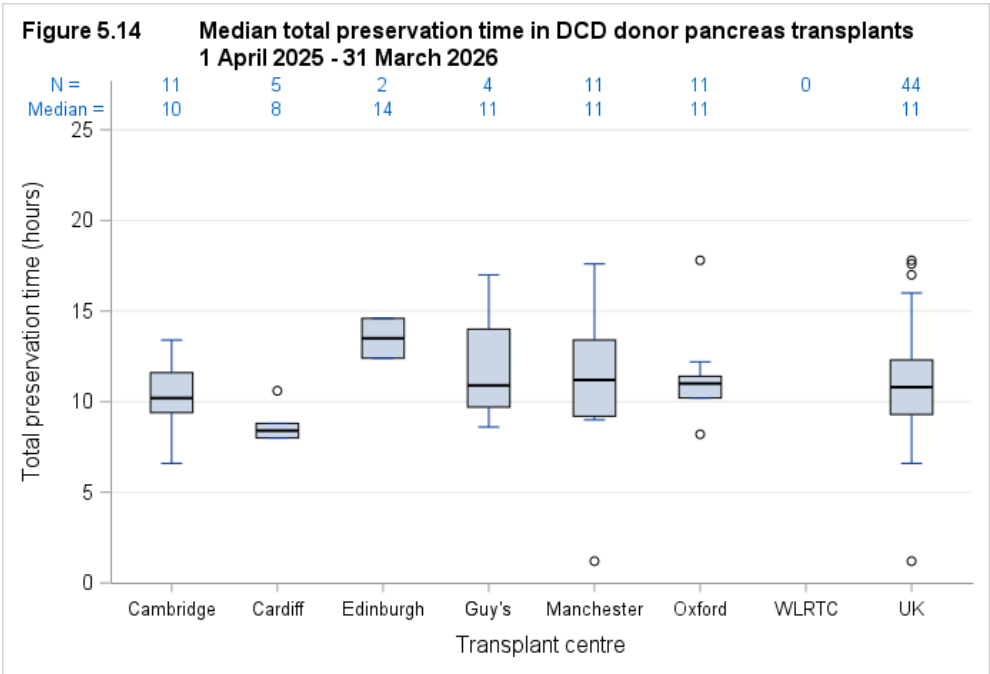
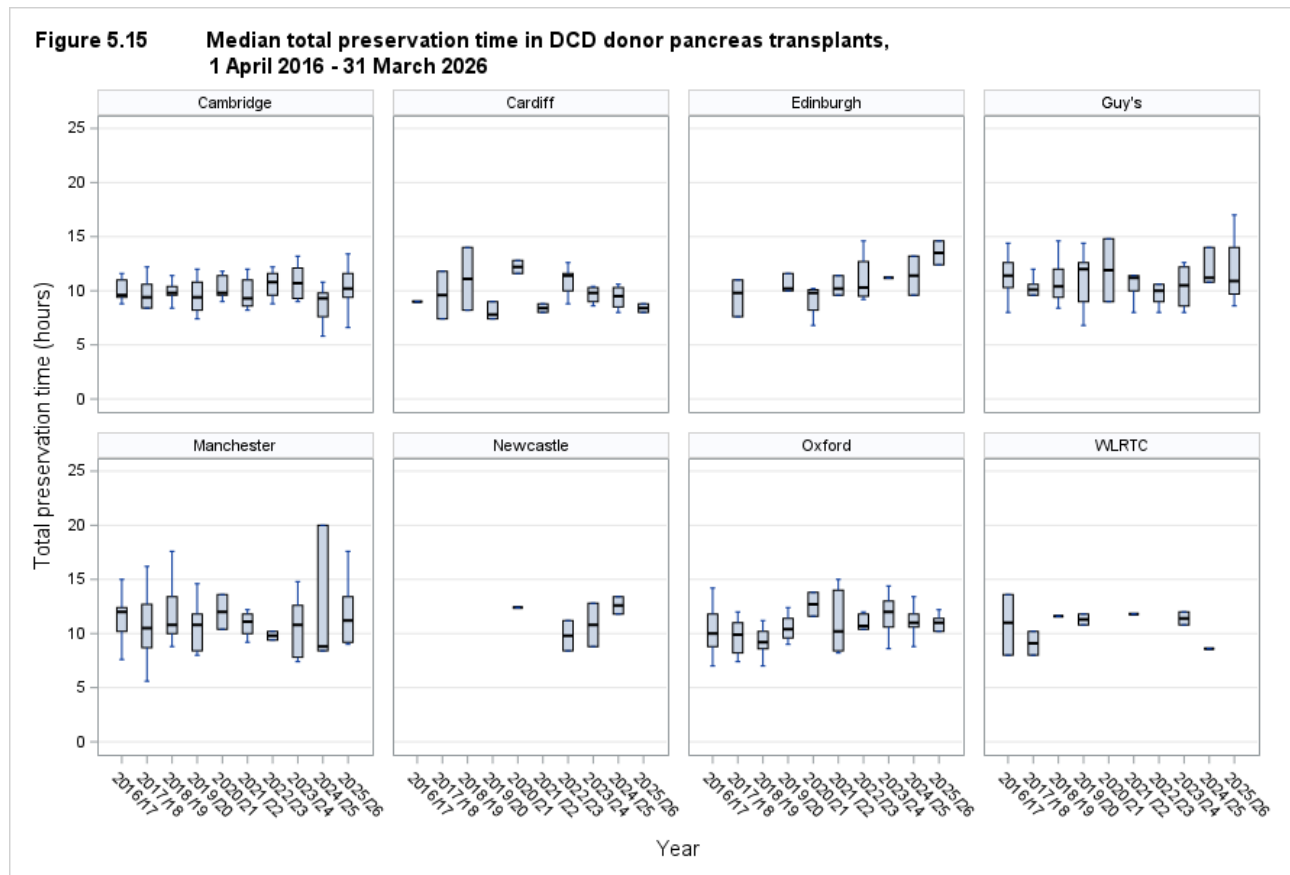


Figure 5.15 shows the [median](#) total preservation time ([TPT](#)) in [DCD](#) donor pancreas transplants for each transplant centre over the last ten years. The [median](#) total preservation time ([TPT](#)) has fluctuated in centres over the time period, due to the small number of transplants performed each year. Outliers have been excluded from this figure to improve interpretation of the figure.



Pancreas outcomes

6.1 Deceased donor graft and patient survival for first SPK transplant

[Funnel plots](#) are used to compare centre specific [risk-adjusted patient](#) and [graft](#) survival rates and indicate how consistent these rates are with the national survival rates. Note that some patients return to local renal units for follow-up care after their transplant and although survival is reported according to transplant unit, patients may in fact be followed up quite distantly from their transplant centre. It is important to note that adjusting for patient mix through the use of risk-adjustment models may not account for all possible causes of centre differences. There may be other factors that are not taken into account in the risk-adjustment process that may affect the survival rate of a particular centre.

The survival data used for these analyses is reported to NHSBT via follow-up forms and to ensure validity of the survival rates, it is essential these follow-up forms are returned. For the cohorts analysed, all centres presented had at least 70% of follow-up returned. Follow-up form return rates by centre, for forms issued during the 2025 calendar year, are presented in [Section 8](#).

Figures 6.1 and 6.2 compare individual centre survival estimates with the national rates for one-year [patient](#) and [graft](#) survival for deceased donor first SPK transplants. **Figures 6.3 and 6.4** compare five-year survival estimates. The [funnel plots](#) show that, for the most part, the centres lie within the [confidence limits](#). Some of the [funnel plots](#) show some centres to be above the upper 99.8% [confidence limit](#). This suggests that these centres have survival rates that are considerably higher than the national rate. Centres can be identified by the information shown in **Tables 6.1 and 6.2** for patient and graft survival, respectively. Note that the 5 year graft and patient survival for Cambridge were not presented due to insufficient follow-up reported, with 55% and 57% of follow-up forms returned respectively.

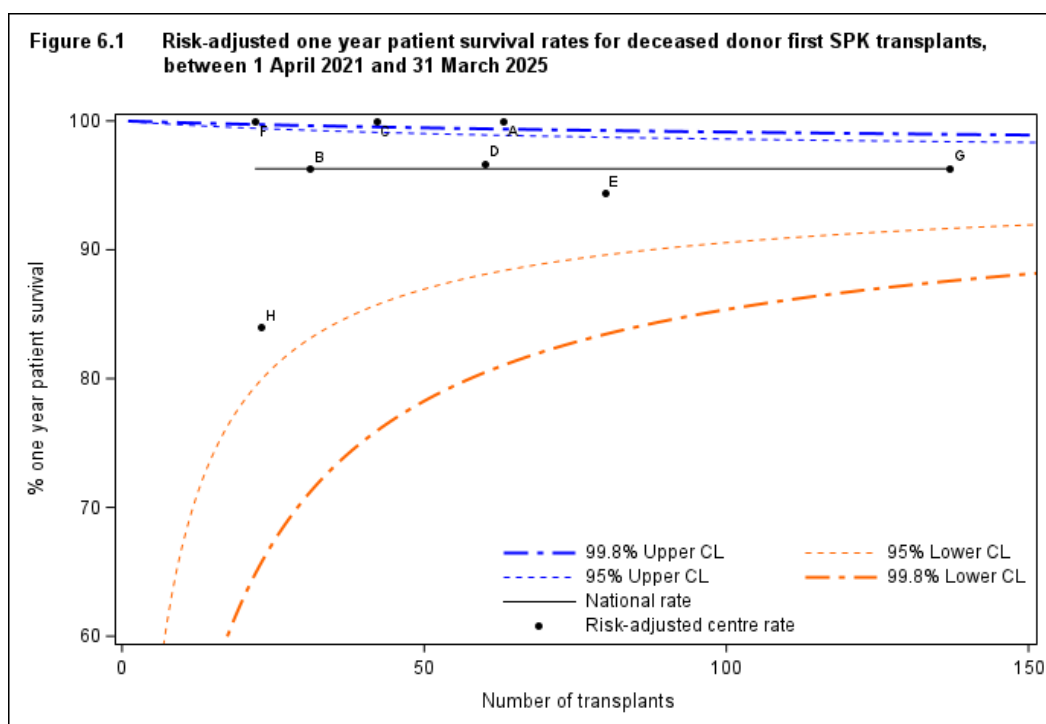


Figure 6.2 Risk-adjusted one year pancreas graft (death censored) survival rates for all deceased donor first SPK transplants, between 1 April 2021 and 31 March 2025

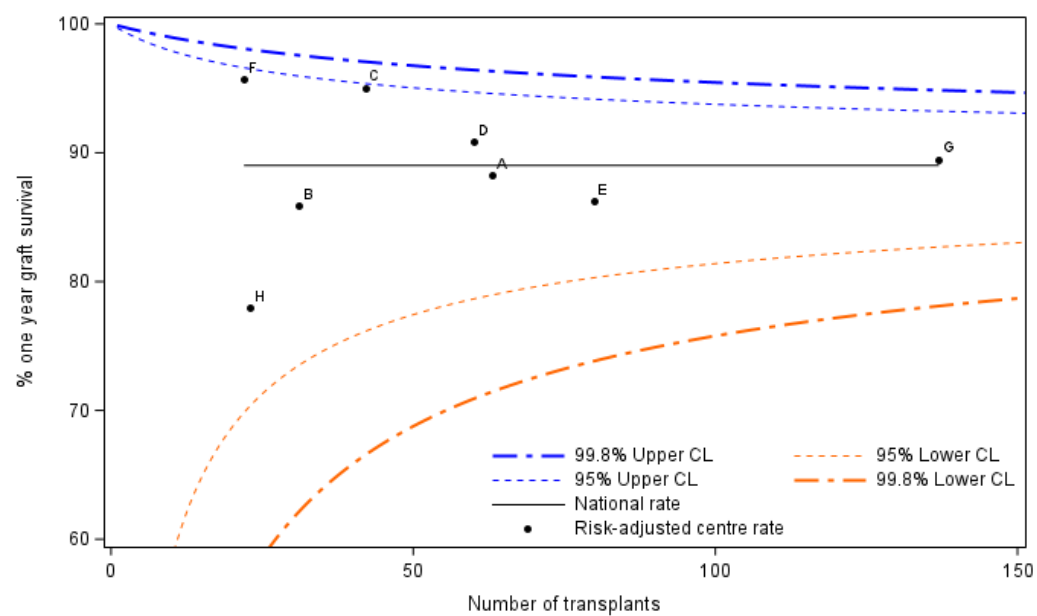


Figure 6.3 Risk-adjusted five year patient survival rates for deceased donor first SPK transplants, between 1 April 2017 and 31 March 2021

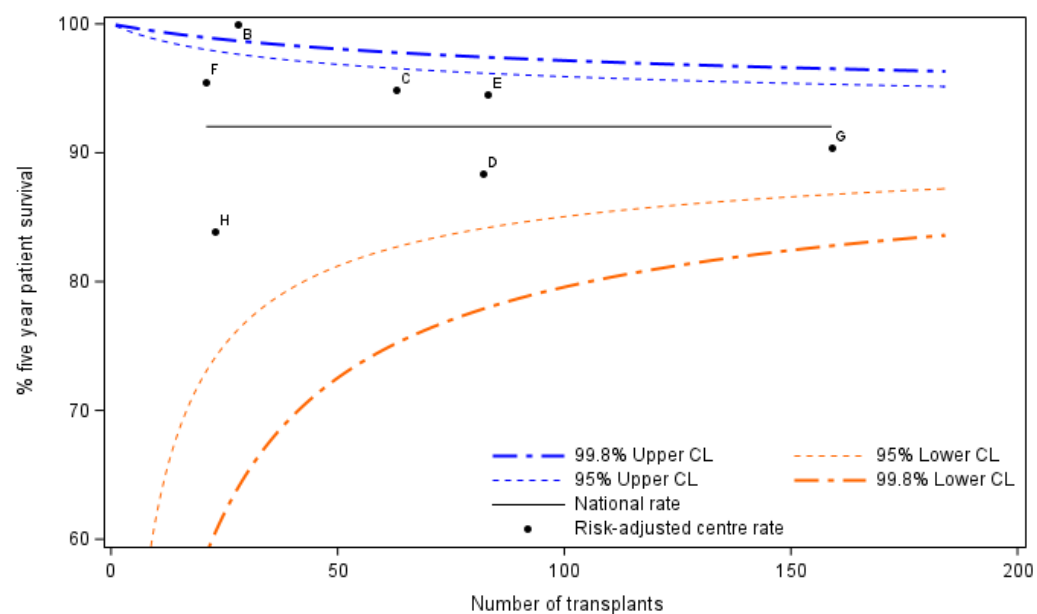


Figure 6.4 Risk-adjusted five year pancreas graft (death censored) survival rates for all deceased donor first SPK transplants, between 1 April 2017 and 31 March 2021

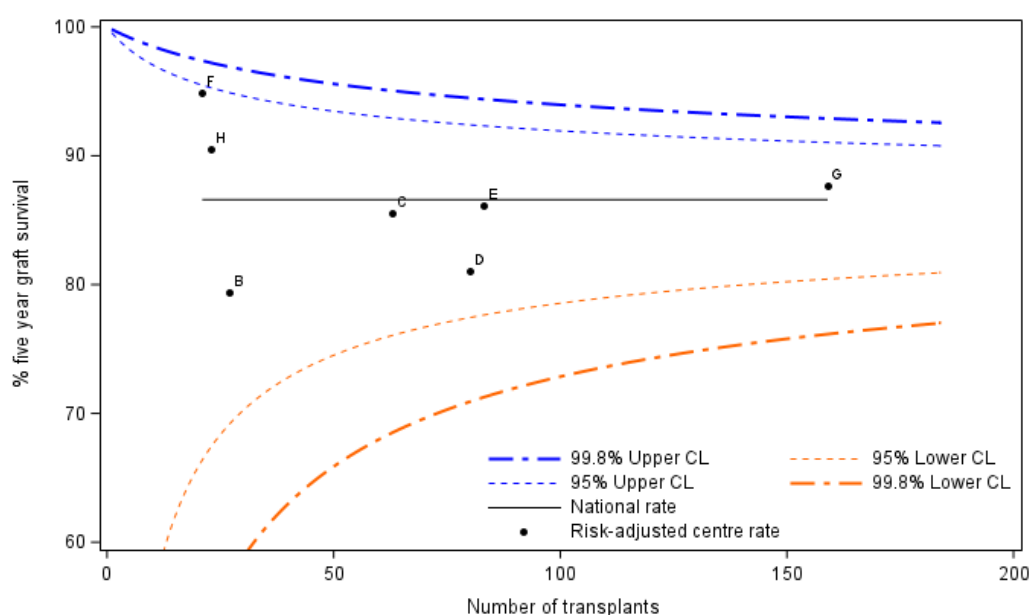


Table 6.1 Risk-adjusted one and five year patient survival for first SPK transplants using pancreases from deceased donors

Centre	Code	N	Patient survival			
			One-year*		Five-year**	
			%	(95% CI)	%	(95% CI)
Cambridge	A	63	100	N/A	-	-
Cardiff	B	31	96	(79 - 100)	28	100
Edinburgh	C	42	100	N/A	63	95
Guy's	D	60	97	(88 - 100)	82	88
Manchester	E	80	94	(86 - 98)	83	95
Newcastle	F	22	100	N/A	21	96
Oxford	G	137	96	(91 - 99)	159	90
WLRTC	H	23	84	(53 - 97)	23	84
UK		458	96	(94 - 98)	543	92

Centre has reached the lower 99.8% confidence limit
 Centre has reached the lower 95% confidence limit
 Centre has reached the upper 95% confidence limit
 Centre has reached the upper 99.8% confidence limit

* Includes transplants performed between 1 April 2021 - 31 March 2025
** Includes transplants performed between 1 April 2017 - 31 March 2021
Centres have been omitted where less than 70% of follow up data were reported

Table 6.2 Risk-adjusted one and five year pancreas graft survival for first SPK transplants using pancreases from deceased donors							
Centre	Code	N	Pancreas graft survival				
			One-year*		Five-year**		
			%	(95% CI)	N	%	(95% CI)
Cambridge	A	63	88	(76 - 95)	-	-	-
Cardiff	B	31	86	(64 - 96)	27	79	(55 - 92)
Edinburgh	C	42	95	(82 - 99)	63	86	(73 - 93)
Guy's	D	60	91	(79 - 97)	80	81	(69 - 89)
Manchester	E	80	86	(75 - 93)	83	86	(74 - 93)
Newcastle	F	22	96	(76 - 100)	21	95	(72 - 100)
Oxford	G	137	90	(82 - 94)	159	88	(80 - 93)
WLRTC	H	23	78	(49 - 93)	23	91	(66 - 99)
UK		458	89	(86 - 92)	539	87	(83 - 89)
Centre has reached the lower 99.8% confidence limit Centre has reached the lower 95% confidence limit Centre has reached the upper 95% confidence limit Centre has reached the upper 99.8% confidence limit							
* Includes transplants performed between 1 April 2021 - 31 March 2025 ** Includes transplants performed between 1 April 2017 - 31 March 2021 Centres have been omitted where less than 70% of follow up data were reported							

6.2 Deceased donor graft and patient survival for first PO transplants

National rates for one-year and five-year [patient](#) survival following first pancreas only (PO) transplant are both 100%. One-year and five-year [graft](#) survival rates are 63% (95% CI 23-86%) and 64% (95% CI 34-83%), respectively. One-year rates for [patient](#) and [graft](#) survival are calculated from 8 transplants performed between 1 April 2021 and 31 March 2025. Five-year rates for [patient](#) and [graft](#) survival are calculated from 15 and 14 transplants performed between 1 April 2017 and 31 March 2021, respectively. Individual centre rates are not presented due to small numbers at each centre within the cohorts.

