

NHS BLOOD AND TRANSPLANT**PANCREAS ADVISORY GROUP****ISLET TRANSPLANT ACTIVITY AND OUTCOME
SUMMARY****INTRODUCTION**

- 1 Islet transplant data has been collected by NHSBT since the introduction of four transplant and follow-up forms in July 2010. This paper provides summaries of transplant activity and outcomes, including 28-day follow-up.

DATA

- 2 Islet transplant activity, including simultaneous islet and kidney (SIK) grafts, and end of year transplant list for the last three financial years were analysed. Data on 200 routine, and subsequent priority, islet transplants performed in the UK between 1 April 2010 and 31 March 2022 were analysed from the UKTR. Outcome data are reported for routine transplants only.

RESULTS

- 3 In 2022/23 there were 18 islet transplants performed, of which five were SIK. There were 25 patients on the islet transplant list at 31 March 2023, 23 routine (13 SIK) and two priority patients.
- 4 One-year graft survival for first routine islet alone grafts is 83% for transplants performed 1 April 2016 to 31 March 2022. There is a significant difference in five-year graft survival for those receiving a routine and priority top-up graft compared with those receiving a routine only graft, 63% and 39%, respectively $p=0.0002$.
- 5 For patients receiving an islet alone routine and a priority graft, the median annual rate of severe hypoglycaemic events fell from 9 events (IQR 0 – 47) at time of transplant, to none at one, two, three and five years' post-transplant. Of all routine islet transplants, 109 (85%) experienced no severe hypoglycaemic events in the first-year post-transplant.
- 6 Median HbA1c fell from 64 mmol/mol (IQR 54 – 75) at time of transplant, to 51 mmol/mol (IQR 42 – 58) at one year and 55 (IQR 47 – 64) at three years post-transplant, for patients who received a routine and a priority graft. Overall, a reduction in HbA1c was reported for 105 (83%) patients at one-year post-transplant.
- 7 The median insulin dose, for patients who received routine and priority grafts, fell from 0.52 units/kg (IQR 0.38 – 0.63) at time of transplant to 0.3 units/kg (IQR 0.17 – 0.49) three years post-transplant. Insulin independence at some point in the first-year post-transplant was achieved for 35% of patients overall where reported.

SUMMARY

- 8 In 2022/23, the number of islet transplants and patients on the waiting list at the end of the financial year have decreased slightly from 2021/22. One-year graft survival is 83% for transplants performed between 1 April 2016 and 31 March 2022. The median annual rate of severe hypoglycaemic events, HbA1c and insulin dose at one-year, two, three and five years post routine transplant are lower than pre-transplant.

ACTION

- 9 Members are asked to consider whether a maximum number of days post-transplant should be implemented, for data to be reported, on the 28-day form.

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- 10 Islet transplant data has been collected by NHSBT since the introduction of four transplant and follow-up forms in July 2010. This paper provides summaries of transplant activity and outcomes, including 28-day follow-up.

DATA

- 11 Recent data on islet transplant activity, including simultaneous islet and kidney (SIK) grafts, and end of financial year transplant list between 1 April 2020 and 31 March 2023 from the UK Transplant Registry (UKTR) are reported, by centre and financial year.
- 12 Between 1 April 2010 and 31 March 2022 there were 200 routine islet transplants performed in the UK. Outcome data on these 200 routine, and any subsequent priority, islet transplants have been analysed from the UKTR. Outcome data are reported for routine transplants only. Where outcome data are unavailable from UKTR, data collected by the UKITC clinical research forms have been considered. These data have been provided by the Newcastle research group who collate and maintain the research data base.
- 13 All islet transplant outcome data reported are specific to the routine transplant and one-year centre specific outcomes are presented in the Appendix.

RESULTS

- 14 The number of islet transplants performed by centre for the last three calendar years, 1 April 2020 to 31 March 2023, is shown by transplant type and islet status in **Tables 1** and **2**, respectively. **Table 3** shows the transplant list at the end of the last three financial years by islet status.
- 15 Between 1 April 2010 and 31 March 2022, there were a total of 312 islet transplants performed, 200 (64%) of which were routine (including 31 SIK transplants) and 112 were priority. One patient received only a priority transplant in this time period as their routine transplant was before 1 April 2010.
- 16 For those patients receiving a routine transplant between 1 April 2010 and 31 March 2022, the number of known graft failures at one-year post-transplant is reported in **Table 4**. Of the 200 routine transplants performed, 110 patients subsequently received a priority graft. The majority of these patients received their first priority graft within six months of their routine graft: 0-3 months for 32 (29%) patients; 3-6 months for 39 (35%) patients; 6-12 months for 37 (34%) patients and more than one year for two patients who were highly sensitised.

Table 1 UK islet transplant activity between 1 April 2020 and 31 March 2023, by transplant type and financial year

| Transplant Centre | 2020/21 | | | | | Total | | 2021/22 | | | | | Total | | 2022/23 | | | | | Total | |
|-------------------|----------|----------|----------|----------|----------------|-----------|------------|----------------|----------------|----------|----------|----------------|-----------|------------|----------------|----------|----------|----------|----------------|-----------|------------|
| | ITA | IAK | IAP | IAPK | SIK | N | % | ITA | IAK | IAP | IAPK | SIK | N | % | ITA | IAK | IAP | IAPK | SIK | N | % |
| Bristol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Edinburgh | 3 | 1 | 0 | 0 | 1 ¹ | 5 | 33 | 8 | 2 ¹ | 0 | 0 | 3 | 13 | 59 | 5 ² | 2 | 0 | 0 | 2 ¹ | 9 | 50 |
| King's | 1 | 0 | 0 | 0 | 0 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Manchester | 0 | 0 | 0 | 0 | 3 ² | 3 | 20 | 0 | 1 ¹ | 0 | 0 | 3 ¹ | 4 | 18 | 0 | 2 | 0 | 0 | 3 | 5 | 28 |
| Newcastle | 3 | 1 | 0 | 0 | 0 | 4 | 27 | 2 | 1 | 0 | 0 | 0 | 3 | 14 | 3 | 0 | 0 | 0 | 0 | 3 | 17 |
| Oxford | 1 | 0 | 0 | 0 | 1 | 2 | 13 | 1 ¹ | 0 | 0 | 0 | 1 | 2 | 9 | 0 | 1 | 0 | 0 | 0 | 1 | 6 |
| Royal Free | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 8 | 2 | 0 | 0 | 5 | 15 | 100 | 11 | 4 | 0 | 0 | 7 | 22 | 100 | 8 | 5 | 0 | 0 | 5 | 18 | 100 |

ITA = Islet transplant alone IAK = Islet after kidney IAP = Islet after pancreas IAPK = Islet after simultaneous pancreas/ kidney
 SIK = Simultaneous islet/kidney

