**NHS BLOOD AND TRANSPLANT**

**PAEDIATRIC SUB GROUP OF THE KIDNEY ADVISORY GROUP**

KIDNEY DECLINE RATES OF PAEDIATRIC OFFERS

## INTRODUCTION

1 This paper routinely monitors the offer decline rates for paediatric patients over the past 10 years. Offer decline rates are monitored by donor type and centre in this paper.

2 There have been actions taken in the past 10 years to review offer declines and minimise variation across centres. Two prospective audits (2014, 2017) examined reasons for declining offers of kidneys for paediatric patients. National guidelines for offer acceptance for paediatric patients have also been produced.

3 On 11 September 2019 the UK Kidney Offering Scheme was introduced. The scheme was designed to address some of the inequities observed in the 2006 scheme. Simulations of the scheme indicated that paediatric offers would initially decline whilst highly sensitised and long waiting patients are prioritised.

4 Since September 2014, the national DCD kidney allocation scheme and subsequent 2019 Kidney Offering Scheme has enabled paediatric patients to receive more offers from DCD donors.

## DATA

5 Data were obtained from the UK Transplant Registry on all deceased donor single kidney-only transplants performed in the UK between 1 January 2015 and 31 December 2024.

6 The outcomes of offering data relating to paediatric offers to named individual patients were analysed. Only offers where the kidney was subsequently transplanted are included in this paper. Offers to clinically urgent patients are excluded. Declined offers were defined as those immediately declined and those where the kidney was accepted but not used for the named patient. Offers declined due to "*recipient did not need transplant*" are excluded throughout this paper and the adult offer decline rates have been adjusted as a result so may appear different to the 2023/2024 kidney annual report. To note, centre based offering in Tier B occurred between 30 March 2020 – 15 June 2020.

7 Centre specific decline rates have been calculated for the last five calendar years. Centre specific DBD offer decline rates were calculated for each centre and compared with the national rate using funnel plot analysis. Centre specific DCD offer decline rates were calculated for each centre but have not been compared in a funnel plot, due to the small numbers.

8 Funnel plots were used to compare centre specific DBD offer decline rates and indicate how consistent the rates of the individual transplant centres are with the national rate (**Figure 1**). The overall national offer decline rate is shown by the straight dotted line while the 95% and 99.8% confidence limits are indicated by a thin solid and thick dotted line, respectively. Each dot in the plot represents an individual transplant centre. Centres that are positioned above the upper limits indicate an offer decline rate that is higher than the national rate, whilst centres positioned below the lower limits indicate an offer decline rate that is lower than the national rate.

9 Breakdowns of the number of offers and decline rates by transplant centre, calendar year and donor type are presented in Tables A1 and A2 in the appendix.

## DBD OFFER DECLINE RATES

10 **Figure 1** and **Table 1a** compare individual centre offer decline rates with the national rate for paediatric offers of DBD kidneys. **Table 1b** shows the primary reasons provided for declining each kidney offer. The national decline rate is 40% which is lower than the national decline rate for adult offers of standard criteria DBD donors (52% in 2023/24).

11 The DBD decline rate ranged from 20% to 70% across centres. Nottingham lies above the upper 95% confidence interval suggesting that they may have an offer decline rate that is significantly higher than the national rate. The primary reasons for declining a DBD offer in the last 5 years was because either the donor or the organ was considered unsuitable.

**Figure 1 Funnel plot of kidney transplant centre DBD kidney decline rates for paediatric patients, 1 January 2020 – 31 December 2024**