Survival from listing

7.1 Patient survival from listing for SPK transplant

Survival from listing was analysed for all adult (≥ 18 years) patients registered for their first SPK transplant between 1 April 2017 and 31 March 2025. Patients registered for a pancreas only or islet transplant have been excluded from this analysis. Survival time was defined as the time from joining the [transplant list](#) to death, regardless of the length of time on the [transplant list](#), whether or not the patient was transplanted and any factors associated with such a transplant e.g. donor type. Survival time was censored at either the date of removal from the list, or at the last known follow up date post-transplant when no death date was recorded, or at the time of analysis if the patient was still active on the [transplant list](#).

The [funnel plots](#) shown in **Figure 7.1** and **Figure 7.2**, use a [fixed effects](#) Poisson regression model to compare centre specific one and five-year [risk-adjusted](#) patient survival rates from the point of SPK transplant listing and indicates how consistent the rates of the individual transplant centres are with the national rate. Some of the [funnel plots](#) show some centres to be above the upper 99.8% [confidence limit](#). This suggests that these centres have survival from listing rates that are considerably higher than the national rate. Centres can be identified by the information shown in **Table 7.1** and **Table 7.2**, which also show one and five-year [risk-adjusted](#) survival rates from the point of transplant listing. The number of patients remaining at risk of death after each time horizon (i.e. not already censored or deceased) is included in **Table 7.1** and **Table 7.2** for reference.

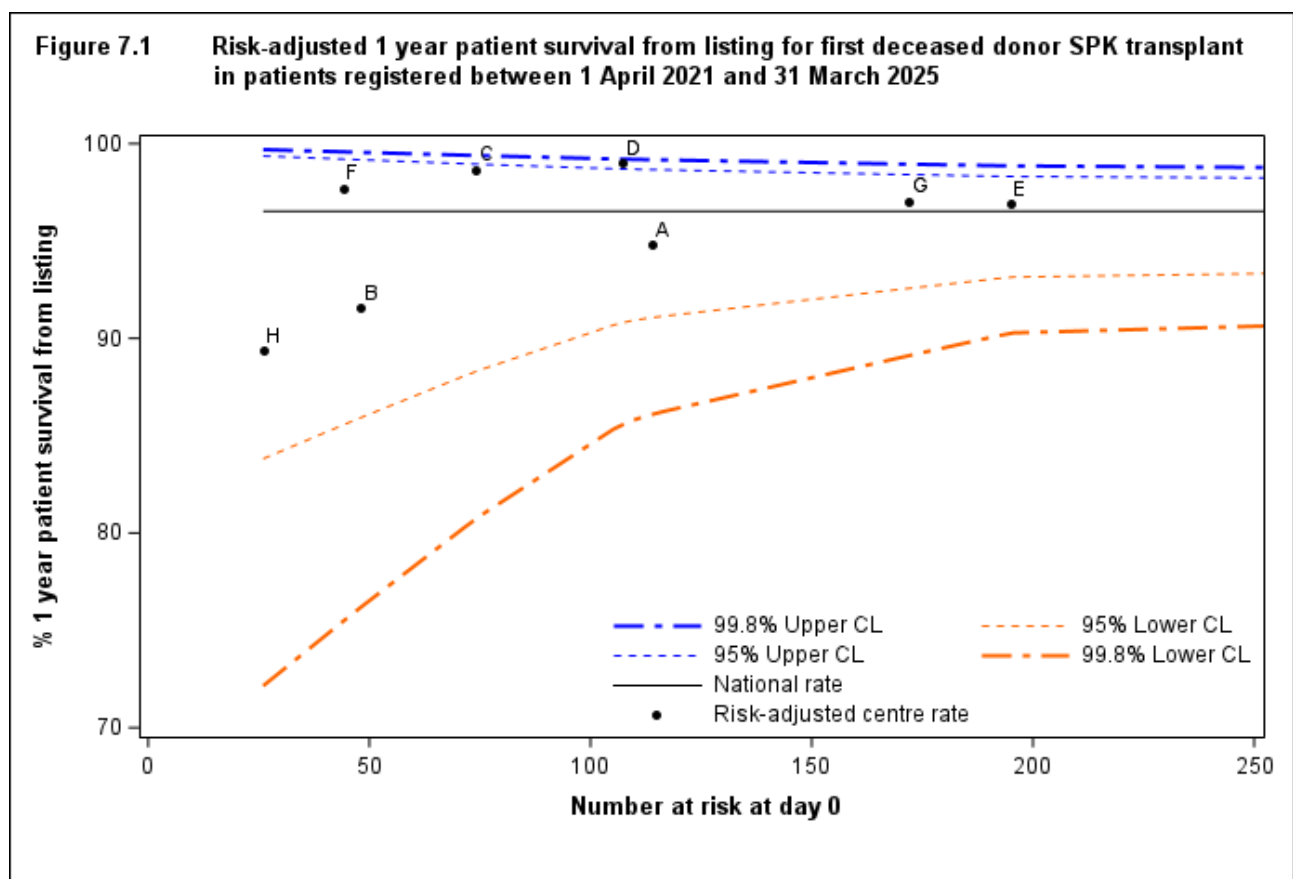


Figure 7.2 Risk-adjusted 5 year patient survival from listing for first deceased donor SPK transplant in patients registered between 1 April 2017 and 31 March 2021

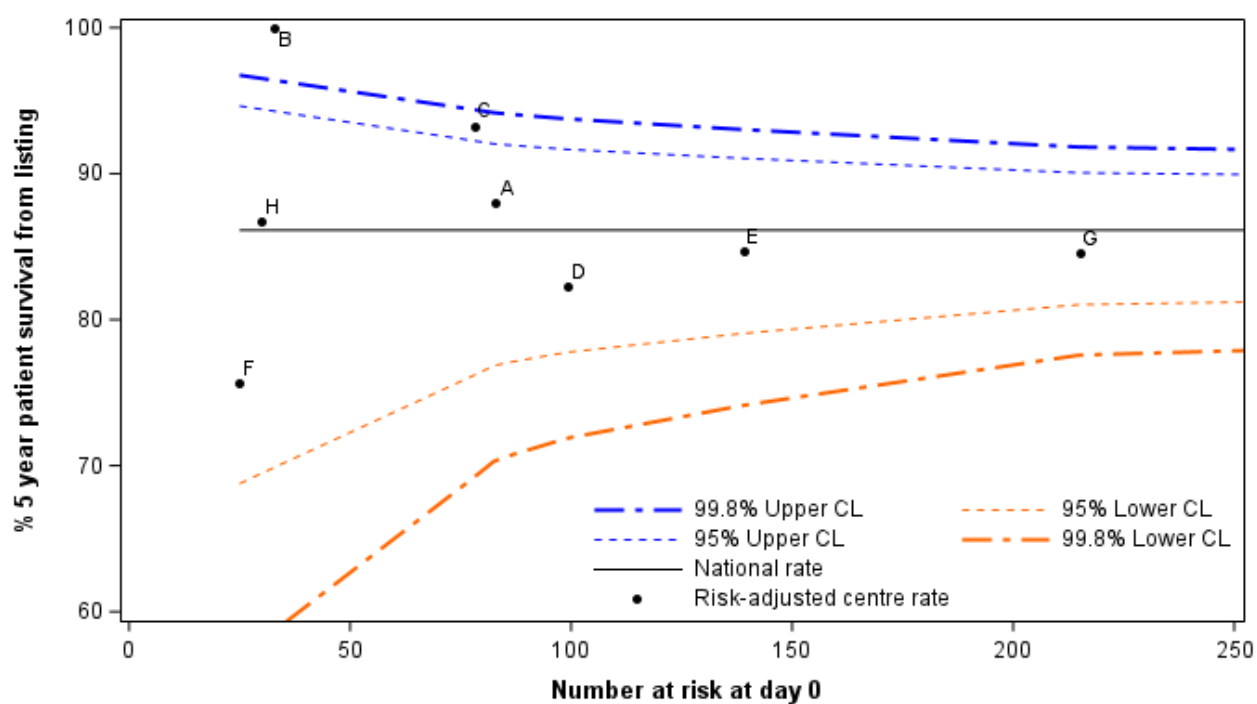


Table 7.1 Risk-adjusted one-year patient survival rate from listing for first deceased donor SPK transplant in patients registered between 1 April 2021 and 31 March 2025

Centre	Code	Number of registrations	Number at risk at one year	One-year patient survival % (95% CI)	
Cambridge	A	114	97	94.8	(88.4 - 97.7)
Cardiff	B	48	40	91.6	(77.7 - 96.9)
Edinburgh	C	74	71	98.7	(90.8 - 99.8)
Guy's	D	107	104	99.0	(92.8 - 99.9)
Manchester	E	195	185	96.9	(93.2 - 98.6)
Newcastle	F	44	43	97.7	(83.9 - 99.7)
Oxford	G	172	165	97.1	(92.9 - 98.8)
WLRTC	H	26	23	89.4	(67.0 - 96.6)
UK		780	728	96.5	(95.0 - 97.6)
		Centre has reached the lower 99.8% confidence limit			
		Centre has reached the lower 95% confidence limit			
		Centre has reached the upper 95% confidence limit			
		Centre has reached the upper 99.8% confidence limit			

Table 7.2 Risk-adjusted five-year patient survival rate from listing for first deceased donor SPK transplant in patients registered between 1 April 2017 and 31 March 2021

Centre	Code	Number of registrations	Number at risk at five years	Five-year patient survival % (95% CI)	
Cambridge	A	83	51	88.0	(76.9 - 93.7)
Cardiff	B	33	30	100	(-)
Edinburgh	C	78	61	93.3	(83.9 - 97.2)
Guy's	D	99	66	82.3	(71.2 - 89.2)
Manchester	E	139	87	84.7	(76.3 - 90.1)
Newcastle	F	25	16	75.6	(45.8 - 89.1)
Oxford	G	215	129	84.5	(78.0 - 89.1)
WLRTC	H	30	14	86.7	(68.0 - 94.5)
UK		702	454	86.1	(83.2 - 88.6)
		Centre has reached the lower 99.8% confidence limit			
		Centre has reached the lower 95% confidence limit			
		Centre has reached the upper 95% confidence limit			
		Centre has reached the upper 99.8% confidence limit			

Form return rates

8.1 Pancreas form return rates, 1 January – 31 December 2025

Form return rates are reported in **Table 8.1** for the pancreas transplant record, three month and one year follow up forms, along with lifetime follow up forms (more than two years). These include all pancreas transplants performed between 1 January and 31 December 2025 for the transplant record, and all requests for follow up forms issued in this time period. The centres highlighted are transplant centres. Overall, 91% of transplant record forms issued and 59% of lifetime follow-up forms issued have been returned. Of the transplant centres, WLRTC has the lowest lifetime follow-up form return rate of 7%. This is partly due to the centre submitting forms only for the most recent follow-up anniversary, rather than for each anniversary, to reduce administrative burden. The information reported here used data on the database as of 29th June 2026.

Table 8.1 Form return rates following pancreas transplantation, by centre, 1 January - 31 December 2025								
Centre	Transplant record		3 month follow-up		12 month follow-up		Lifetime follow-up	
	N	% returned	N	% returned	N	% returned	N	% returned
Aberdeen, Aberdeen Royal Infirmary							21	90
Airdrie, University Hospital Monklands							7	14
Bangor, Ysbyty Gwynedd District General Hospital							9	22
Basildon, Basildon Hospital					1	100	5	100
Belfast, Antrim Hospital							4	75
Belfast, Belfast City Hospital							9	0
Belfast, The Ulster Hospital							3	0
Birmingham, Birmingham Heartlands Hospital							15	0
Birmingham, Queen Elizabeth Hospital Birmingham					2	0	69	0
Bodelwyddan, Glan Clwyd District General Hospital							2	0
Bradford, St Lukes Hospital							12	42
Brighton, Royal Sussex County Hospital					1	0	28	7
Bristol, Southmead Hospital							26	96
Cambridge, Addenbrookes Hospital	21	95	19	89	15	53	143	35
Canterbury, Kent and Canterbury Hospital			1	100	2	100	41	85
Cardiff, University Of Wales Hospital	8	88	5	100	7	100	70	93
Carlisle, Cumberland Infirmary							5	60
Carshalton, St Helier Hospital			1	100	2	50	27	81
Chester, Countess of Chester Hospital							5	0
Closed - Glasgow, Glasgow Western Infirmary							1	0
Colwyn Bay, Colwyn Bay Community Hospital							1	0
County Down, Daisy Hill Hospital							5	100
Coventry, University Hospital (Walsgrave)			1	100			28	93
Crosshouse, University Hospital Crosshouse							5	100
Derby, Royal Derby Hospital					3	100	20	85
Doncaster, Doncaster Royal Infirmary							8	100
Dorchester, Dorset County Hospital							36	0
Douglas, Nobles I-o-m Hospital							5	20
Dudley, Russells Hall Hospital							4	0
Dulwich, Kings College							1	0
Dumfries, Dumfries and Galloway Royal Infirmary							3	100
Dundee, Ninewells Hospital							18	28
Edinburgh, Royal Infirmary Of Edinburgh	10	90	10	100	7	100	70	86
Exeter, Royal Devon and Exeter Hospital (Wonford)			1	100			24	83

Table 8.1 Form return rates following pancreas transplantation, by centre, 1 January - 31 December 2025

Centre	Transplant record		3 month follow-up		12 month follow-up		Lifetime follow-up	
	N	% returned	N	% returned	N	% returned	N	% returned
Glasgow, Queen Elizabeth University Hospital					1	0	37	0
Gloucester, Gloucestershire Royal Hospital							23	0
Hereford, The County Hospital							5	20
Hull, The Hull Royal Infirmary					1	100	16	75
Inverness, Raigmore Hospital					1	0	14	57
Ipswich, Ipswich Hospital							4	0
Kirkcaldy, Victoria Hospital							3	33
Larbert, Forth Valley Royal Hospital							5	0
Leeds, St James's University Hospital							28	79
Leicester, Leicester General Hospital							27	78
Lincoln, Lincoln County Hospital							6	67
Liverpool, Royal Liverpool University Hospital							12	92
Liverpool, University Hospital Aintree							1	0
London, Guys Hospital	15	93	10	90	1	0	117	92
London, Kings College Hospital							9	11
London, St Georges Hospital							6	0
London, The Royal Free Hospital					2	100	40	90
London, The Royal London Hospital (Whitechapel)			5	20	2	0	23	39
Manchester, Manchester Royal Infirmary	29	97	26	77	18	61	96	69
Middlesbrough, The James Cook University Hospital							10	90
Newcastle, Freeman Hospital	2	100	5	100	4	100	67	93
Northampton, Northampton General Hospital							25	16
Norwich, Norfolk and Norwich University Hospital			1	100			28	89
Nottingham, Nottingham University Hospitals City Campus			1	0	1	0	49	0
Omagh, Tyrone County Hospital							3	0
Oxford, Churchill Hospital	34	91	34	100	24	96	168	99
Peterborough, Peterborough City Hospital							7	0
Plymouth, Derriford Hospital							20	95
Portsmouth, Queen Alexandra Hospital			1	100	1	100	46	72
Portsmouth, St Marys Hospital			1	100	1	100	11	82
Preston, Royal Preston Hospital					1	0	35	69
Reading, Royal Berkshire Hospital					1	0	34	62
Rhyl, Royal Alexandra Hospital							3	67
Salford, Salford Royal							20	0
Sheffield, Northern General Hospital							11	82
Shrewsbury, Royal Shrewsbury Hospital							5	60
St Helier, Jersey General Hospital							2	0
Stevenage, Lister Hospital							13	23
Stoke-on-trent, Royal Stoke University Hospital							19	74
Sunderland, Sunderland Royal Hospital							1	0
Swansea, Morriston Hospital							25	84
Truro, Royal Cornwall Hospital (Treliske)							24	0
West London Renal Transplant Centre	3	0	3	100	7	71	90	7
Westcliff On Sea, Southend Hospital					1	100	4	50
Wirral, Arrowe Park Hospital							6	0
Wolverhampton, New Cross Hospital							31	87
Wrexham, Maelor General Hospital							9	89
York, York District Hospital							15	53
Overall	122	91	125	89	107	73	1983	59

Islet transplant list

9.1 Patients on the islet transplant list as at 31 March, 2017 – 2026

Figure 9.1 shows the number of patients on the islet [transplant list](#) at 31 March each year. The number of patients active on the islet [transplant list](#) remained similar with 45 patients in 2026 compared to 47 in 2025. Of the 45 patients, 58% (26) were registered for an SIK transplant.