¹ Includes 1 DCD transplant

² Includes 2 DCD transplants

Table 2 UK islet transplant activity between 1 April 2020 and 31 March 2023, by islet status, number of patients and financial year

| Transplant Centre | 2020/21 | | | | | | | | 2021/22 | | | | | | | | 2022/23 | | | | | | | |
|-------------------|---------------------|----------|----------|-----------|------------|--------------------|------------|---------------------|----------|----------|-----------|------------|--------------------|------------|---------------------|----------|----------|-----------|------------|--------------------|------------|--|--|--|
| | Routine Islet alone | | Priority | Total | | Number of patients | | Routine Islet alone | | Priority | Total | | Number of patients | | Routine Islet alone | | Priority | Total | | Number of patients | | | | |
| | SIK | N | % | N | % | N | % | SIK | N | % | N | % | N | % | SIK | N | % | N | % | N | % | | | |
| Bristol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Edinburgh | 2 | 1 | 2 | 5 | 33 | 4 | 29 | 5 | 3 | 5 | 13 | 59 | 9 | 50 | 3 | 2 | 4 | 9 | 50 | 6 | 43 | | | |
| King's | 0 | 0 | 1 | 1 | 7 | 1 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| Manchester | 0 | 3 | 0 | 3 | 20 | 3 | 21 | 0 | 3 | 1 | 4 | 18 | 4 | 22 | 0 | 3 | 2 | 5 | 28 | 5 | 36 | | | |
| Newcastle | 3 | 0 | 1 | 4 | 27 | 4 | 29 | 2 | 0 | 1 | 3 | 14 | 3 | 17 | 2 | 0 | 1 | 3 | 17 | 2 | 14 | | | |
| Oxford | 1 | 1 | 0 | 2 | 13 | 2 | 14 | 1 | 1 | 0 | 2 | 9 | 2 | 11 | 1 | 0 | 0 | 1 | 6 | 1 | 7 | | | |
| Royal Free | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | | | |
| TOTAL | 6 | 5 | 4 | 15 | 100 | 14 | 100 | 8 | 7 | 7 | 22 | 100 | 18 | 100 | 6 | 5 | 7 | 18 | 100 | 14 | 100 | | | |

Table 3 UK islet transplant list, 31 March 2021 to 31 March 2023, by islet status and financial year

| Transplant Centre | 31 March 2021 | | | | | 31 March 2022 | | | | | 31 March 2023 | | | | |
|-------------------|---------------|-----------|----------|-----------|------------|---------------|----------|----------|-----------|------------|---------------|-----------|----------|-----------|------------|
| | Routine | | Priority | Total | | Routine | | Priority | Total | | Routine | | Priority | Total | |
| | Islet alone | SIK | | N | % | Islet alone | SIK | | N | % | Islet alone | SIK | | N | % |
| Bristol | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Edinburgh | 1 | 2 | 0 | 3 | 16 | 4 | 1 | 0 | 5 | 19 | 4 | 2 | 0 | 6 | 24 |
| King's | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Manchester | 0 | 8 | 1 | 9 | 47 | 3 | 6 | 1 | 10 | 38 | 0 | 8 | 1 | 9 | 36 |
| Newcastle | 3 | 1 | 1 | 5 | 26 | 5 | 0 | 3 | 8 | 31 | 4 | 0 | 1 | 5 | 20 |
| Oxford | 1 | 0 | 1 | 2 | 11 | 2 | 1 | 0 | 3 | 12 | 2 | 3 | 0 | 5 | 20 |
| Royal Free | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| TOTAL | 5 | 11 | 3 | 19 | 100 | 14 | 8 | 4 | 26 | 100 | 10 | 13 | 2 | 25 | 100 |

| Table 4 One-year graft outcome following routine islet transplant, 1 April 2010 to 31 March 2022 | | | |
|--|-----------------------|---------------------------------------|---|
| Number of grafts | No. of transplants | No. with known outcome at one year | No. with known graft failure at one year |
| Islet routine graft | | | |
| Routine only | 71 | 61 | 16 |
| Routine and one priority graft | 97 | 95 | 6 |
| Routine and two priority grafts | 1 | 1 | 0 |
| SIK routine graft | | | |
| Routine only | 19 | 13 | 3 |
| Routine and one priority graft | 12 | 10 | 0 |
| Routine and two priority grafts | 0 | 0 | 0 |
| Total | 200 | 180 | 25 |

Figure 1a One-year graft function by total IEQ per kg recipient body weight for islet alone routine only grafts, 1 April 2010 to 31 March 2022

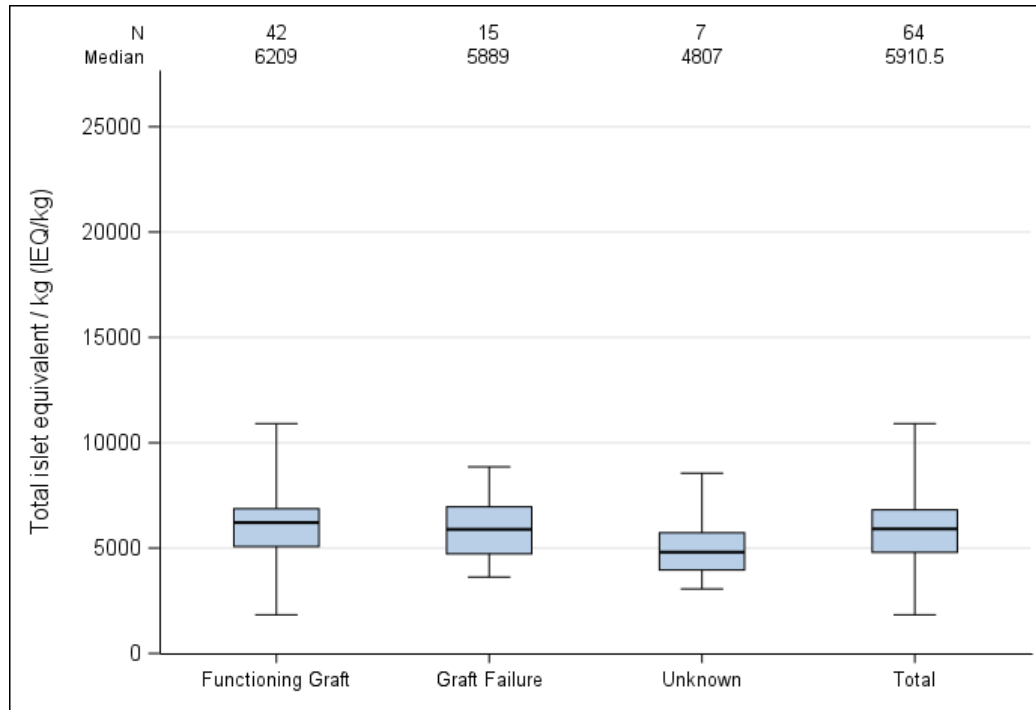


Figure 2a One-year graft function by total IEQ per kg recipient body weight for islet alone routine and priority grafts, 1 April 2010 to 31 March 2022