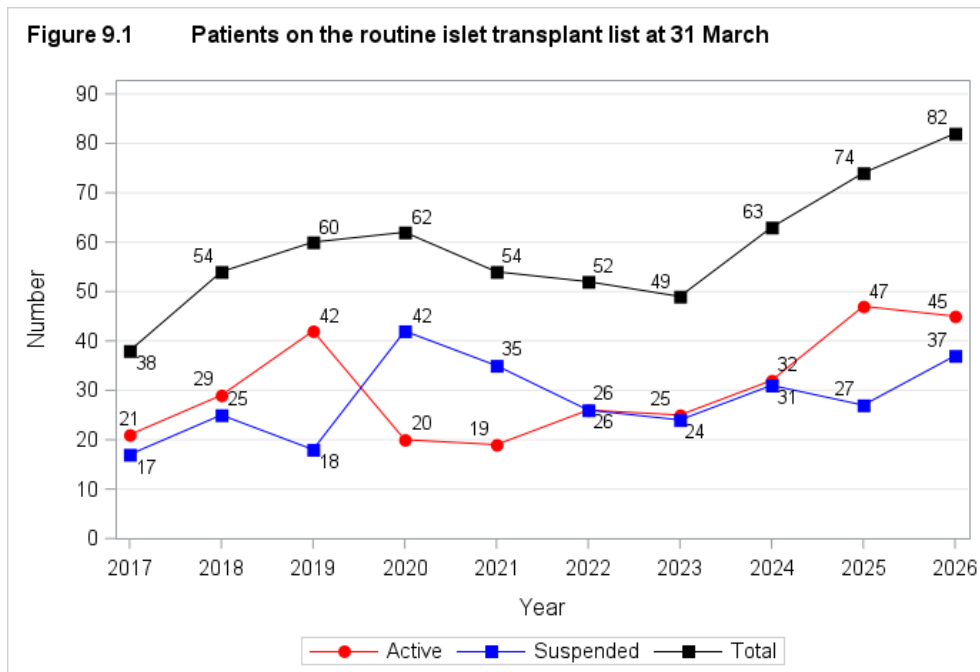


Figure 9.2 shows the number of patients on the active islet [transplant list](#) at 31 March 2026 by centre. Of the 45 patients on the active [transplant list](#) 38% were registered at Manchester, of which 12 were SIK, 27% at Oxford (seven SIK), 22% at Edinburgh (six SIK), 11% at Newcastle, one of which was SIK, and 1 registration (2%) at King's College.

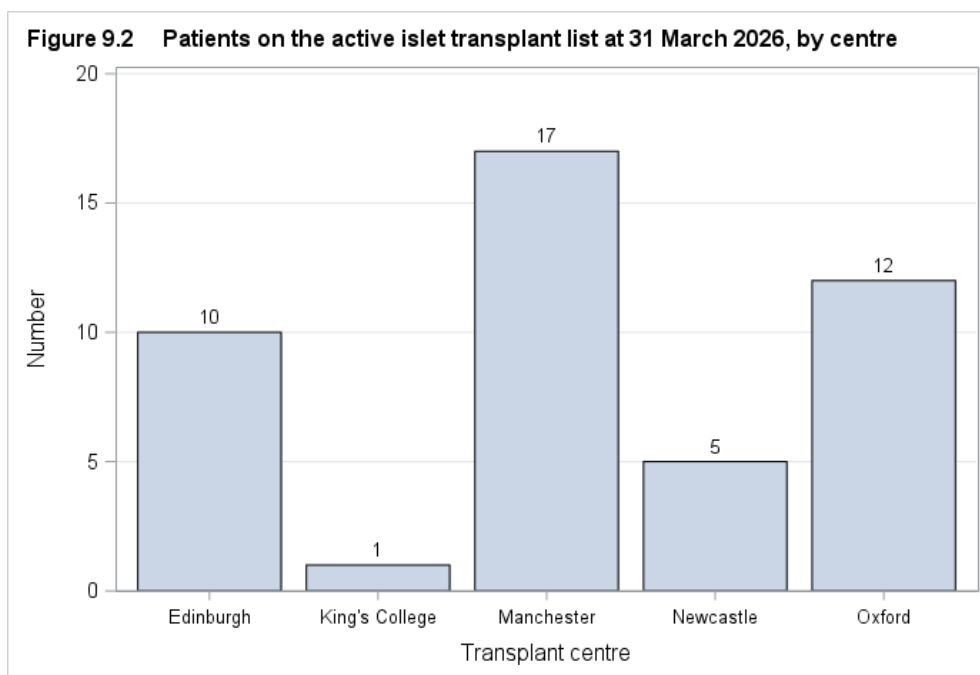
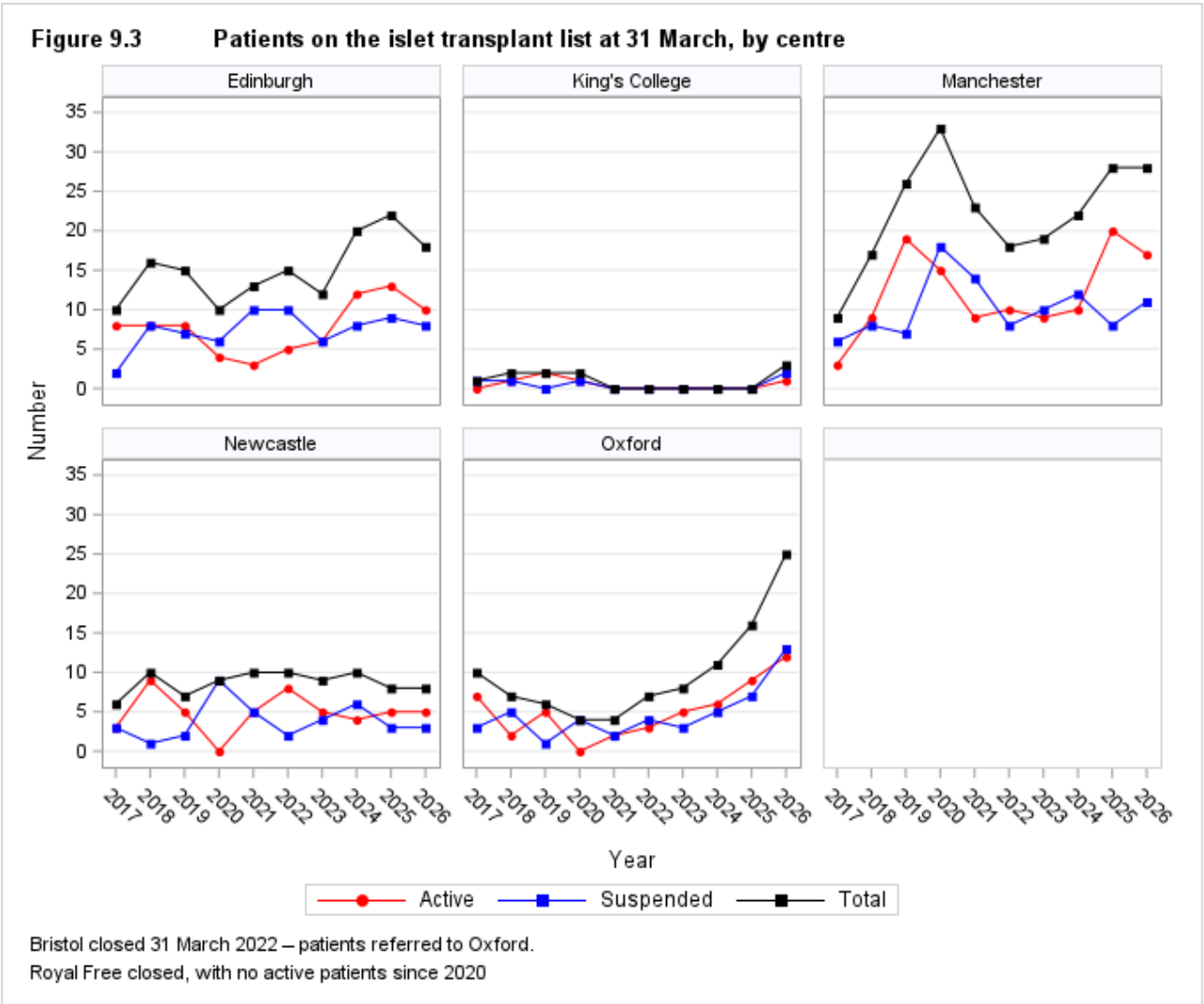


Figure 9.3 shows the number of patients on the islet [transplant list](#) at 31 March each year between 2017 and 2026 for each transplant centre. There have been very few patients registered at King's College in the time period.



9.2 Post-registration outcomes, 1 April 2022 – 31 March 2023

An indication of outcomes for patients listed for an islet transplant is summarised in **Figure 9.4**. This shows the proportion of patients transplanted or still waiting one and three years after joining the list. It also shows the proportion removed from the [transplant list](#) (typically because they become too unwell for transplant or were transferred to other lists) and those who died while on the [transplant list](#).

Within one year, 43% of patients were transplanted, while three years after listing 51% of patients had received a transplant and 31% were removed from the list. Note these percentages are calculated for using a small number of patients.

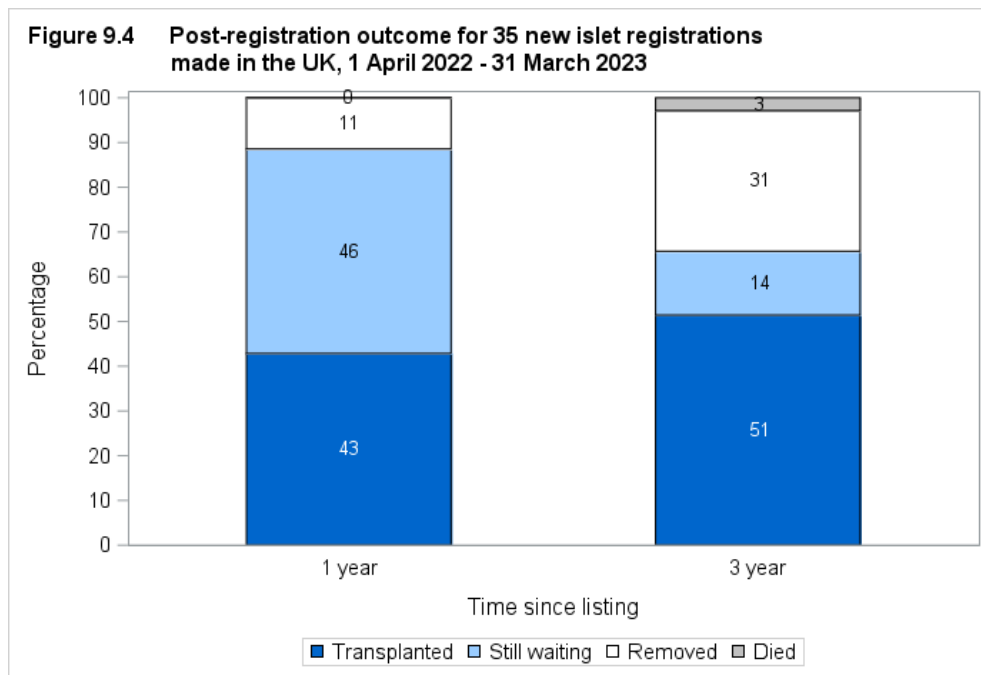
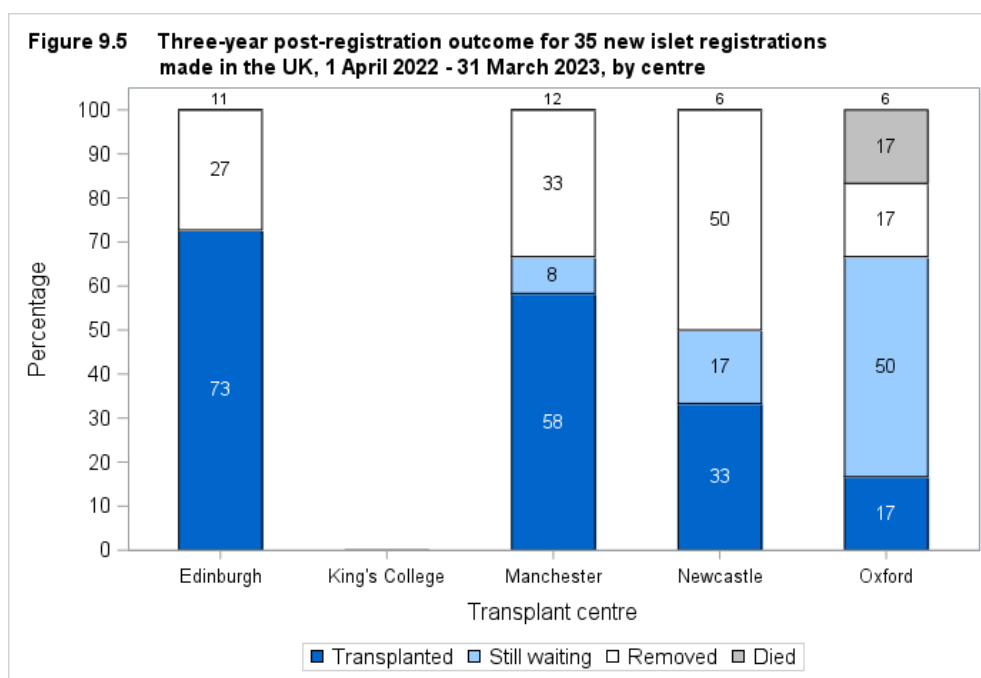


Figure 9.5 shows the proportion of patients transplanted or still waiting three years after joining the list by centre. All centres have small numbers of patient registrations in this time period so the figures should be interpreted with caution. King's College registered no patients in this time period.

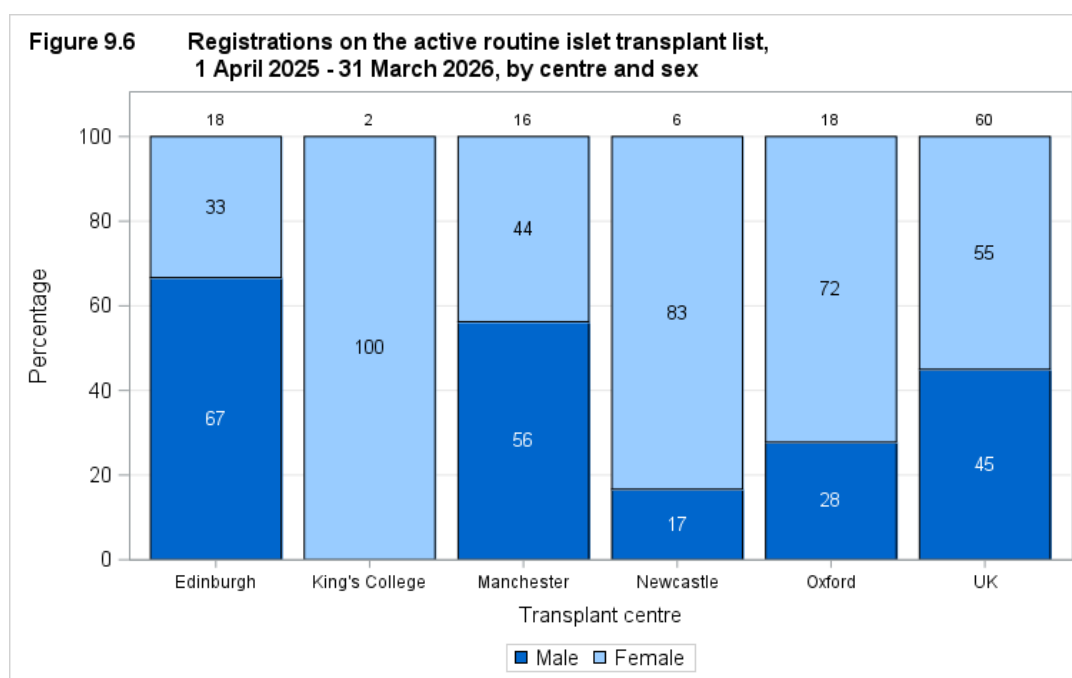


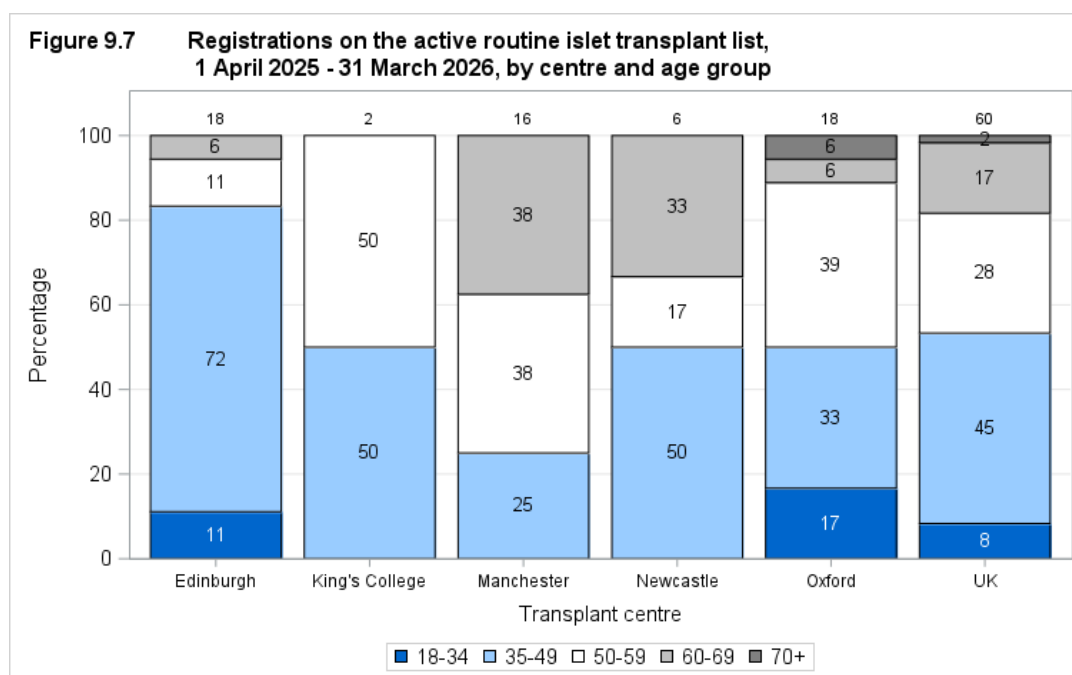
9.3 Demographic characteristics, 1 April 2025 – 31 March 2026

The sex and age group of patients registered on the islet [transplant list](#) during 2025/26 are shown by centre in **Figures 9.6** and **9.7**.