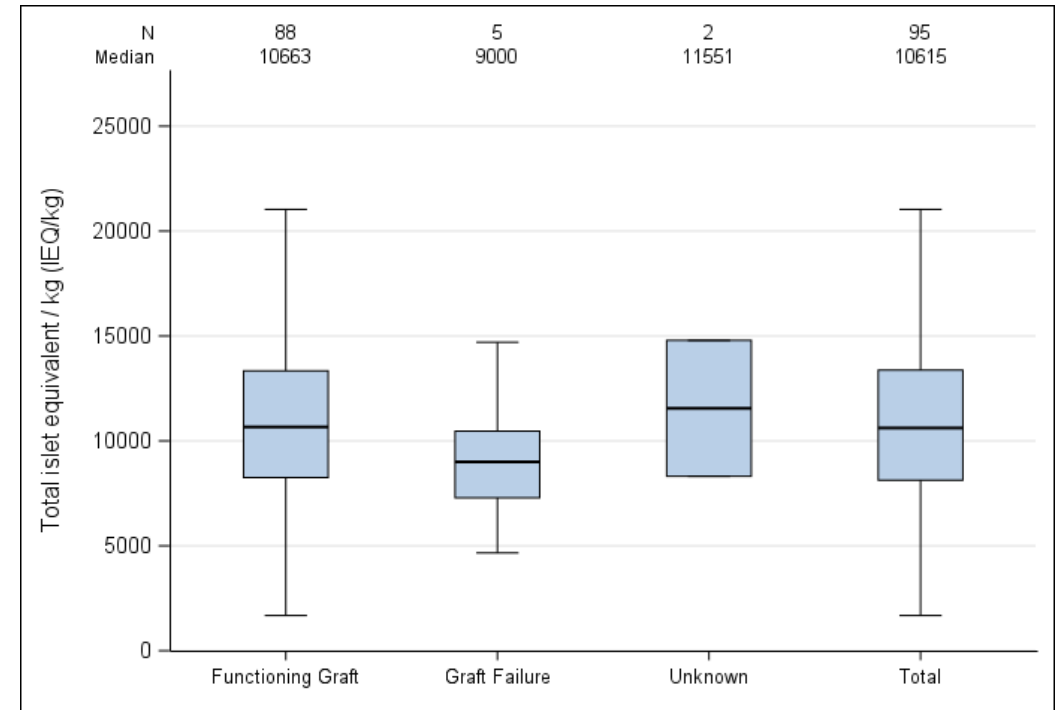


Figure 1b One-year graft function by total IEQ per kg recipient body weight for islet alone routine only grafts, 1 April 2016 to 31 March 2022

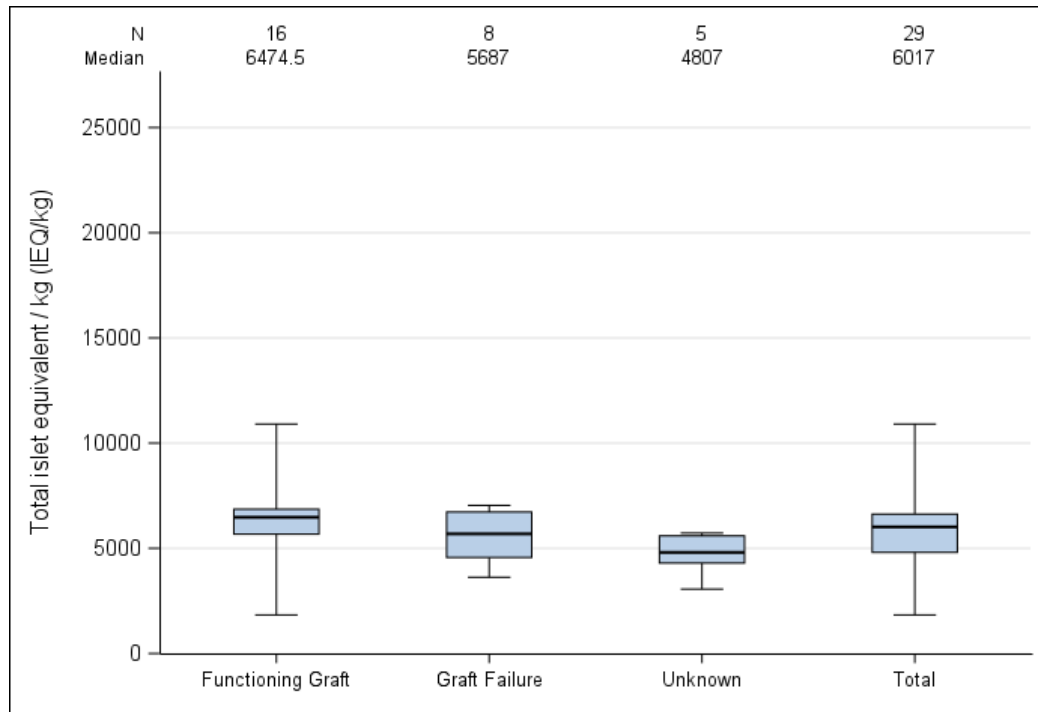
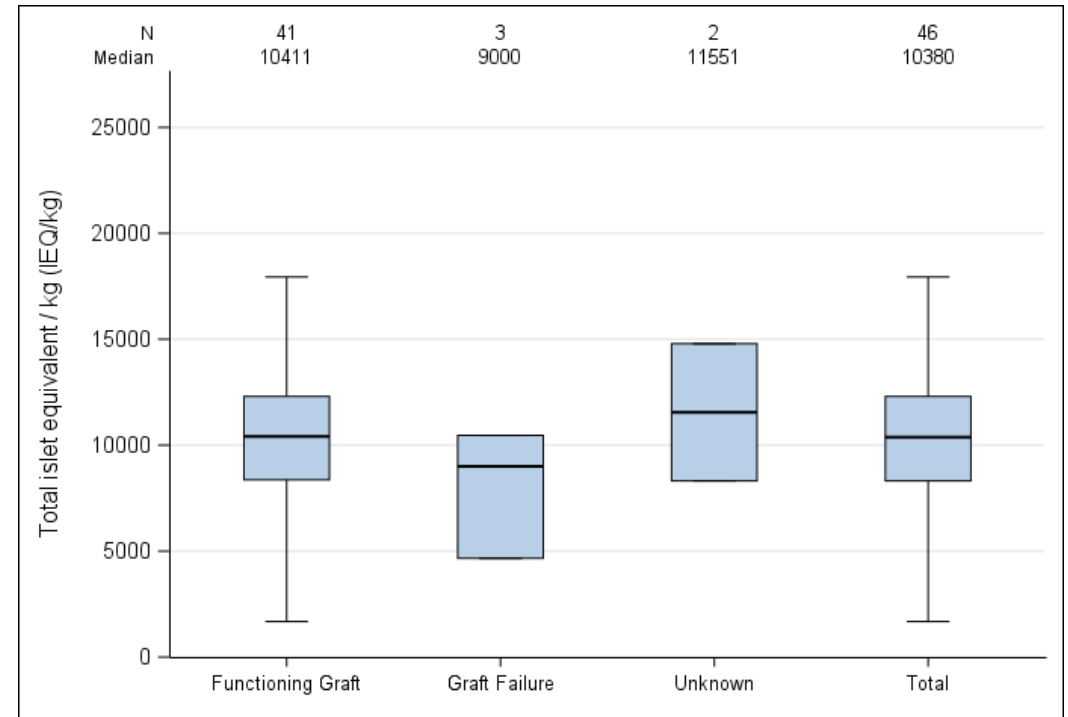


Figure 2b One-year graft function by total IEQ per kg recipient body weight for islet alone routine and priority grafts, 1 April 2016 to 31 March 2022



- 17 One-year graft outcome by total IEQ per kg (IEQx1000/kg) transplanted is presented in **Figures 1a** and **2a**, for the whole time period for islet alone routine only and routine and priority grafts, respectively. **Figures 1b** and **2b** show the data for transplants in the recent time period, 1 April 2016 to 31 March 2022. The median total IEQ per kg transplanted for 15 SIK routine only transplants was 4063 (IQR 2579 - 5424) and for 12 SIK routine and priority grafts was 8096.5 (IQR 7312 – 10805.5). This was lower than the median for islet alone transplants in both groups.
- 18 Kaplan-Meier survival plots showing one-year and five-year graft survival after first routine islet alone transplants are presented in **Figure 3** and **Figure 4**, respectively. One year graft survival is 89%, 95% CI (81-94%) for transplants performed between 1 April 2010 and 31 March 2016 and 83%, 95% CI (69-91%) for transplants performed between 1 April 2016 and 31 March 2022, not statistically significantly different ($p=0.2568$). Five year graft survival is 51%, 95% CI (40-61%) for transplants performed between 1 April 2008 and 31 March 2015 and 63%, 95% CI (48-74%) for transplants performed between 1 March 2015 and 31 March 2022. Although higher for the more recent time period the difference was not statistically significantly different ($p=0.2885$).
- 19 **Figure 5** shows a Kaplan-Meier survival plot of five-year graft survival by type of graft for grafts between 1 April 2008 and 31 March 2022. Estimated five-year graft survival for first routine only grafts is 39%, 95% CI (25-52%) and for first routine grafts followed by a priority graft is 63%, 95% CI (52-72%). This difference was statistically significant, $p=0.0002$.
- 20 **Figure 6** shows a Kaplan-Meier survival plot of five-year graft survival by type of graft, where the first routine graft was still functioning at one-year post-transplant. Estimated five-year graft survival for routine only grafts is 53%, 95% CI (35-68%) and for routine grafts followed by a priority graft is 67%, 95% CI (55-76%). This difference was not statistically significant, $p=0.0925$.
- 21 **Figure 7** shows a Kaplan-Meier survival plot of five-year patient survival after first routine islet alone transplant. Five year patient survival is 92%, 95% CI (85-96%).
- 22 Of the 31 SIK islet transplants in the 1 April 2010 to 31 March 2022 time period, 29 were the first islet transplant for the patient. Of these 29, follow-up information was available for 27 and the estimated one-year graft survival rate is 89%, 95% CI (69-96%).

Figure 3 One-year graft survival following first routine islet alone transplantation performed in the UK between 1 April 2010 and 31 March 2022, by when transplant was performed

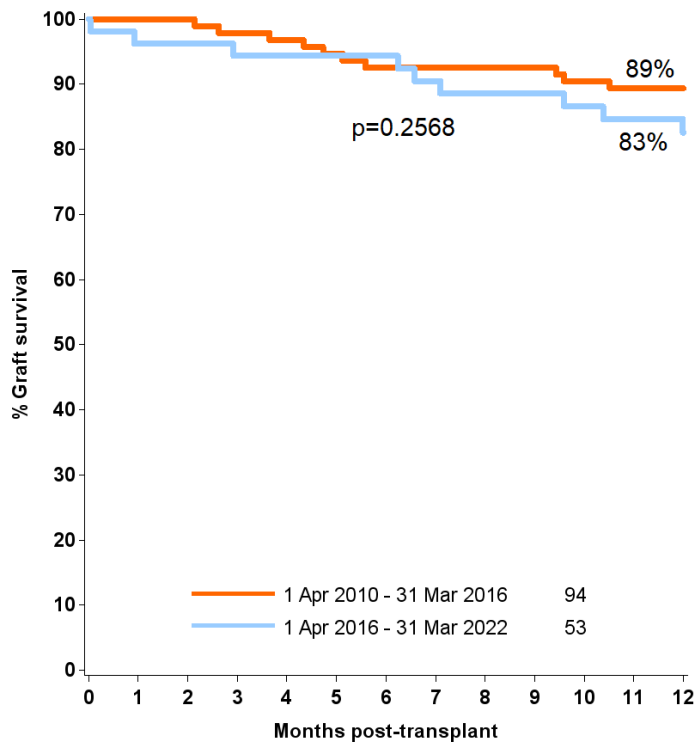


Figure 4 Five-year graft survival following first routine islet alone transplantation performed in the UK between 1 April 2008 and 31 March 2022, by when transplant was performed

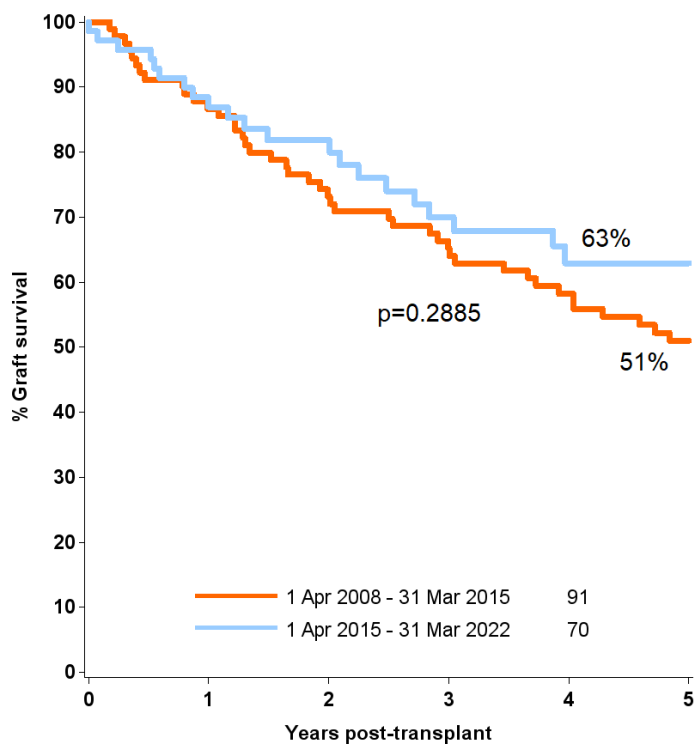


Figure 5 Five-year graft survival following first routine islet alone transplantation performed in the UK between 1 April 2008 and 31 March 2022, by type of graft

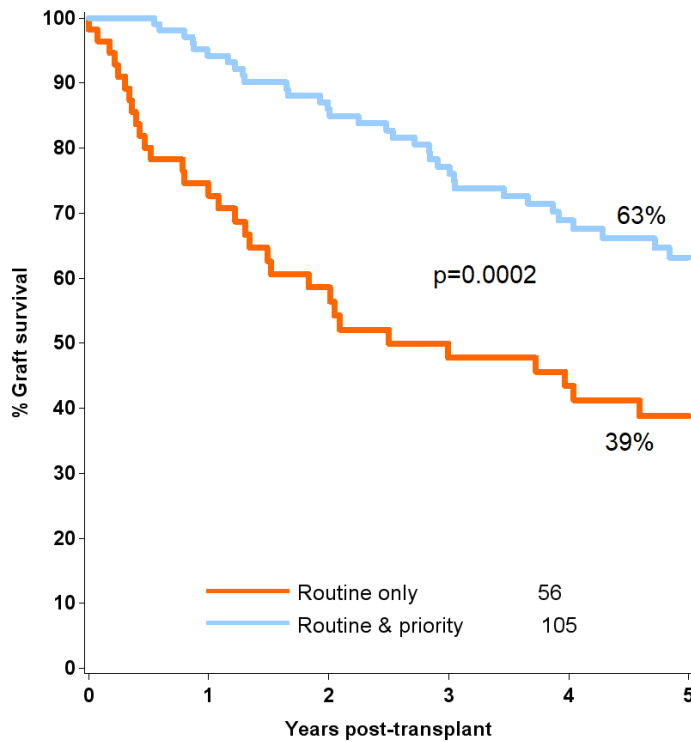


Figure 6 Five-year graft survival following first routine islet alone transplantation where the routine graft was functioning at one year in the UK between 1 April 2008 and 31 March 2022, by type of graft