Overall, the majority of patients registered on the islet transplant list were female (55%) and the median age was 49 years.

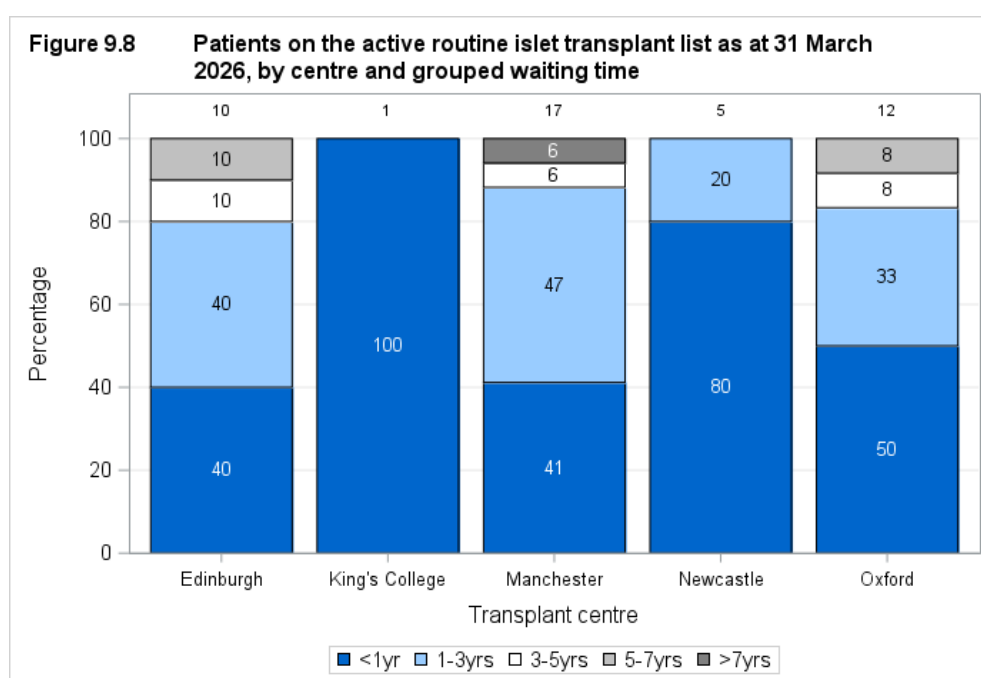
Note that all percentages quoted are based only on data where relevant information was available. Data on ethnicity was missing for three patients.





9.4 Patient waiting times for those currently on the list, 31 March 2026

Figure 9.8 shows the length of time patients have been waiting on the islet [transplant list](#) at 31 March 2026 by centre. One patient with high levels of [sensitisation](#) at Manchester was waiting for an SIK transplant for over seven years.



9.5 Median active waiting time to transplant, 1 April 2020 - 31 March 2024

The length of time a person waits for routine islet transplant varies across the UK. The [median](#) active waiting time for deceased donor islet transplantation is calculated using the [Kaplan-Meier method](#) and is shown in **Figure 9.9** and **Table 9.1** for patients registered at each individual unit.

The [median](#) active waiting time to transplant for patients registered on the islet [transplant list](#) between 1 April 2020 and 31 March 2024 is 442 days (around 14 months). However, due to the small number of patients registered, the confidence interval for the median is extremely wide, and therefore the estimate of 442 days is not very precise. Similarly, the estimates provided for individual centres are also not very precise due to the small numbers. The median active waiting time is not shown where less than 10 patients were registered at a centre or if there were not enough events to estimate a median.

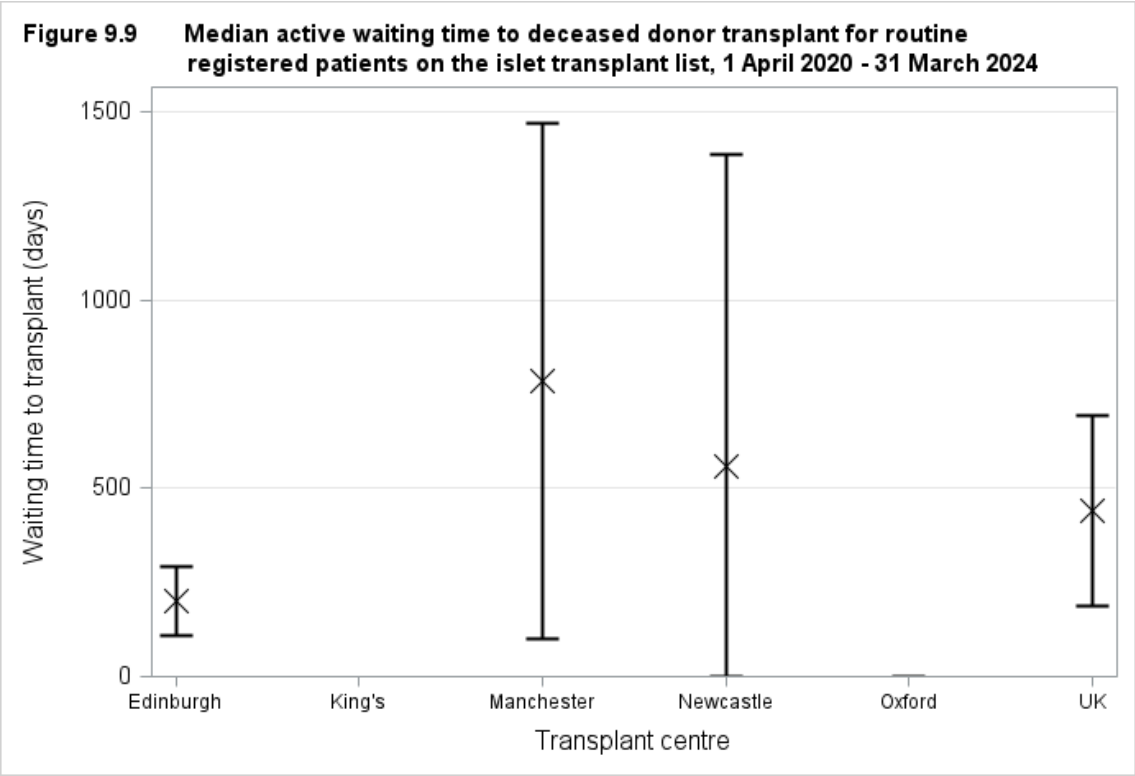


Table 9.1 Median active waiting time to islet transplant in the UK, for patients registered 1 April 2020 - 31 March 2024			
Transplant centre	Number of patients registered	Waiting time (days)	
		Median	95% Confidence interval
Edinburgh	42	201	110 - 292
King's ¹	1	-	-
Manchester	35	784	101 - 1467
Newcastle	11	559	0 - 1387
Oxford ²	19	-	-
UK	108	442	189 - 695

¹ Data not presented for centres with less than 10 patients registered

² Insufficient events occurred to estimate a median and confidence interval

Response to islet offers

10.1 Offer decline rates, 1 April 2023 – 31 March 2026

Islet offers from [DBD](#) donors whose pancreas was retrieved, offered directly on behalf of a named individual person and resulted in islet transplantation are included in the analysis. Any offers of islets declined for transplantation or [DCD](#) offers were excluded, as were offers made through the fast track scheme or the reallocation of the pancreas.

Individual centre offer decline rates by financial year, 1 April 2023 and 31 March 2026 are shown in **Table 10.1**. All centres were consistent with the national offer decline rate, which was 44%. King's College received no offers in this time period.

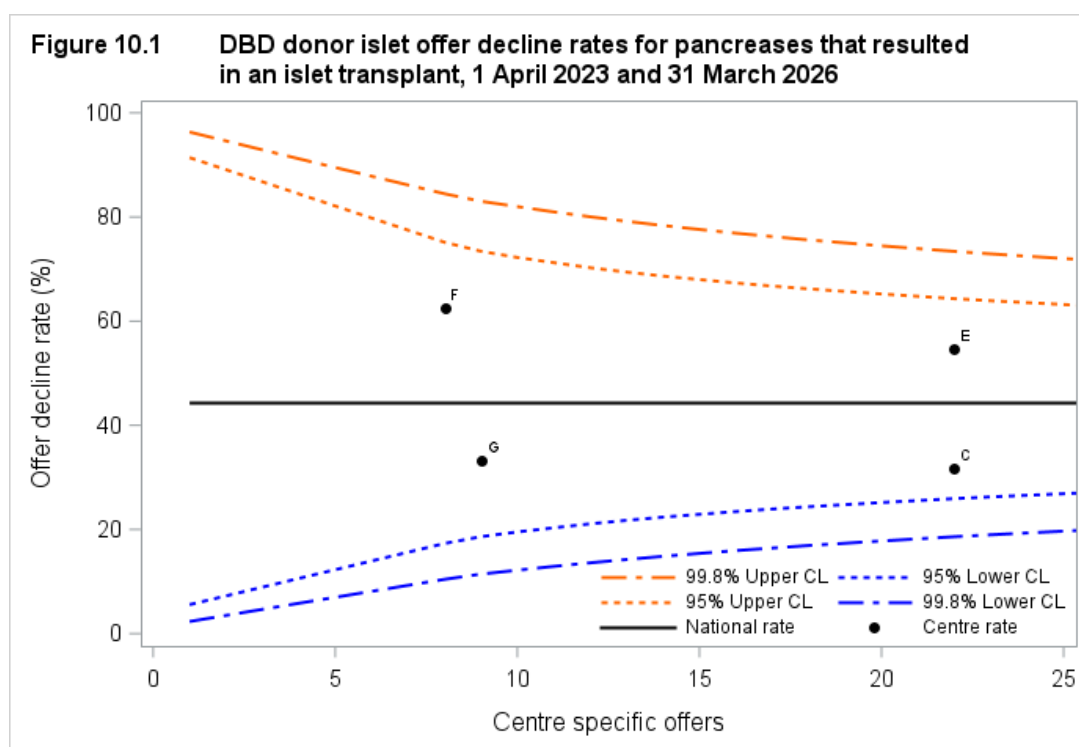


Table 10.1 DBD donor islet offer decline rates by transplant centre, 1 April 2023 and 31 March 2026

Centre	Code	2023/24		2024/25		2025/26		Overall	
		N	(%)	N	(%)	N	(%)	N	(%)
Edinburgh	C	6	(33)	7	(29)	9	(33)	22	(32)
Manchester	E	8	(63)	7	(43)	7	(57)	22	(55)
Newcastle	F	3	(67)	2	(100)	3	(33)	8	(63)
Oxford	G	2	(0)	5	(40)	2	(50)	9	(33)
King's	J	0	-	0	-	0	-	0	-
UK		19	(47)	21	(43)	21	(43)	61	(44)

	Centre has reached the upper 99.8% confidence limit
	Centre has reached the upper 95% confidence limit
	Centre has reached the lower 95% confidence limit
	Centre has reached the lower 99.8% confidence limit

Islet transplants

11.1 Islet transplants, 1 April 2016 – 31 March 2026

Figure 11.1 shows the total number of islet transplants performed in the last ten financial years, by type of donor. Activity fell to 15 transplants in 2020/21 following the COVID-19 pandemic, before gradually increasing to 29 transplants in 2025/26. In 2025/26, 45% of islet transplants were from [DCD](#) donors, the highest proportion seen over the previous ten years.

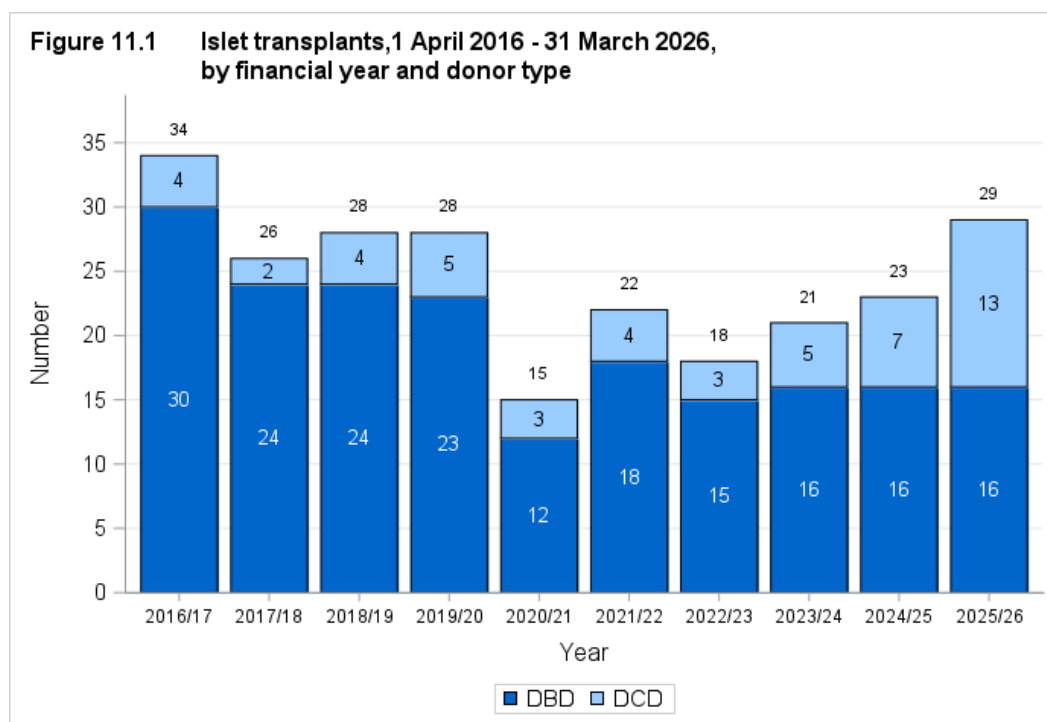


Figure 11.2 shows the total number of islet transplants performed in 2025/26, by centre and type of donor. The same information is presented in **Figure 11.3** but this shows the proportion of [DBD](#) and [DCD](#) transplants performed at each centre. Edinburgh performed the most islet transplants in 2025/26 (14), followed by Manchester and Oxford (six). Of centres that performed transplants, all performed [DCD](#) as well as [DBD](#) islet transplants at a similar proportion. King's College performed no islet transplants in 2025/26.