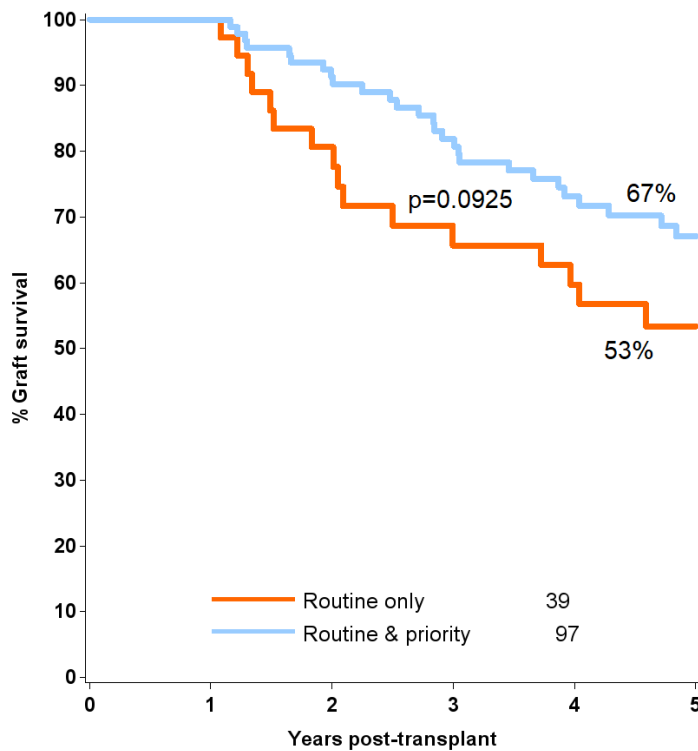
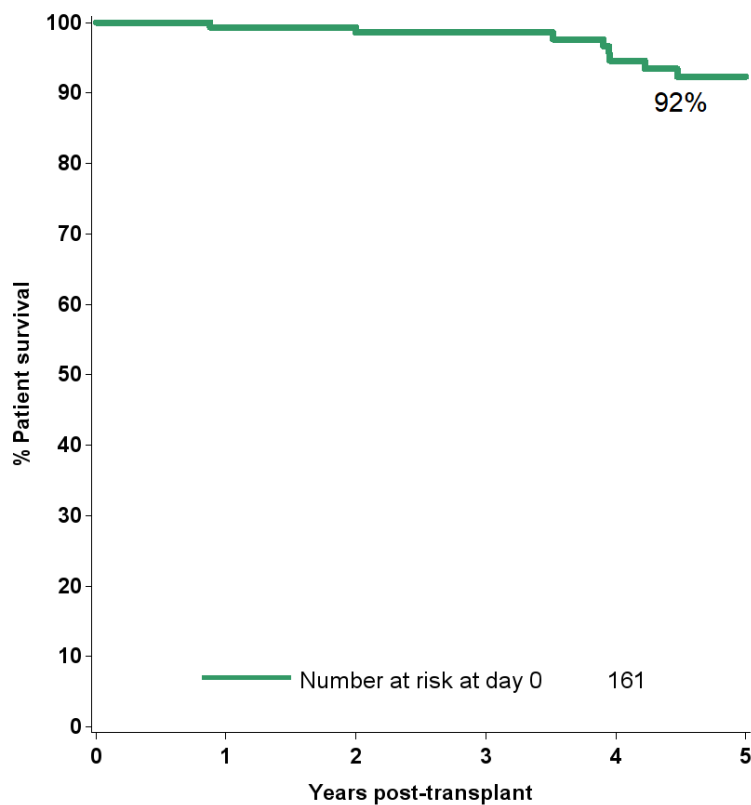


Figure 7 Five-year patient survival following first routine islet alone transplantation performed in the UK between 1 April 2008 and 31 March 2022



- 24 **Figures 8 and 9** show the median rate of severe hypoglycaemic events, excluding SIK transplants, for routine only grafts and for routine and priority grafts, respectively. Overall, at one-year post-transplant data were available in 128 cases, 109 (85%) patients experienced no severe hypoglycaemic events during the first year following their routine transplant, whilst 19 (15%) patients experienced between one and five events. Of 123 cases where it could be calculated, 84 (68%) patients had a reduced number of events at one year post-transplant.
- 25 For the 25 SIK transplants where severe hypoglycaemic events were reported at transplant, the median rate was 2 (IQR 0-41) and for the 18 reported at one-year post-transplant, the median rate was 0 (IQR 0-0).
- 26 Median HbA1c is reported in **Figure 10** for routine only grafts and **Figure 11** for routine and priority grafts, excluding SIK transplants. Overall, data were available to calculate the reduction in HbA1c in 127 cases at one-year post-transplant and in 105 (83%) patients a reduction in HbA1c was reported. The proportion of patients with HbA1c of less than 53 mmol/mol was 17% of 157 at time of transplant, 56% of 136 patients at one-year post-transplant, 40% of 88 patients at three years and 37% of 49 patients at five years post-transplant.
- 27 For the 26 SIK transplants where HbA1c was reported at transplant, the median was 63 mmol/mol (IQR 56-73) and for the 17 reported at one-year post-transplant, the median was 55 mmol/mol (IQR 45-59).

Figure 8 Median annual rate of severe hypoglycaemic events post-transplant for routine only grafts, 1 April 2010 – 31 March 2022 (excluding SIK transplants)

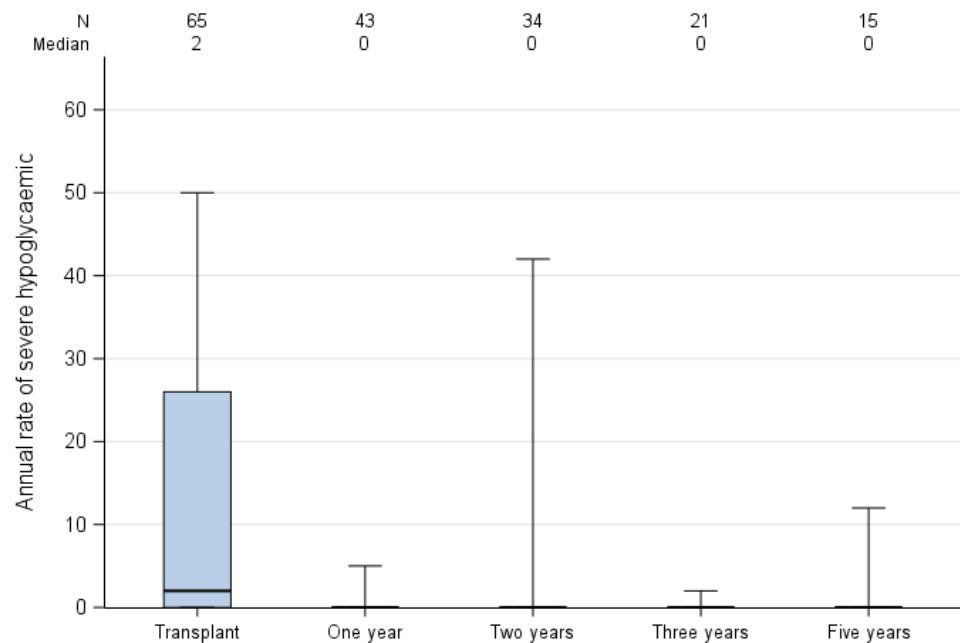


Figure 9 Median annual rate of severe hypoglycaemic events post-transplant for routine and priority grafts, 1 April 2010 – 31 March 2022 (excluding SIK transplants)