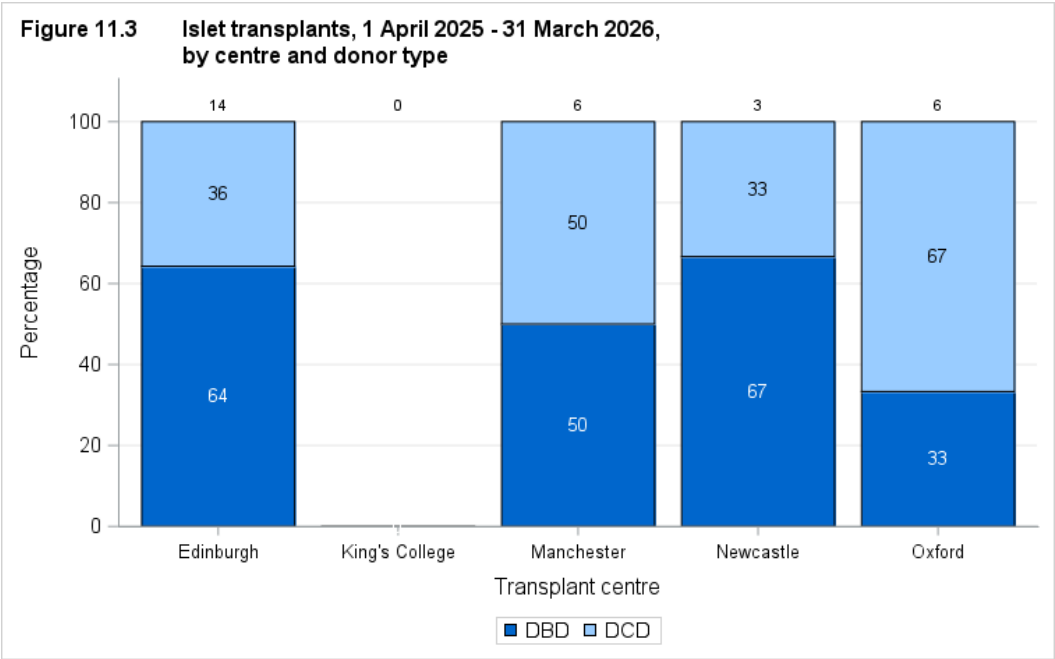
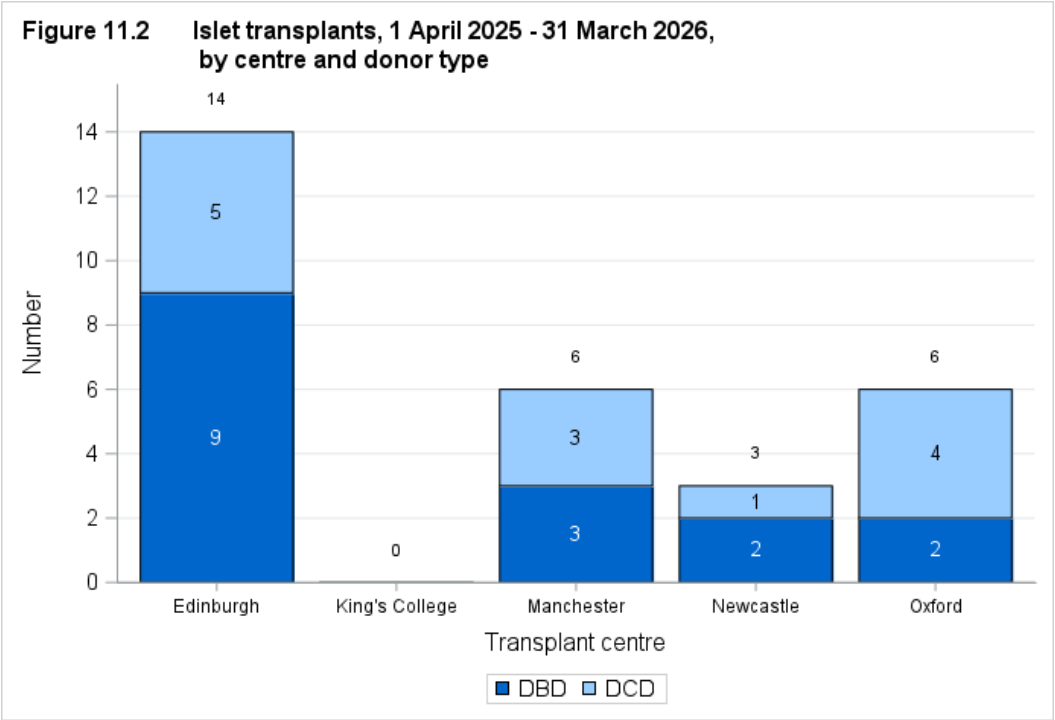
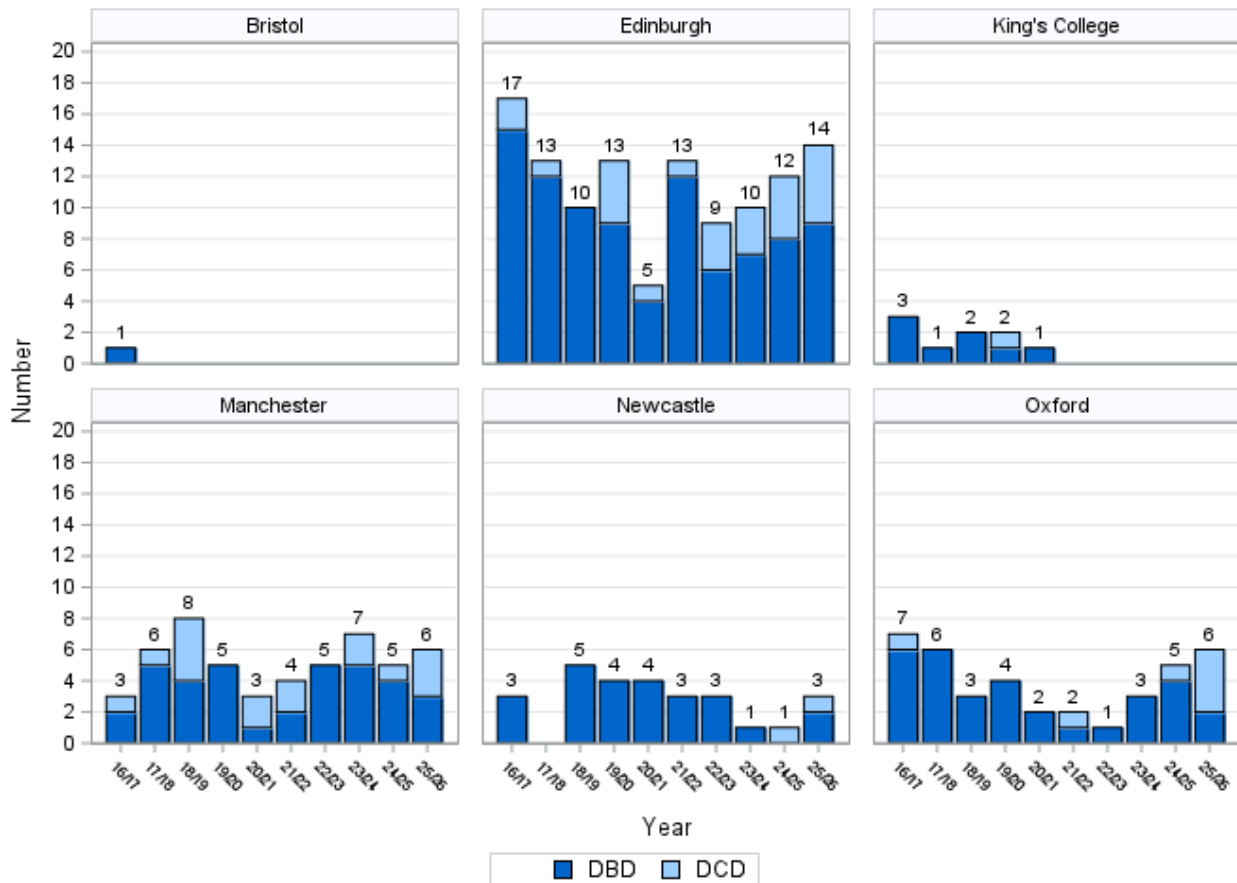


Figure 11.4 shows the total number of islet transplants performed in last ten years, by centre and type of donor. Edinburgh have consistently performed the most transplants each year. Bristol are no longer performing islet transplants and have been referring patients to Oxford.

Figure 11.4 Islet transplants, 1 April 2016 - 31 March 2026, by centre, financial year and donor type



Bristol closed 31 March 2022 – patients referred to Oxford.
 Royal Free no longer transplanting islets

11.2 Demographic characteristics, 1 April 2025 - 31 March 2026

The sex, age group, [sensitisation](#) group ([cRF%](#)) and [matchability points score](#) group of patients that received an islet transplant in 2025/26 are shown by centre in **Figures 11.5, 11.6, 11.7 and 11.8** respectively.

Overall, 29 patients were transplanted on the islet transplant list, the [median](#) age was 50 years, 52% were female, 55% had a sensitisation of less than 10 and 10% were in the difficult to match group.

Note that all percentages quoted are based only on data where relevant information was available.

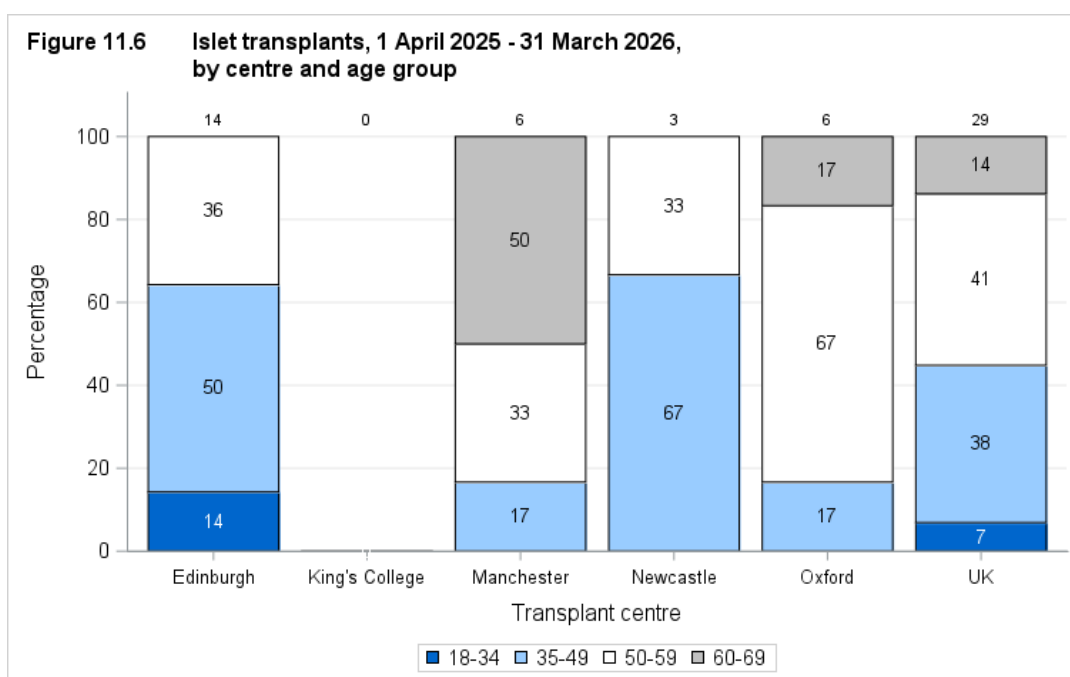
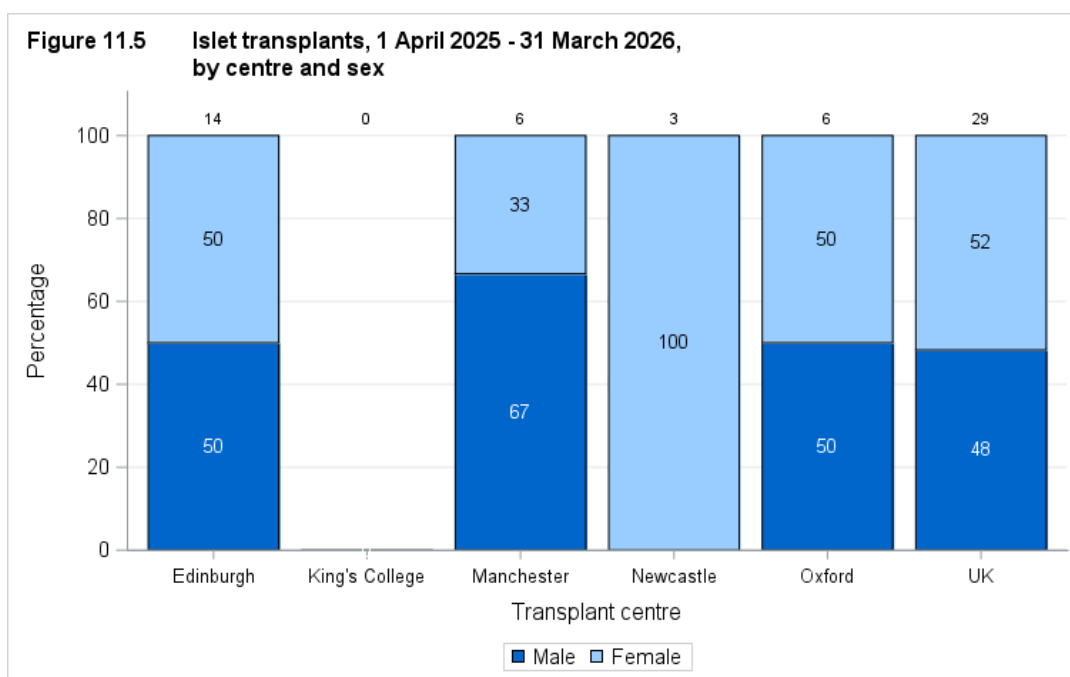


Figure 11.7 Islet transplants, 1 April 2025 - 31 March 2026, by centre and sensitisation (cRF%) group

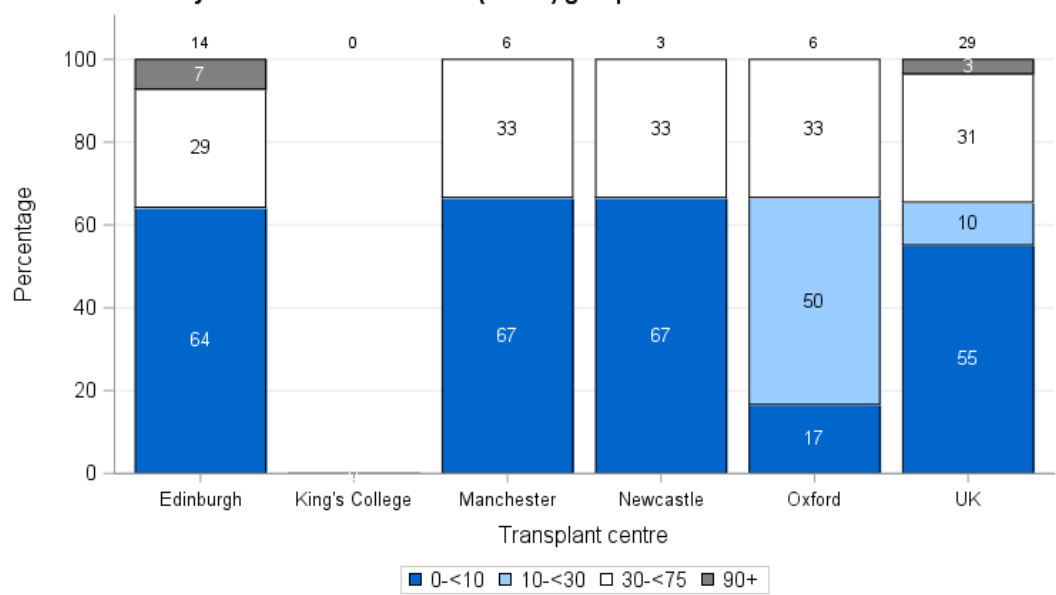
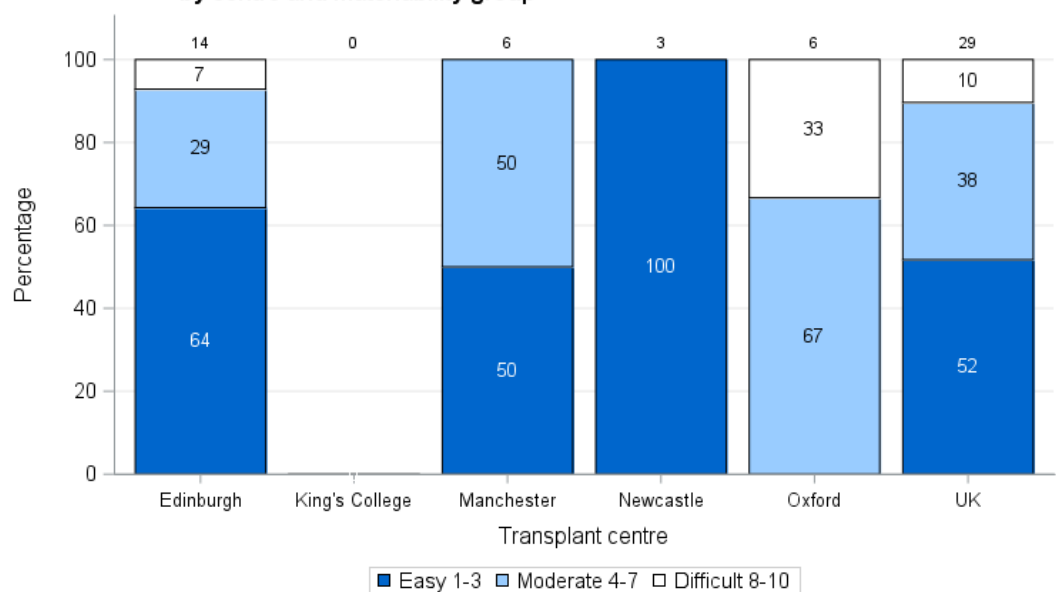


Figure 11.8 Islet transplants, 1 April 2025 - 31 March 2026, by centre and matchability group



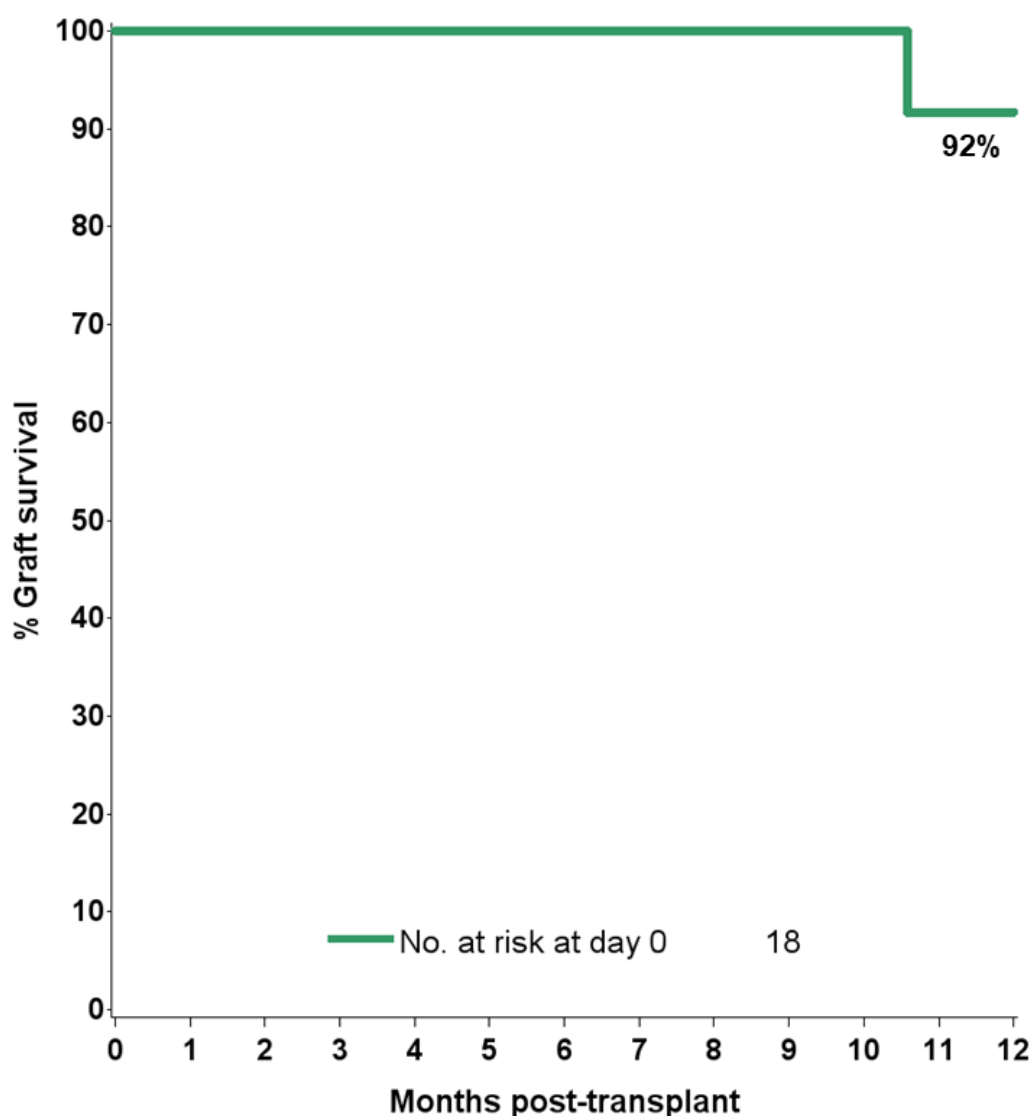
Islet outcomes

12.1 Outcome measures for routine islet transplants

Key measures of islet outcome include [graft survival](#), annual rate of severe [hypoglycaemic](#) events, [HbA1c](#) and insulin requirements. This section includes outcomes reported to NHS Blood and Transplant for islet transplants between 1 April 2016 and 31 March 2025.

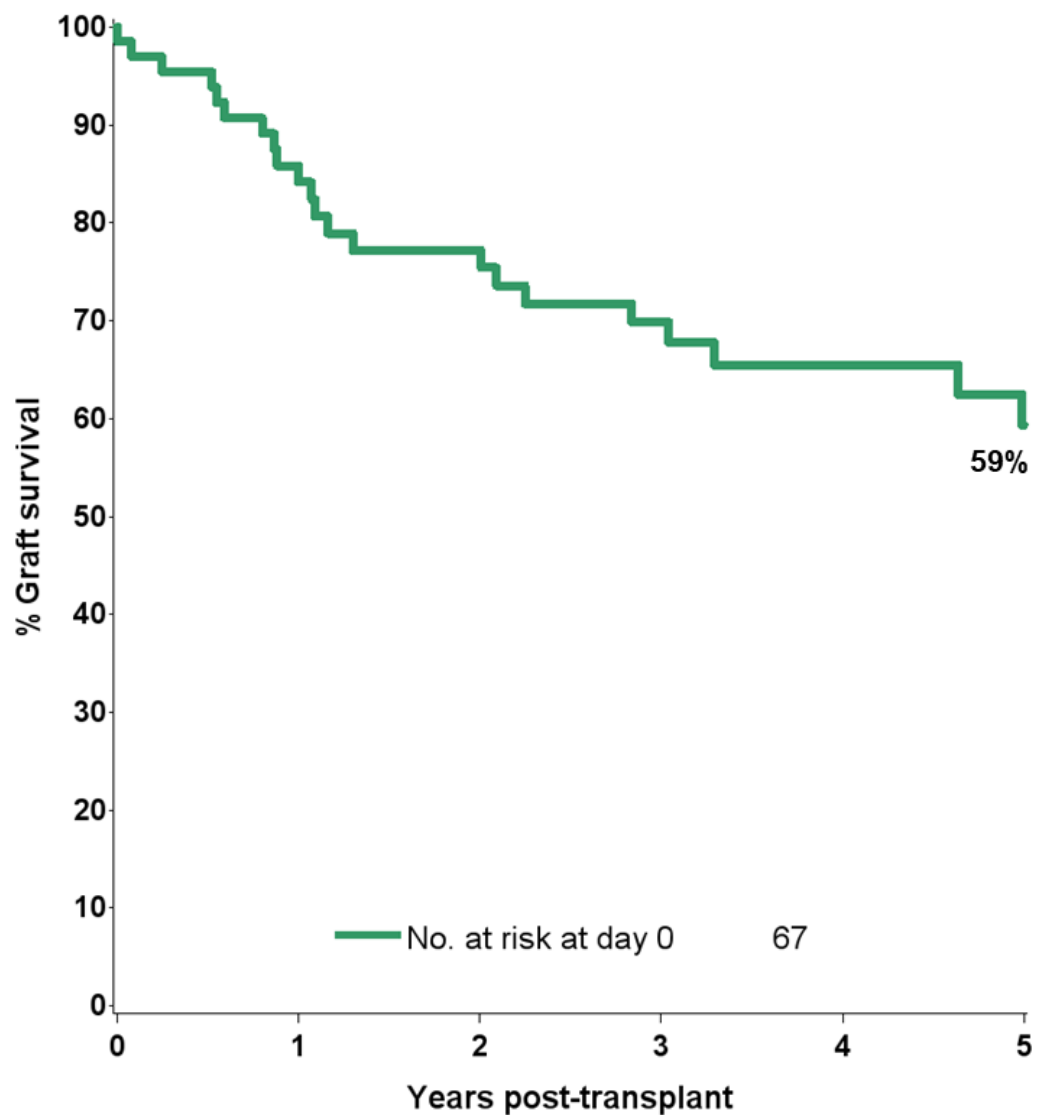
A one-year [Kaplan-Meier graft survival](#) plot for islet transplants between 1 April 2021 – 31 March 2025 is shown in **Figure 12.1**. Estimated one-year [graft survival](#) following a routine islet transplant is 92% with 95% confidence interval (CI) (54-99%). This includes both patients who received only a routine graft and patients who additionally received a priority graft.

Figure 12.1 One-year graft survival following first routine islet transplant between 1 April 2021 and 31 March 2025



A five-year [Kaplan-Meier graft survival](#) plot for islet transplants between 1 April 2016 – 31 March 2025 is shown in **Figure 12.2**. Estimated five-year [graft survival](#) following a routine islet transplant is 59% with 95% CI (44-72%). This includes both patients who received only a routine graft and those who additionally received a priority graft.

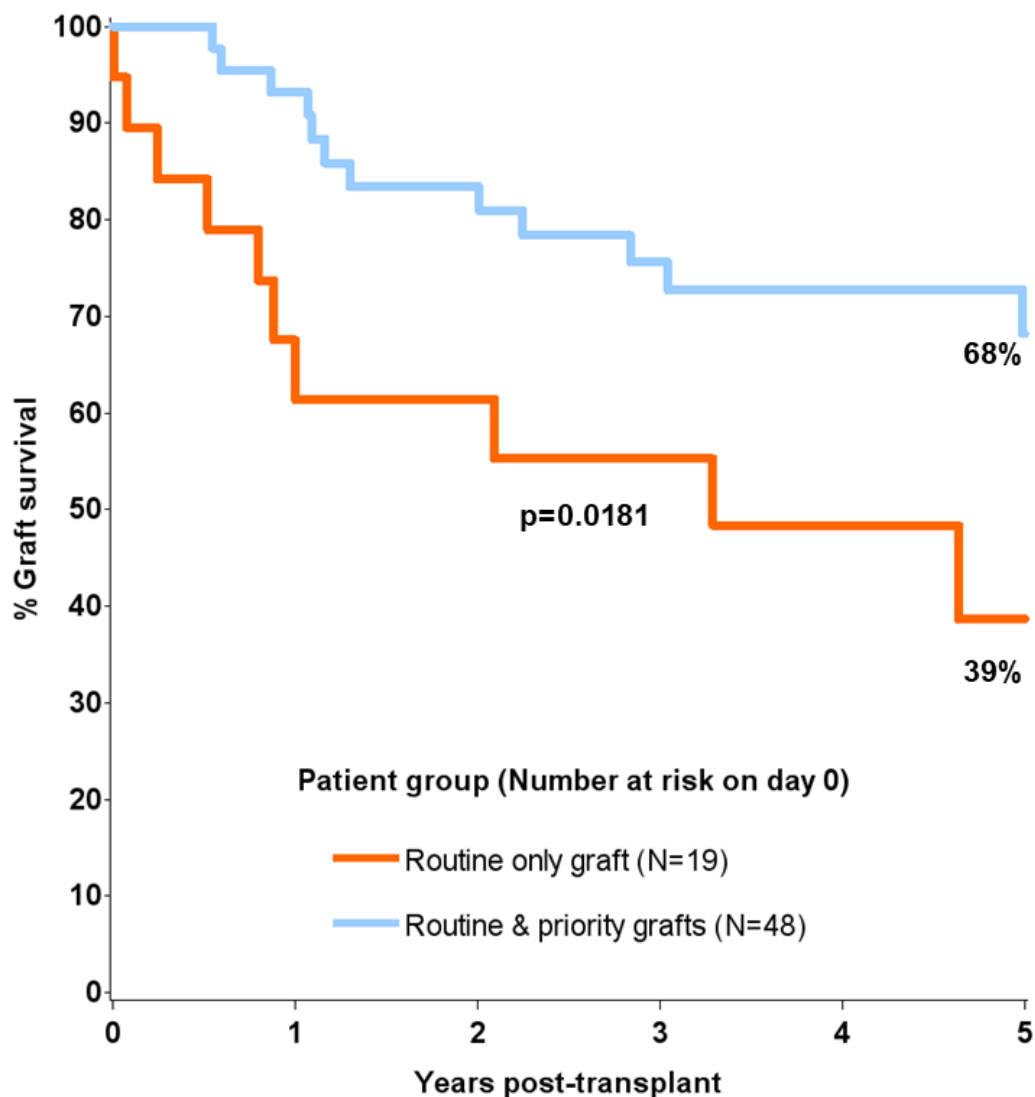
Figure 12.2 Five-year graft survival following first routine islet transplant between 1 April 2016 and 31 March 2025



Further, five-year [Kaplan-Meier graft survival](#) plots by type of graft are shown in **Figure 12.3** and **12.4**, for islet transplants between 1 April 2016 – 31 March 2025. **Figure 12.4** only includes routine grafts (routine only or routine followed by a priority) that were still functioning at one year post-transplant. In order to receive a priority (top-up) graft the patient's routine graft must still be functioning and the priority graft should be given within the first 12 months post routine transplant. Therefore, to accurately compare the two groups, i.e. those receiving a routine graft alone and those receiving a routine and subsequent priority graft, the survival estimate is conditional on one-year graft survival in both groups.

Estimated five-year [graft survival](#) (for all islet transplants) is 39% for routine only grafts, 95% CI (15-62%) and for routine followed by priority grafts is 68%, 95% CI (50-81%). This difference was statistically significant, $p=0.0181$.

Figure 12.3 Five-year graft survival following routine islet transplantation, by type of graft, between 1 April 2016 and 31 March 2025



Estimated five-year [graft survival](#) (for islet transplant, where the routine graft was functioning at one year) is 63% for routine only grafts, 95% CI (22-87%) and for routine followed by priority grafts is 73%, 95% CI (54-86%). This difference was not statistically significant, $p=0.85$.

Figure 12.4 Five-year graft survival following routine islet transplantation, where the routine graft was functioning at one year, between 1 April 2016 and 31 March 2025

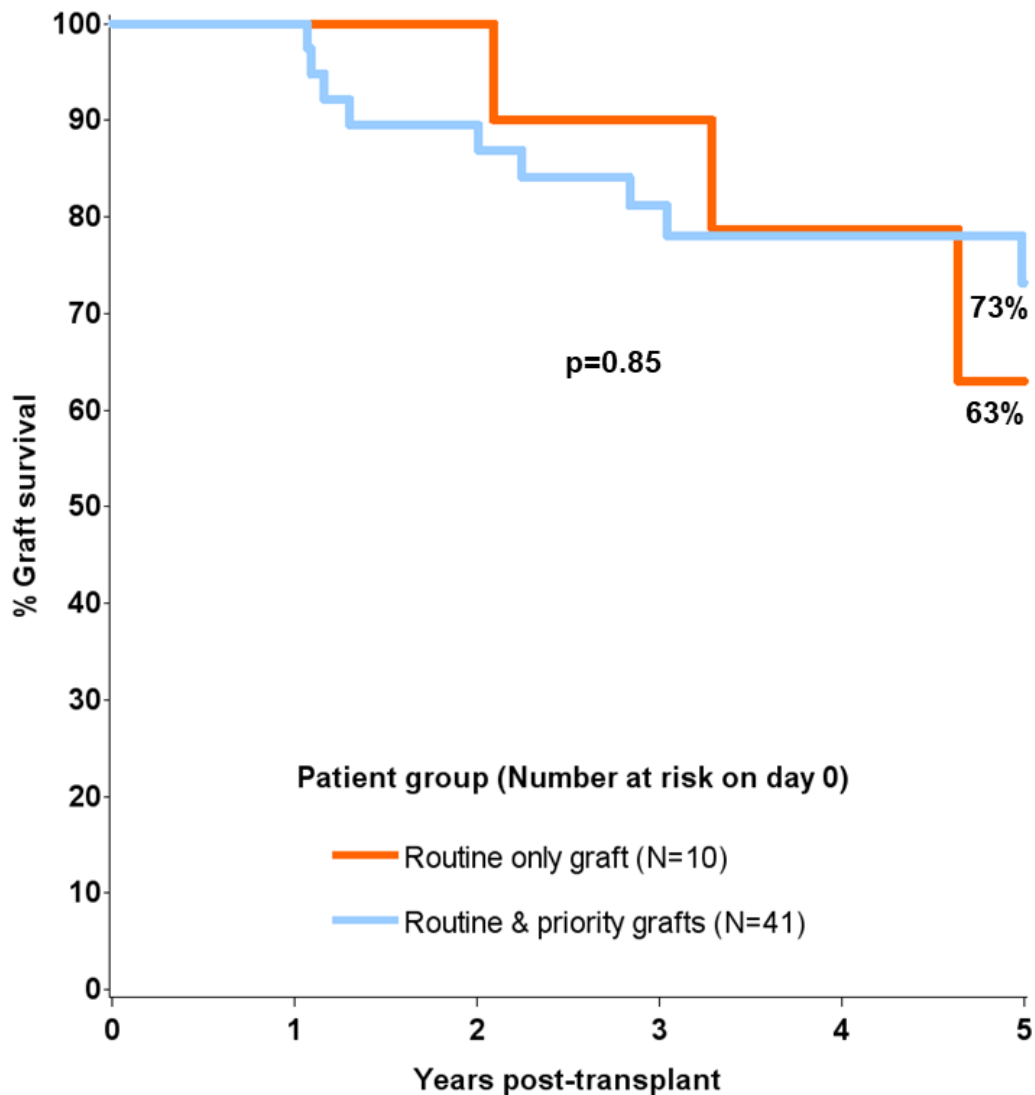


Figure 12.5 shows, for routine islet only transplants between 1 April 2021 – 31 March 2025, the [median](#) annual rate of severe [hypoglycaemic](#) events, at registration, prior to transplant (reported as number of events between registration and transplant) and at one-year post-transplant. Of the 12 patients where the number of severe hypoglycaemic events at one-year post-transplant was available, none experienced severe [hypoglycaemic](#) events.

Figure 12.5 Median annual rate of severe hypoglycaemic events for routine islet only transplants, 1 April 2021 to 31 March 2025

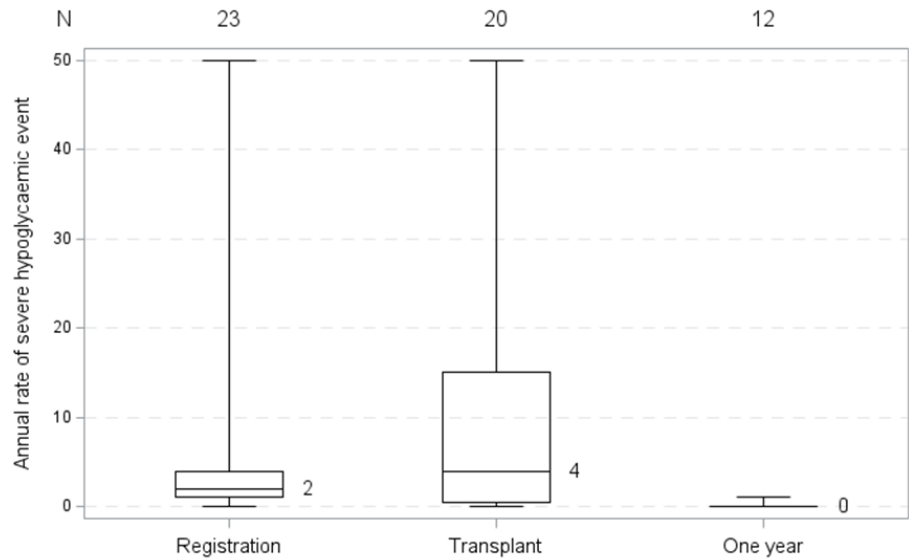


Figure 12.6 shows the reduction in [median HbA1c](#) (mmol/mol) for routine islet only transplants between 1 April 2021 – 31 March 2025. [Median HbA1c](#) dropped from 57mmol/mol prior to transplant to 53mmol/mol at one-year post-transplant. Of those 13 patients with HbA1c reported at one-year, five (38%) had an [HbA1c](#) less than 53mmol/mol.