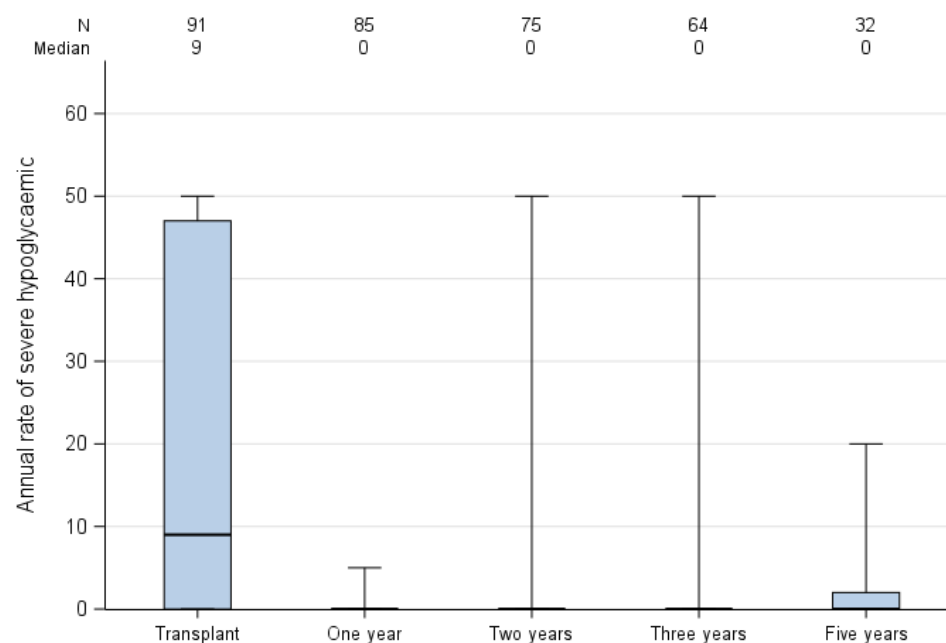


Figure 10 Median HbA1C post-transplant for routine only grafts, 1 April 2010 – 31 March 2022 (excluding SIK transplants)

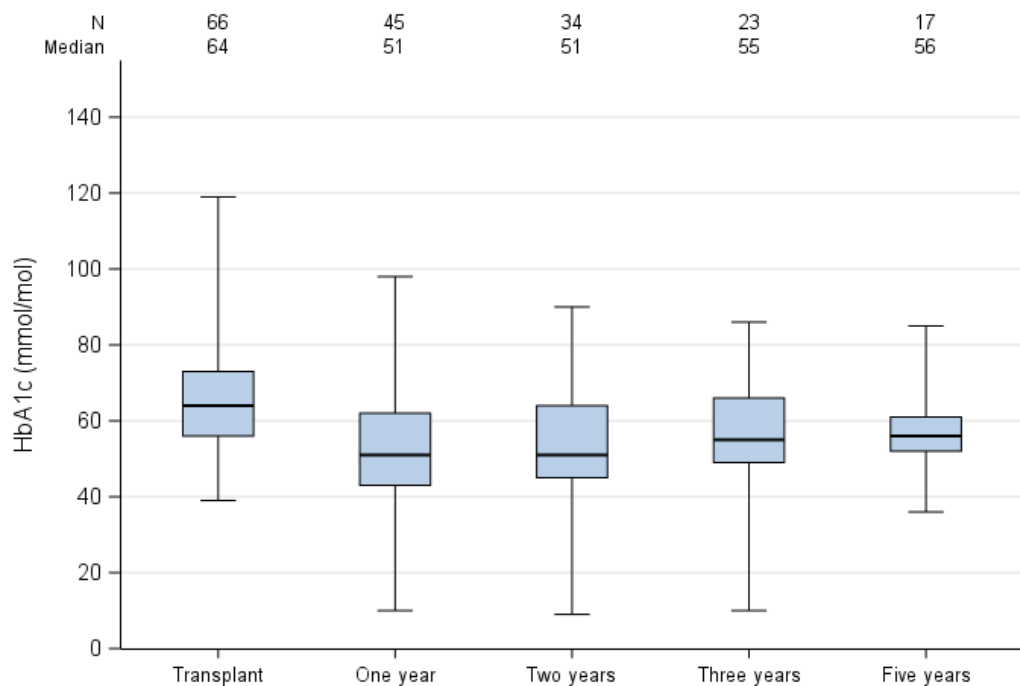


Figure 11 Median HbA1C post-transplant for routine and priority grafts, 1 April 2010 – 31 March 2022 (excluding SIK transplants)

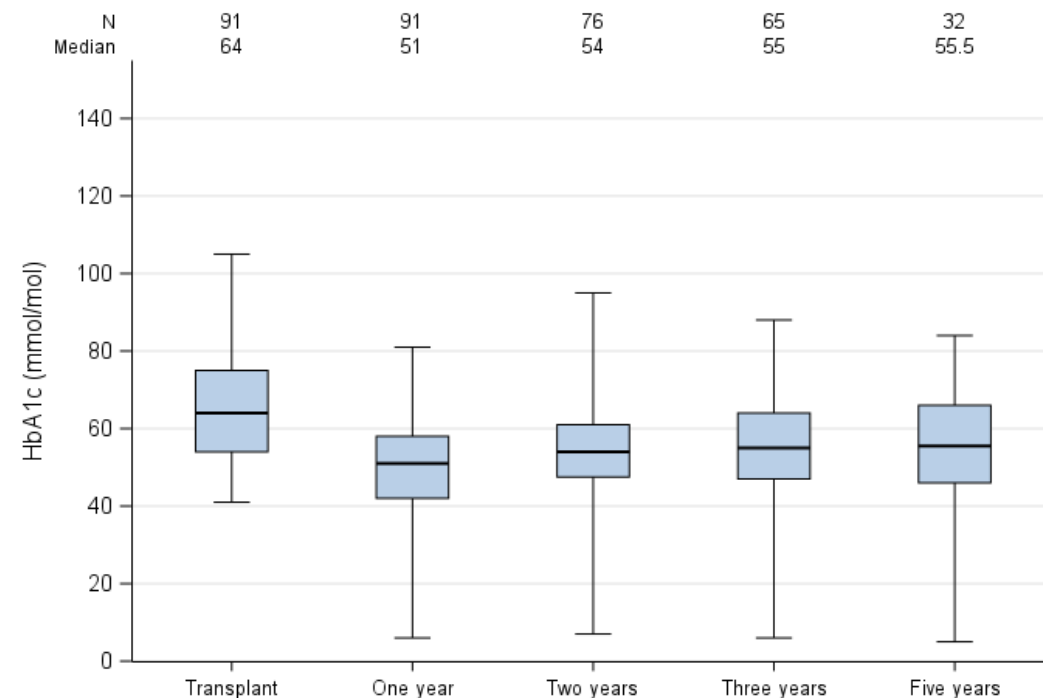


Figure 12 Median insulin dose post-transplant for routine only grafts, 1 April 2010 – 31 March 2022 (excluding SIK transplants)

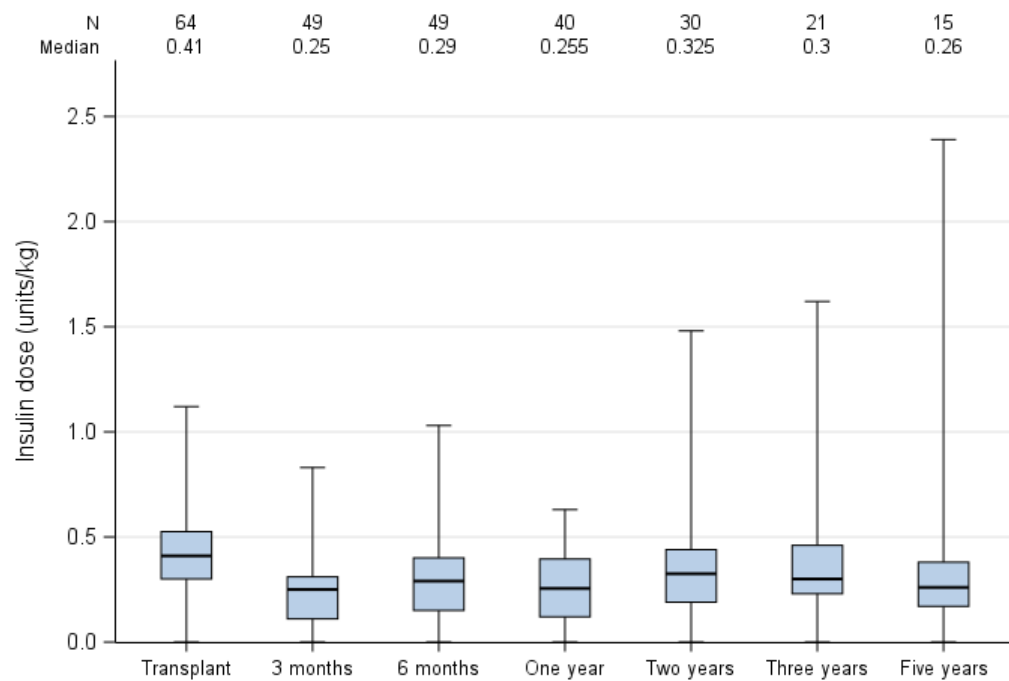
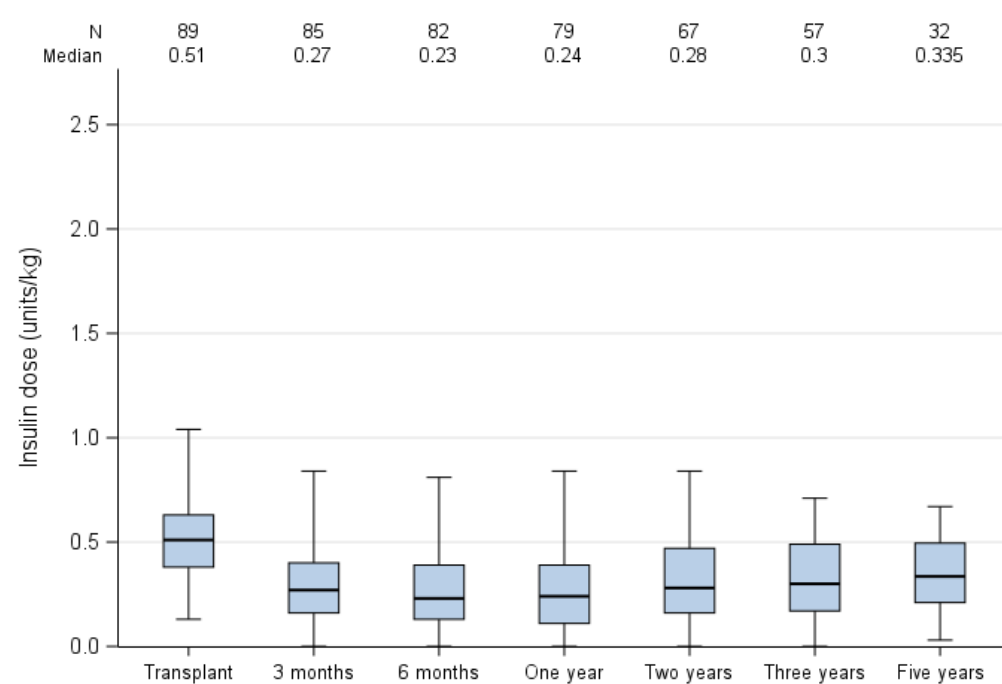


Figure 13 Median insulin dose post-transplant for routine and priority grafts, 1 April 2010 – 31 March 2022 (excluding SIK transplants)



- 28 **Figure 12** and **Figure 13** show the median insulin dose for routine only grafts and routine and priority grafts, respectively, excluding SIK transplants. Overall, in 113 patients where the difference in insulin dose between transplant and one-year post-transplant could be calculated, 101 (89%) reported a reduction. Of the 127 patients with insulin independence status reported for the first-year post-transplant, 44 (35%) achieved insulin independence at some point in the year.
- 29 For the 27 SIK transplants where insulin dose was reported at transplant, the median was 0.48 units/kg (IQR 0.35-0.7) and for the 17 reported at one-year post-transplant, the median was 0.33 units/kg (IQR 0.24-0.47).
- 30 The 28-day islet follow-up form was introduced on 1st January 2022. As at 12th September 2023, 28 follow-up forms had been received. There were 16 routine and 12 priority top-up grafts reported.
- 31 At a meeting on 18th January 2023 with recipient coordinators, statisticians, and Professor James Shaw, it was agreed that centres would report any missing data as '-1' on the form. This has since been implemented to ensure the accuracy and reliability of the data reported.
- 32 A question was raised regarding patients who cannot be followed up at 28 days post-transplant. Members are asked to consider whether a maximum number of days post-transplant should be implemented for data to be reported on the 28-day form.

SUMMARY

- 33 In 2022/23, the number of islet transplants and patients on the waiting list at the end of the financial year have decreased slightly from 2021/22.
- 34 One-year graft survival is 83% for transplants performed between 1 April 2016 and 31 March 2022 and 89% for the earlier cohort between 1 April 2010 and 31 March 2016. Five-year graft survival was 63% overall between 1 April 2015 and 31 March 2022. Those patients receiving a routine and a priority top-up graft had significantly better five-year graft survival than those receiving a routine only, 63% and 39%, respectively, $p=0.0002$.
- 35 The median annual rate of severe hypoglycaemic events, HbA1c and insulin dose at one-year, two, three and five years post routine transplant were lower than at pre-transplant.

ACTION

- 36 Members are asked to consider whether a maximum number of days post-transplant should be implemented, for data to be reported, on the 28-day form.

APPENDIX

| Table I | | Islet graft function at one year post transplant by transplant centre, 1 April 2010 to 31 March 2022 | | | | | |
|-------------------|-------------------------------|---|------|--|------------------------------------|------------------------------------|---|
| Transplant centre | Routine transplants performed | Priority transplants performed (% of routine) | | Graft function at one year following routine transplant in the time period | | | |
| | | | | No. with known outcome | Graft failure (% of known outcome) | Priority grafts with graft failure | |
| Bristol | 3 | 1 | (33) | 3 | 0 | (0) | 0 |
| Edinburgh | 74 | 52 | (70) | 68 | 7 | (10) | 4 |
| King's College | 11 | 7 | (64) | 10 | 2 | (20) | 0 |
| Manchester | 26 | 13 | (50) | 23 | 3 | (13) | 0 |
| Newcastle | 37 | 17 | (46) | 34 | 3 | (9) | 0 |
| Oxford | 38 | 17 | (45) | 31 | 9 | (29) | 2 |
| Royal Free | 11 | 5 | (45) | 11 | 1 | (9) | 0 |
| Total | 200 ¹ | 112 | (56) | 180 ² | 25 ³ | (14) | 6 |