Figure 12.6 Median HbA1c (mmol/mol) for routine islet only transplants, 1 April 2021 to 31 March 2025

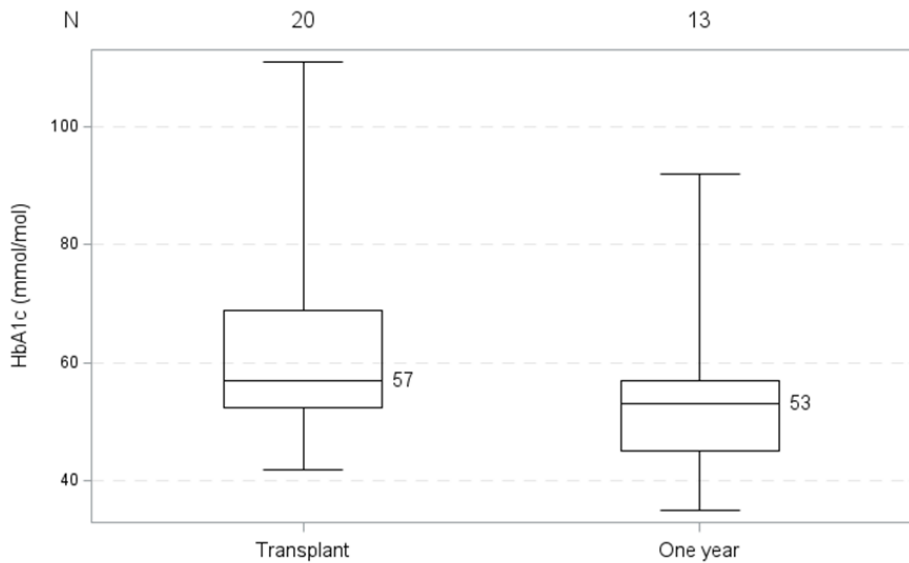
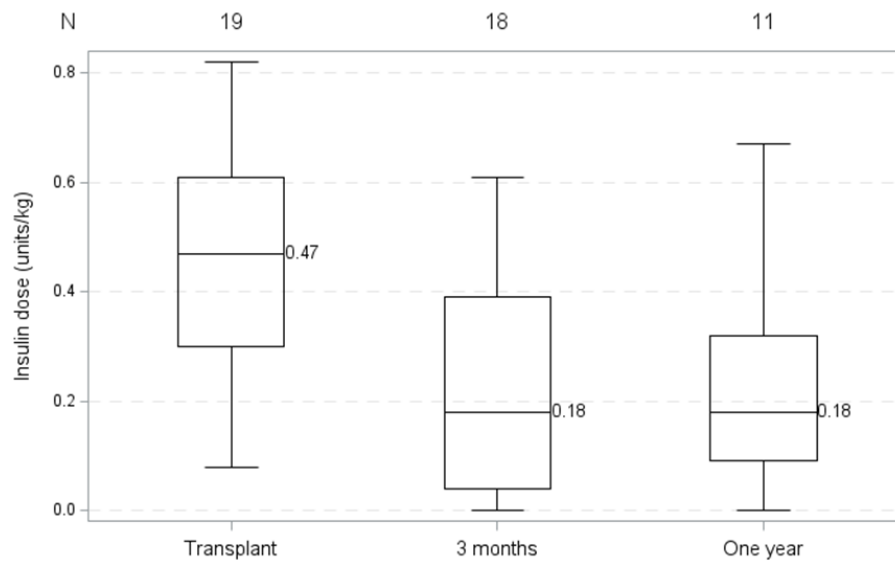


Figure 12.7 shows the [median](#) insulin dose per kilo recipient body weight at three-months and one-year post-transplant, for routine islet only transplants between 1 April 2021 – 31 March 2025. Prior to transplant the [median](#) insulin dose was 0.47 units/kg, by three-months the [median](#) dose dropped to 0.18 units/kg and then remained at a similar level at one-year post-transplant with a [median](#) dose of 0.18 units/kg.

Following islet transplantation, of the 12 patients where information was reported, seven (58%) achieved insulin independence at some point during their first year post-transplant.

Figure 12.7 Median insulin dose per kilo of recipient weight for routine islet only transplants, 1 April 2021 to 31 March 2025

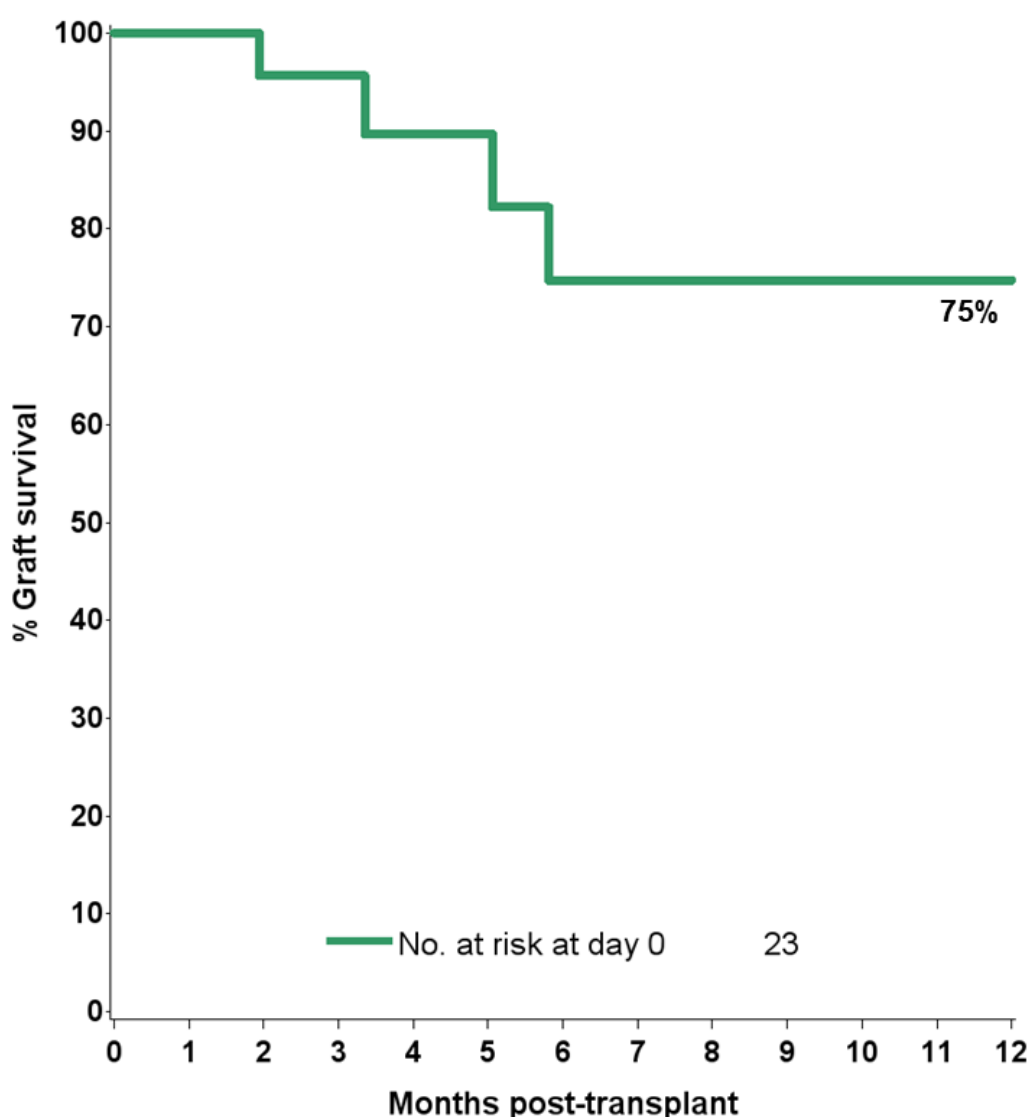


12.2 Outcome measures for SIK transplants

Key measures of SIK outcome include [graft survival](#), [HbA1c](#) and insulin requirements. This section includes outcomes reported to NHS Blood and Transplant for SIK transplants between 1 April 2017 and 31 March 2025, as centres were able to register patients for an SIK graft from 1 July 2016.

A one-year [Kaplan-Meier graft survival](#) plot for SIK transplants between 1 April 2021 – 31 March 2025 is shown in **Figure 12.8**. Estimated one-year islet [graft survival](#) following an SIK transplant was 75% with 95% confidence interval (CI) (45-90%). Patients who received an SIK graft only and those patients who additionally received a priority islet graft were included.

Figure 12.8 One-year graft survival following first SIK transplant between 1 April 2021 and 31 March 2025



A five-year [Kaplan-Meier graft survival](#) plot for SIK transplants between 1 April 2017 – 31 March 2025 is shown in **Figure 12.9**. Estimated five-year islet [graft survival](#) following a routine SIK transplant was 48% with 95% CI (22-70%). Patients who received an SIK graft only and those patients who additionally received a priority islet graft were included.

Figure 12.9 **Five-year graft survival following first SIK transplant between 1 April 2017 and 31 March 2025**

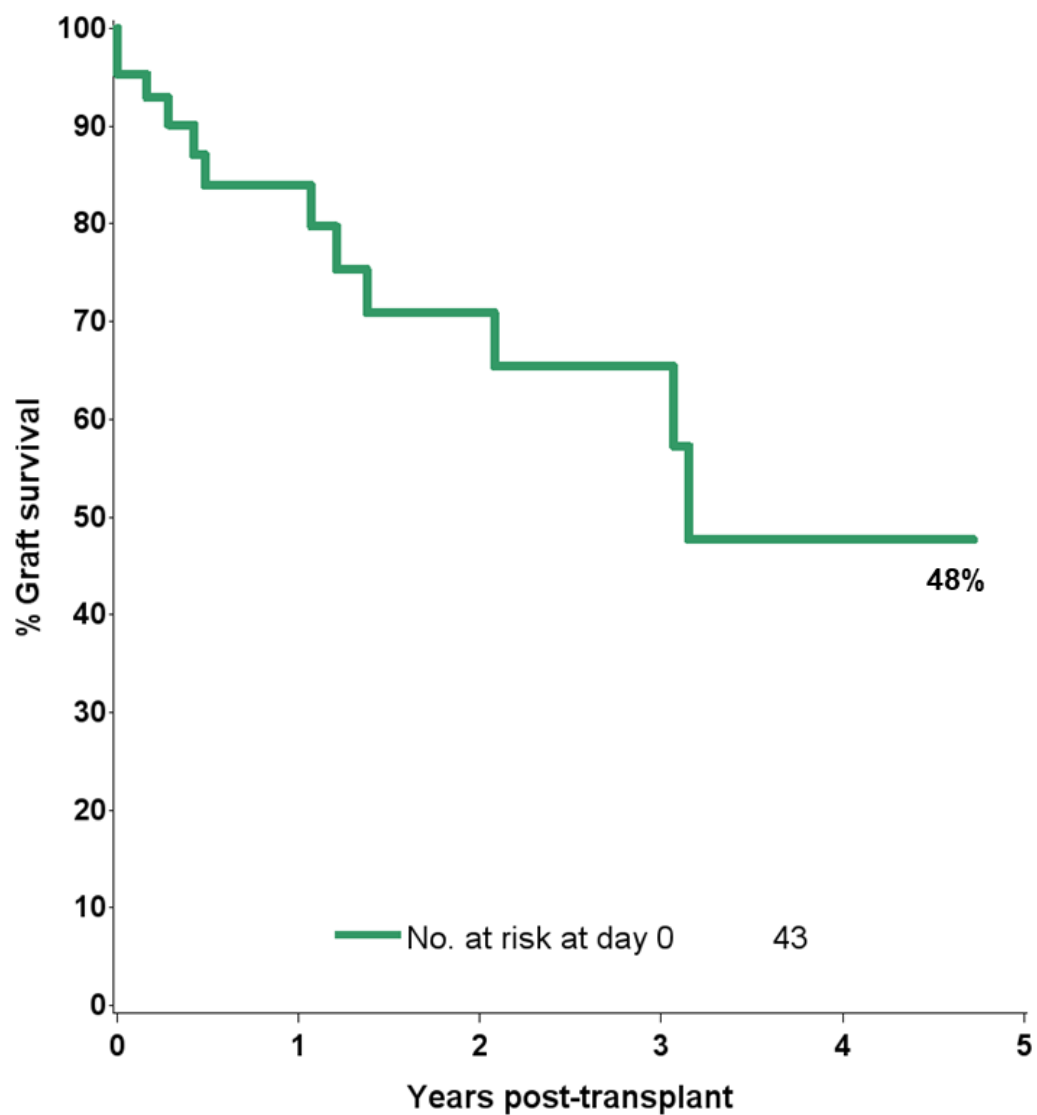


Figure 12.10 shows the reduction in [median HbA1c](#) (mmol/mol) for SIK transplants between 1 April 2021 – 31 March 2025. [Median HbA1c](#) dropped from 61mmol/mol prior to transplant to 51mmol/mol at one-year post-transplant. Of those 10 patients with HbA1c reported at one-year, half had an [HbA1c](#) less than 53mmol/mol.

Figure 12.10 Median HbA1c (mmol/mol) for SIK transplants, 1 April 2021 to 31 March 2025

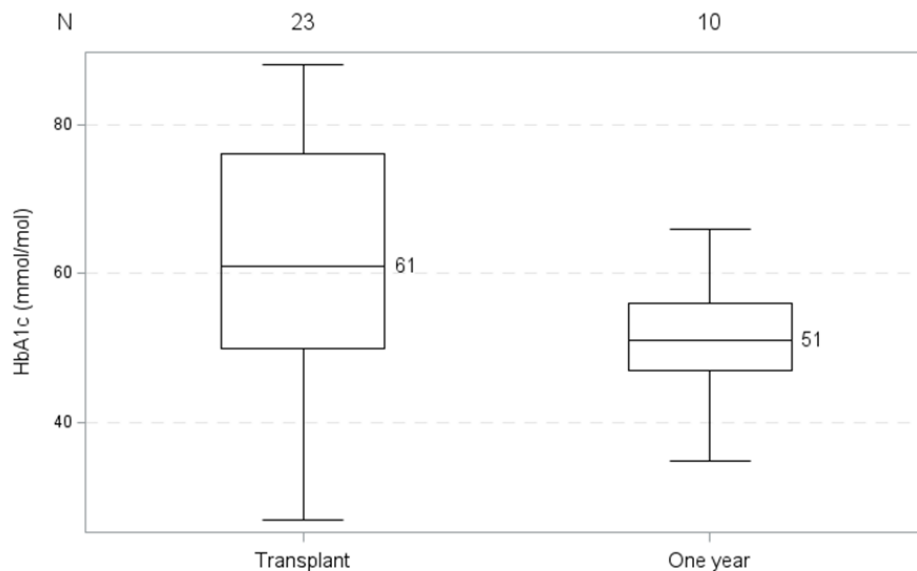
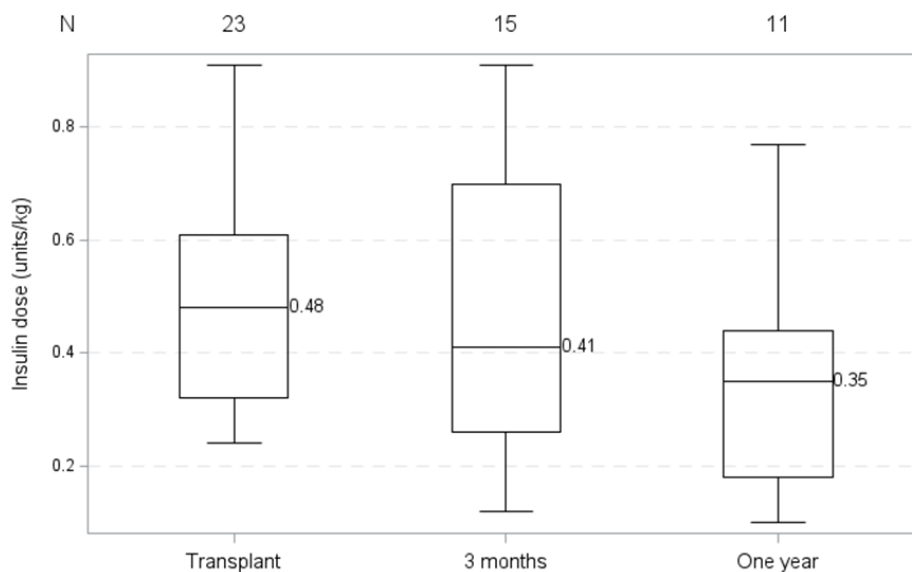


Figure 12.11 shows the [median](#) insulin dose per kilo recipient body weight at three-months and one-year post-transplant, for SIK transplants between 1 April 2021 – 31 March 2025. Prior to transplant the [median](#) insulin dose was 0.48 units/kg, by three-months the [median](#) dose dropped to 0.41 units/kg and then decreased further at one-year post-transplant with a [median](#) dose of 0.35 units/kg. Following SIK transplantation, of the 8 patients where information was reported, none achieved insulin independence at any point during their first year post-transplant.

Figure 12.11 Median insulin dose per kilo of recipient weight for SIK transplants, 1 April 2021 to 31 March 2025



Form return rates

13.1 Islet form return rates, 1 January – 31 December 2025

Form return rates are reported in **Table 13.1** for the islet transplant record, three month and one year follow-up form, along with lifetime follow-up (more than two years). These include all islet transplants performed between 1 January and 31 December 2025 for the transplant record, and all requests for follow-up forms issued in this time period. Centres highlighted are transplant centres. There were 74% of transplant record and 63% of lifetime follow-up forms returned and 57% of 3-month and 41% of 12-month follow-up forms returned. Of the transplant centres, Manchester had the lowest lifetime follow-up return rate of 20% followed by Kings College Hospital with 46% lifetime follow-up forms returned.