¹ Includes 30 SIK transplants: Edinburgh (11), Manchester (17), Newcastle (1), Oxford (2)
² Includes 23 SIK transplants: Edinburgh (8), Manchester (14), Newcastle (1)
³ Includes 3 SIK transplants: Edinburgh (1), Manchester (2)

| Transplant centre | Routine transplant s (one-year data expected ²) | | At registration | | | Annual rate of severe hypoglycaemic events | | | | | | Reduction ³ | | | No. with reduced events | Reduction not calculated ⁴ |
|-------------------|---|------------|-----------------|-----------|-----------------|--|----------|-----------------|------------|----------|----------------|------------------------|----------|-----------------|-------------------------|---------------------------------------|
| | N | (N) | N | Median | (IQ range) | N | Median | (IQ range) | N | Median | (IQ range) | N | Median | (IQ range) | N | N (%) |
| Bristol | 3 | 3 | 3 | 2 | (2 - 3) | 3 | 3 | (2 - 50) | 3 | 0 | (0 - 0) | 3 | 3 | (2 - 50) | 3 | 0 (0) |
| Edinburgh | 63 | 60 | 53 | 45 | (10 - 50) | 59 | 29 | (8 - 50) | 53 | 0 | (0 - 0) | 49 | 32 | (8 - 50) | 43 | 11 (18) |
| King's College | 11 | 9 | 9 | 4 | (2 - 16) | 11 | 3 | (0 - 16) | 6 | 0 | (0 - 0) | 6 | 2 | (0 - 50) | 3 | 3 (33) |
| Manchester | 9 | 8 | 6 | 5 | (1 - 8) | 9 | 3 | (1 - 8) | 8 | 0 | (0 - 0) | 8 | 4 | (1 - 9) | 6 | 0 (0) |
| Newcastle | 36 | 34 | 21 | 10 | (2 - 25) | 36 | 18 | (2 - 30) | 27 | 0 | (0 - 1) | 27 | 8 | (1 - 28) | 23 | 7 (21) |
| Oxford | 36 | 33 | 7 | 3 | (1 - 4) | 28 | 0 | (0 - 1) | 22 | 0 | (0 - 0) | 21 | 0 | (0 - 0) | 5 | 12 (36) |
| Royal Free | 11 | 10 | 3 | 4 | (0 - 8) | 10 | 0 | (0 - 0) | 9 | 0 | (0 - 0) | 9 | 0 | (0 - 0) | 1 | 1 (10) |
| Total | 169 | 157 | 102 | 12 | (3 - 50) | 156 | 8 | (0 - 34) | 128 | 0 | (0 - 0) | 123 | 7 | (0 - 37) | 84 | 34 (22) |

¹ Excluding SIK transplants
² Follow-up reported or graft not known to have failed
³ Between transplant and one-year
⁴ Information missing at either transplant or one-year out of those where expected

| Transplant centre | Routine transplants (one-year data expected ²) | | At transplant | | | HbA1c mmol/mol At one-year | | | Reduction ³ | | | No. with lower HbA1c N | Reduction not calculated ⁴ N (%) |
|-------------------|--|------------|---------------|-----------|------------------|----------------------------|-----------|------------------|------------------------|-----------|-----------------|------------------------|---|
| | N | (N) | N | Median | (IQ range) | N | Median | (IQ range) | N | Median | (IQ range) | | |
| Bristol | 3 | 3 | 3 | 68 | (53 - 70) | 3 | 56 | (33 - 81) | 3 | 0 | (0 - 37) | 1 | 0 (0) |
| Edinburgh | 63 | 60 | 58 | 62 | (52 - 71) | 55 | 53 | (46 - 63) | 50 | 6 | (1 - 13) | 38 | 10 (17) |
| King's College | 11 | 9 | 11 | 70 | (55 - 86) | 6 | 42 | (10 - 45) | 6 | 26 | (9 - 87) | 6 | 3 (33) |
| Manchester | 9 | 8 | 9 | 64 | (57 - 75) | 8 | 45 | (43 - 47) | 8 | 18 | (8 - 36) | 8 | 0 (0) |
| Newcastle | 36 | 34 | 36 | 72 | (61 - 83) | 29 | 51 | (42 - 58) | 29 | 17 | (13 - 28) | 25 | 5 (15) |
| Oxford | 36 | 33 | 29 | 62 | (55 - 69) | 26 | 49 | (41 - 58) | 22 | 17 | (10 - 25) | 21 | 11 (33) |
| Royal Free | 11 | 10 | 11 | 61 | (56 - 86) | 9 | 51 | (43 - 57) | 9 | 4 | (0 - 20) | 6 | 1 (10) |
| Total | 169 | 157 | 157 | 64 | (55 - 75) | 136 | 51 | (43 - 59) | 127 | 12 | (3 - 21) | 105 | 30 (19) |

¹ Excluding SIK transplants

² Follow-up reported or graft not known to have failed

³ Between transplant and one-year

⁴ Information missing at either transplant or one-year out of those where expected

Table IV Reduction in insulin dose per kg at one-year post transplant and insulin independent in first year post-transplant 1 April 2010 to 31 March 2022¹

| Transplant centre | Routine transplants (one-year data expected ²) | | At transplant | | | Insulin dose/kg At one-year | | | Reduction ³ | | | No. insulin independent | Reduction not calculated ⁴ |
|-------------------|--|------------|---------------|-------------|----------------------|-----------------------------|-------------|----------------------|------------------------|-------------|----------------------|-------------------------|---------------------------------------|
| | N | (N) | N | Median | (IQ range) | N | Median | (IQ range) | N | Median | (IQ range) | N | N (%) |
| | Bristol | 3 | 3 | 3 | 0.42 | (0.37 - 0.48) | 3 | 0.20 | (0.12 - 0.47) | 3 | 0.22 | (0.01 - 0.25) | 1 |
| Edinburgh | 63 | 60 | 58 | 0.51 | (0.36 - 0.61) | 51 | 0.23 | (0.10 - 0.39) | 46 | 0.23 | (0.14 - 0.36) | 24 | 14 (23) |
| King's College | 11 | 9 | 10 | 0.35 | (0.22 - 0.42) | 4 | 0.13 | (0.07 - 0.21) | 4 | 0.20 | (0.15 - 0.27) | 3 | 5 (56) |
| Manchester | 9 | 8 | 9 | 0.52 | (0.45 - 0.55) | 7 | 0.30 | (0.23 - 0.38) | 7 | 0.27 | (0.25 - 0.35) | 3 | 1 (13) |
| Newcastle | 36 | 34 | 36 | 0.44 | (0.33 - 0.56) | 25 | 0.29 | (0.12 - 0.40) | 25 | 0.19 | (0.04 - 0.28) | 5 | 9 (26) |
| Oxford | 36 | 33 | 27 | 0.45 | (0.32 - 0.62) | 20 | 0.26 | (0.12 - 0.38) | 20 | 0.26 | (0.07 - 0.43) | 6 | 13 (39) |
| Royal Free | 11 | 10 | 10 | 0.56 | (0.40 - 0.80) | 9 | 0.42 | (0.24 - 0.50) | 8 | 0.14 | (0.01 - 0.35) | 2 | 2 (20) |
| Total | 169 | 157 | 153 | 0.47 | (0.33 - 0.59) | 119 | 0.25 | (0.12 - 0.39) | 113 | 0.23 | (0.10 - 0.33) | 44 | 44 (28) |

¹ Excluding SIK transplants

² Follow-up reported or graft not known to have failed

³ Between transplant and one-year

⁴ Information missing at either transplant or one-year out of those where expected