Table 13.1 Form return rates following islet transplantation, by centre, 1 January - 31 December 2025								
Centre	Transplant record		3 month follow-up		12 month follow-up		Lifetime follow-up	
	N	% returned	N	% returned	N	% returned	N	% returned
Bristol, Southmead Hospital							2	50
Edinburgh, Royal Infirmary Of Edinburgh	18	100	10	70	8	25	33	79
Glasgow, Queen Elizabeth University Hospital							2	0
London, Kings College Hospital			1	0	1	0	13	46
London, The Royal Free Hospital							2	0
Manchester, Manchester Royal Infirmary	4	75	4	0	4	25	15	20
Newcastle, Freeman Hospital	2	100	1	100			14	100
Oxford, Churchill Hospital	7	0	5	80	4	100	14	71
Overall	31	74	21	57	17	41	95	63

Appendix

A1 Glossary of terms

ABO

The most important human blood group system for transplantation is the ABO system. Every human being is of blood group O, A, B, AB, or one of the minor variants of these four groups. ABO blood groups are present on other tissues and, unless special precautions are taken, a blood group A pancreas transplanted to a blood group O patient will be rapidly rejected.

Active transplant list

When a patient is registered for a transplant, they are registered on what is called the 'active' transplant list. This means that when a donor pancreas becomes available, the patient is included among those who are matched against the donor to determine whether or not the pancreas is suitable for them. It may sometimes be necessary to take a patient off the transplant list, either temporarily or permanently. This may be done, for example, if someone becomes too ill to receive a transplant. The patient is told about the decision to suspend them from the list and is informed whether the suspension is temporary or permanent. If a patient is suspended from the list, they are not included in the matching of any donor pancreases that become available.

Calculated Reaction Frequency (cRF)

For a given patient with detectable [HLA](#) antibodies, the proportion blood group identical donors from a pool of 10,000 against which the recipient has [HLA](#) specific antibodies is calculated. This percentage of donors is termed the 'calculated Reaction Frequency' (cRF), more commonly referred to as the [sensitisation](#) level. Patients with no detectable [HLA](#) antibodies will have 0 [sensitisation](#) (0% cRF).

Case mix

The types of patients treated at a unit for a common condition. This can vary across units depending on the facilities available at the unit as well as the types of people in the catchment area of the unit. The definition of what type of patient a person is depends on the patient characteristics that influence the outcome of the treatment. For example, the case mix for patients registered for a pancreas transplant is defined in terms of various factors such as the blood group, tissue type and age of the patient. These factors have an influence on the chance of a patient receiving a transplant.

Confidence interval (CI)

When an estimate of a quantity such as a survival rate is obtained from data, the value of the estimate depends on the set of patients whose data were used. If, by chance, data from a different set of patients had been used, the value of the estimate may have been different. There is therefore some uncertainty linked with any estimate. A confidence interval is a range of values whose width gives an indication of the uncertainty or precision of an estimate. The number of transplants or patients analysed influences the width of a confidence interval. Smaller data sets tend to lead to wider confidence intervals compared to larger data sets. Estimates from larger data sets are therefore more precise than those from smaller data sets. Confidence intervals are calculated with a stated probability, usually 95%. We then say that there is a 95% chance that the confidence interval includes the true value of the quantity we wish to estimate.

Confidence limit

The upper and lower bounds of a confidence interval.

Cox Proportional Hazards model

A statistical model that relates the instantaneous risk (hazard) of an event occurring at a given time point to the [risk factors](#) that influence the length of time it takes for the event to occur. This model can be used to compare the hazard of an event of interest, such as graft failure or patient death, across different groups of patients.

Cross-match

A cross-match is a test for patient antibodies against donor antigens. A positive cross-match shows that the donor and patient are incompatible. A negative cross-match means there is no reaction between donor and patient and that the transplant may proceed.

Donor after brain death

Donation after brainstem death (DBD) means donation which takes place following the diagnosis of death using neurological criteria

Donor after circulatory death

Donation after circulatory death (DCD) means donation which takes place following the diagnosis of death using circulatory criteria.

Fixed effects

A fixed effects model is a type of statistical model that is used to estimate the effect of one or more categorical variables on a continuous outcome variable, while controlling for other variables. In a fixed effects model, the categorical variables are assumed to be fixed and not a random sample from a larger population. Therefore, the model is able to estimate the effect of these variables on the outcome variable, while controlling for any other variables that may be influencing the outcome.

Funnel plot

A graphical method that shows how consistent the survival rates of the different transplant units are compared to the national rate. The graph shows for each unit, a survival rate plotted against the number of transplants undertaken, with the national rate and confidence limits around this national rate superimposed. In this report, 95% and 99.8% confidence limits were used. Units that lie within the confidence limits have survival rates that are statistically consistent with the national rate. When a unit is close to or outside the limits, this is an indication that the centre may have a rate that is considerably different from the national rate.

Graft survival rate

The percentage of patients whose grafts are still functioning. This is usually specified for a given time period after transplant. For example, a five-year graft survival rate is the percentage of transplants still functioning five years after transplant. For the purposes of pancreas transplantation, graft failure is defined as a return to permanent insulin dependence while for islet transplantation graft failure is defined as a C-peptide less than 50 pmol/l.

HbA1c

HbA1c refers to glycated haemoglobin which is measured by clinicians to obtain an overall picture of an individual's average blood sugar levels over a particular period. HbA1c is a valuable indicator of diabetes control.

HLA mismatch

Human Leucocyte Antigens (HLA) are carried on many cells in the body and the immune system can distinguish between those that can be recognised as 'self' (belonging to you or identical to your own) and those that can be recognised as 'nonself'. The normal response of the immune system is to attack foreign/non-self material by producing antibodies against the foreign material. This is one of the mechanisms that provide protection against infection. This is unfortunate from the point of view of transplantation as the immune system will see the graft as just another 'infection' to be destroyed, produce antibodies against the graft and rejection of the grafted organ will take place. To help overcome this response, it is recognised that 'matching' the recipient and donor on the basis of HLA (and blood group) reduces the chances of acute rejection and, with the added use of immunosuppressive drugs, very much improves the chances of graft survival. 'Matching' refers to the similarity of the recipient HLA type and donor HLA type. HLA mismatch refers to the number of mismatches between the donor and the recipient at the A, B and DR (HLA) loci. There can only be a total of two mismatches at each locus. For example, an HLA mismatch value of 000, means that the donor and recipient are identical at all three loci, while an HLA mismatch value of 210 means that the donor and recipient differ completely at the A locus, are partly the same at the B locus and are identical at the DR locus.

Hypoglycaemia

Hypoglycaemia occurs when the level of glucose present in the blood falls below a set point and is the most common complication of insulin therapy. Severe hypoglycaemia is defined as having low blood glucose levels that requires third party assistance to treat and is classed as a diabetic emergency.

Inter-quartile range

The values between which the middle 50% of the data fall. The lower boundary is the lower quartile, the upper boundary the upper quartile.

Kaplan-Meier method

A method that allows patients with incomplete follow-up information to be included in estimating survival rates. For example, in a cohort for estimating one year patient survival rates, a patient was followed up for only nine months before they relocated. If we calculated a crude survival estimate using the number of patients who survived for at least a year, this patient would have to be excluded as it is not known whether or not the patient was still alive at one year after transplant. The Kaplan-Meier method allows information about such patients to be used for the length of time that they are followed-up, when this information would otherwise be discarded. Such instances of incomplete follow-up are not uncommon and the Kaplan-Meier method allows the computation of estimates that are more meaningful in these cases.

Matchability points score

Matchability points score is a score between 1 and 10 reflecting the difficulty with which a well-matched HLA compatible organ can be found and takes into account sensitisation and rareness of HLA type. Scores are updated annually such that 10% of waiting list patients who are easiest to match have score=1 and 10% who are most difficult to match have a score=10.

Median

The midpoint in a series of numbers, so that half the data values are larger than the median, and half are smaller.

Multi-organ transplant

A transplant in which the patient receives more than one organ. For example, a patient may undergo a transplant of a pancreas and liver. Intestinal transplants involving a pancreas are excluded from the whole report.

National Pancreas Offering Scheme

A nationally agreed set of rules for sharing and allocating deceased donor pancreases for pancreas or islet transplant between transplant centres in the UK. The scheme was introduced on 1 December 2010, revised on 11 September 2019 and is administered by NHS Blood and Transplant. Prior to December 2010 deceased donors were allocated on a centre basis.

The Pancreas Offering Scheme, from September 2019, prioritises difficult to match (100% [sensitisation](#) or [matchability points score](#)=10) and long-waiting patients in a top tier. The second tier includes all other blood group eligible patients and assigns an individual point score to all patients based on a number of clinically relevant donor, recipient and transplant related factors. The individual points score assigns more points to patients with lower levels of [HLA mismatch](#), longer waiting times, higher levels of patient [sensitisation](#), short travel times between retrieval to transplant centre, longer duration of dialysis and better donor to recipient age matching. In addition, donors with a lower BMI are clinically desirable for pancreas transplantation whereas donors with a higher BMI are preferable for islet transplantation. As a result, where the donor has a low BMI more points are awarded for patients waiting for a pancreas transplant and where the donor has a high BMI more points are awarded to islet patients. Patients listed nationally for either a pancreas or islet transplant are then ranked by their total points score and the pancreas is offered preferentially to the patient with the highest total number of points, no matter where in the UK they receive their treatment or whether they are waiting for a pancreas or islet transplant.

Patient survival rate

The percentage of patients who are still alive (whether the graft is still functioning or not). This is usually specified for a given time period after transplant. For example, a five-year patient survival rate is the percentage of patients who are still alive five years after their first transplant.

***p* value**

In the context of comparing survival rates across centres, the *p* value is the probability that the differences observed in the rates across centres occurred by chance. As this is a probability, it takes values between 0 and 1. If the *p* value is small, say less than 0.05, this implies that the differences are unlikely to be due to chance and there may be some identifiable cause for these differences. If the *p* value is large, say greater than 0.1, then it is quite likely that any differences seen are due to chance.

Risk-adjusted survival rate

Some transplants have a higher chance than others of failing at any given time. The differences in expected survival times arise due to differences in certain factors, the [risk factors](#), among patients. A risk-adjusted survival rate for a centre is the expected survival rate for that centre given the case mix of their patients. Adjusting for case mix in estimating centre-specific survival rates allows valid comparison of these rates across centres and to the national rate.

Risk factors

These are the characteristics of a patient, transplant or donor that influence the length of time that a graft is likely to function or a patient is likely to survive following a transplant. For example, when all else is equal, a transplant from a younger donor is expected to survive longer than that from an older donor and so donor age is a risk factor.

Sensitisation

Potential recipients can develop a number of different [HLA](#) antibodies as a result of exposure to the different [HLA](#) through blood transfusion, previous transplants and pregnancy. Many patients however, have no detectable [HLA](#) antibodies. If a potential recipient has an antibody to an [HLA](#) then they cannot receive a transplant from a donor with that [HLA](#), thus restricting the pool of potential donors. Patients who are clinically incompatible with the donor are excluded from the offering sequence by the [Pancreas Offering Scheme](#).

Total preservation time (TPT)

The length of time that elapses between a pancreas being removed from the donor to its transplantation into the recipient is called the Total Preservation Time (TPT). Generally, the shorter this time, the more likely the pancreas is to work immediately and the better the long-term outcome. The factors which determine TPT include a) transportation of the pancreas from the retrieval hospital to the hospital where the transplant is performed, b) the need to tissue type the donor and [cross-match](#) the donor and potential recipients, c) the occasional necessity of moving the pancreas to another hospital if a transplant cannot go ahead, d) contacting and preparing the recipient for the transplant, and e) access to the operating theatre.

Unadjusted survival rate

Unadjusted survival rates do not take account of [risk factors](#) and are based only on the number of transplants at a given centre and the number and timing of those that fail within the post-transplant period of interest. In this case, unlike for risk-adjusted rates, all transplants are assumed to be equally likely to fail at any given time. However, some centres may have lower unadjusted survival rates than others simply because they tend to undertake transplants that have increased risks of failure. Comparison of unadjusted survival rates across centres and to the national rate is therefore inappropriate.

A2 Methods

Statistical methodology and risk-adjustment for survival rate estimation

[Unadjusted](#) and [risk-adjusted](#) estimates of [patient](#) and [graft](#) survival for pancreas and simultaneous pancreas and kidney (SPK) transplant are given for each centre. [Unadjusted](#) rates give an estimate of what the survival rate at a centre is, assuming that all patients at the centre have the same chance of surviving a given length of time after transplant. In reality, patients differ and a [risk-adjusted](#) rate that allows for these differences would give a more meaningful estimate of survival.

Computing unadjusted survival rates

[Unadjusted](#) survival rates were calculated using the [Kaplan-Meier](#) method, which allows patients with incomplete follow-up information to be included in the computation. For example, in a cohort for estimating one-year [patient](#) survival rates, a patient was followed up for only nine months before they relocated. If we calculated a crude survival estimate using the number of patients who survived for at least a year, this patient would have to be excluded, as it is not known whether or not the patient was still alive one year after transplant. The [Kaplan-Meier](#) method allows information about such patients to be used for the length of time that they are followed-up, when this information would otherwise be discarded. Such instances of incomplete follow-up are not uncommon in the analysis of survival data and the [Kaplan-Meier](#) method therefore allows the computation of survival estimates that are more meaningful.

Computing risk-adjusted survival rates

A [risk-adjusted](#) survival rate is an estimate of what the survival rate at a centre would have been if they had had the same mix of patients as that seen nationally. The [risk-adjusted](#) rate therefore presents estimates in which differences in patient mix across centres have been removed as much as possible. For that reason, it is valid to only compare centres using [risk-adjusted](#) rather than [unadjusted](#) rates, as differences among the latter can be attributed to differences in patient mix.

[Risk-adjusted](#) survival estimates were obtained through indirect standardisation. A [Cox](#) Proportional Hazards model was used to determine the probability of survival for each patient based on their individual risk factor values. The sum of these probabilities for all patients at a centre gives the number, E, of patients or grafts expected to survive at least one year or five years after transplant at that centre. The number of patients who actually survive the given time period is given by O. The [risk-adjusted](#) estimate is then calculated by multiplying the ratio O/E by the overall [unadjusted](#) survival rate across all centres. The risk-adjustment models used were based on results from previous studies that looked at factors affecting the survival rates of interest. The factors included in the models are shown in the table below.

First transplants from deceased donors

Simultaneous pancreas and kidney (SPK) survival

1 and 5 year patient survival	Recipient age, donor type and waiting time
1 and 5 year graft survival	Recipient age, Donor age, donor type, donor BMI and waiting time

Funnel plots for comparing risk-adjusted survival rates

The [funnel plot](#) is a graphical method to show how consistent the survival rates of the different transplant centres are compared to the national rate. The graph shows for each centre, a survival rate plotted against the number of transplants undertaken, with the national rate and [confidence limits](#) around this national rate superimposed. In this report, 95% and 99.8% [confidence limits](#) were used. Units that lie within the [confidence limits](#) have survival rates that are statistically consistent with the national rate. When a unit is close to or outside the limits, this is an indication that the centre may have a rate that is considerably different from the national rate.

A fundamentally similar method was used to conduct the survival from listing analysis. The [risk factors](#) used are detailed in the table below.

First registrations for simultaneous pancreas and kidney (SPK) transplant

1 and 5 year [patient](#) survival from listing
Age, sex, ethnicity, blood group, [cRF](#)>85%

Systematic Component of Variation

For a given individual who is a resident in a given NHS region registration to the transplant list is modelled as a Bernoulli trial. At the whole area level, this becomes a Binomial process which can be approximated by a Poisson distribution when rare events are modelled. Transplant counts follow similar assumptions.

To allow for the possibility that, even after allowing for area-specific Poisson rates, area differences remain, introduce an additional multiplicative rate factor which varies from area to area. Postulate a non-parametric distribution for the multiplicative factor, with variance σ^2 . If the factor is one for all areas, then area differences are fully explained by the area-specific Poisson rate. If the factor varies with a nonzero variance, σ^2 , then we conclude that there are unexplained area differences.

The systematic component of variation (SCV; McPherson et al., N Engl J Med 1982, 307: 1310-4) is the moment estimator of σ^2 . Under the null hypothesis of homogeneity across areas, the SCV would be zero. The SCV, therefore, allows us to detect variability across areas beyond that expected by chance; the larger the SCV, the greater the evidence of systematic variation across areas.

A one-sided p-value for the hypothesis that the SCV is greater than zero versus the null hypothesis that the SCV is equal to zero was derived using a parametric bootstrap where data were simulated from the Poisson distribution that would be consistent with the null hypothesis (multiplicative rate factor is equal to one in all areas and σ^2 equal to zero). The observed SCV was then compared against this simulated data to calculate the probability that an SCV of at least this size would be observed due to chance if the null hypothesis were true.

10,000 bootstrap samples of size 7 (number of areas) were simulated, where the registration/transplant count in each area was drawn from a Poisson distribution with its expected value being the area-specific expected count (the rate of transplants/registrations in the total population multiplied by the population of the area). The SCV was then calculated in each of the 10,000 samples and a bootstrap p-value for the SCV in the observed data was estimated as:

$$P_{boot} = \frac{1 + \#\{SCV_{sim} \geq SCV_{obs}\}}{10000 + 1}$$

where $\#\{SCV_{sim} \geq SCV_{obs}\}$ is the number of SCV values in the simulated datasets which are greater than or equal to the SCV in the observed data. This follows the simulation method given in Ibanez et al., BMC Health Services Research, 2009, 9:60. No adjustment was made for area-specific demographic characteristics that may impact the rates of registration to the transplant list and transplantation such as age and sex.

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