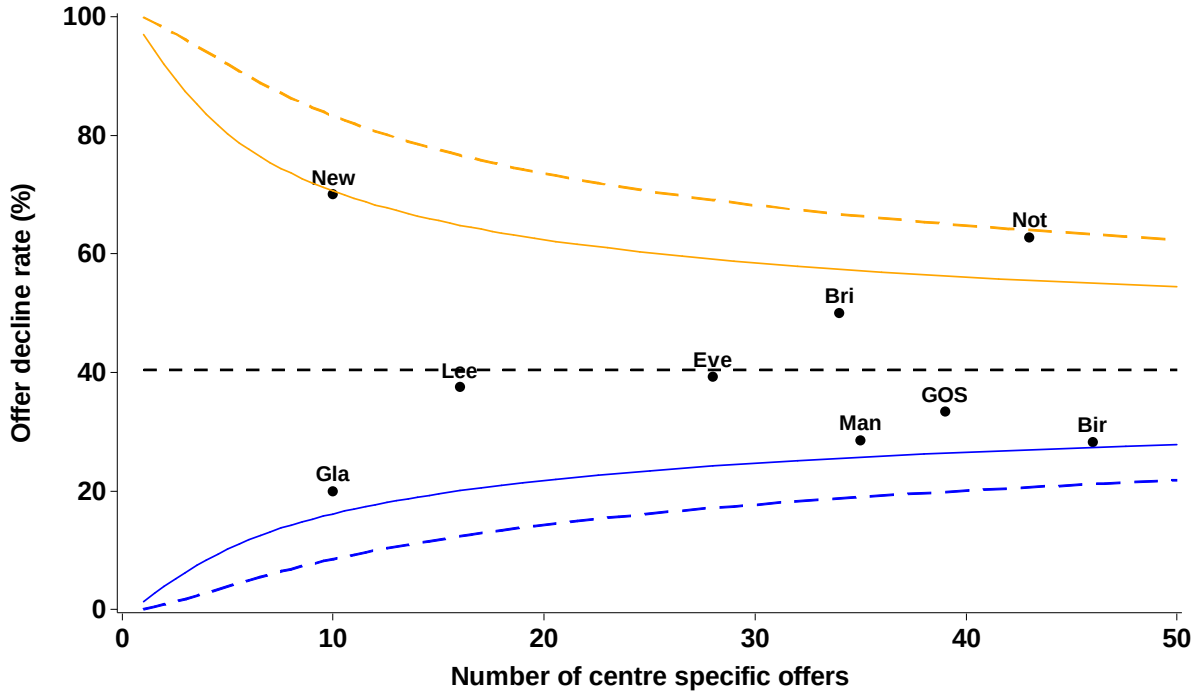


**Table 1a** **Paediatric DBD donor kidney offer decline rates by kidney transplant centre where the kidney was subsequently transplanted, 1 January 2020 - 31 December 2024**

| Centre | No. patients receiving offers | No. offers | Decline rate |
|---|---|---|---|
| Belfast | 1 | 1 | (0) |
| Newcastle | 6 | 10 | (70) |
| Leeds | 13 | 16 | (38) |
| Nottingham | 24 | 43 | (63) |
| London, Evelina | 22 | 28 | (39) |
| Bristol | 22 | 34 | (50) |
| Birmingham | 41 | 46 | (28) |
| Manchester | 29 | 35 | (29) |
| Glasgow | 9 | 10 | (20) |
| London, Great Ormond Street | 32 | 39 | (33) |
| UK | 199 | 262 | (40) |

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

Offers declined due to *recipient did not need transplant* are excluded.

**Table 1b** **Paediatric DBD donor kidney offer decline reasons by kidney transplant centre where the kidney was subsequently transplanted, 1 January 2020 - 31 December 2024**

| Centre | Donor unsuitable | Organ unsuitable | Recipient reasons | Other |
|---|---|---|---|---|
| Belfast | - | - | - | - |
| Newcastle | 2 (29%) | 3 (43%) | 0 (0%) | 2 (29%) |
| Leeds | 3 (50%) | 3 (50%) | 0 (0%) | 0 (0%) |
| Nottingham | 10 (37%) | 7 (26%) | 7 (26%) | 3 (11%) |
| London, Evelina | 3 (27%) | 2 (18%) | 5 (45%) | 1 (9%) |
| Bristol | 5 (29%) | 9 (53%) | 1 (6%) | 2 (12%) |
| Birmingham | 5 (38%) | 5 (38%) | 2 (15%) | 1 (8%) |
| Manchester | 1 (10%) | 6 (60%) | 1 (10%) | 2 (20%) |
| Glasgow | 1 (50%) | 1 (50%) | 0 (0%) | 0 (0%) |
| London, Great Ormond Street | 4 (31%) | 6 (46%) | 2 (15%) | 1 (8%) |
| **UK** | **34 (32%)** | **42 (40%)** | **18 (17%)** | **12 (11%)** |

Offers declined due to *recipient did not need transplant* are excluded.

12 National decline rates are presented by calendar year in **Table 2**. Since 2015, the national paediatric offer decline rates have fluctuated around 40%. The total number of DBD offers reduced from 77 in 2015 to 42 in 2024.

**Table 2 Paediatric DBD donor kidney offer decline rates by offer year where the kidney was subsequently transplanted, 1 January 2015 - 31 December 2024**

| Offer year | No. patients receiving offers | No. offers | Decline rate |
|---|---|---|---|
| 2015 | 62 | 77 | (40) |
| 2016 | 67 | 82 | (34) |
| 2017 | 60 | 83 | (47) |
| 2018 | 69 | 82 | (41) |
| 2019* | 68 | 89 | (43) |
| 2020 | 46 | 56 | (54) |
| 2021 | 58 | 65 | (42) |
| 2022 | 43 | 48 | (38) |
| 2023 | 44 | 51 | (31) |
| 2024 | 35 | 42 | (36) |
| **UK** | **552** | **675** | **(41)** |

*Note, 2019 includes offers from both the 2006 KAS and the 2019 KOS
Offers declined due to *recipient did not need transplant* are excluded.

## DCD OFFER DECLINE RATES

13 **Table 3a** compares individual centre offer decline rates in the past 5 calendar years with the national rate for offers of DCD kidneys to paediatric patients. **Table 3b** shows the primary reasons provided for declining each kidney offer. The national DCD offer decline rate is 57% which is slightly lower than the national decline rate for adult offers of standard criteria DCD donors (58% in 2023/24). Although the numbers are low, there is some indication of variation in offer decline rates across centres. The primary reason for declining a DCD offer in the last 5 years was because the donor was considered unsuitable.

**Table 3a Paediatric DCD donor kidney offer decline rates by kidney transplant centre where the kidney was subsequently transplanted, 1 January 2020 - 31 December 2024**

| Centre | No. patients receiving offers | No. offers | Decline rate |
|---|---|---|---|
| Belfast | 0 | 0 | - |
| Newcastle | 7 | 10 | (90) |
| Leeds | 7 | 8 | (88) |
| Nottingham | 15 | 21 | (86) |
| London, Evelina | 7 | 8 | (75) |
| Bristol | 9 | 10 | (40) |
| Birmingham | 19 | 22 | (45) |
| Manchester | 14 | 15 | (47) |
| Glasgow | 6 | 6 | (0) |
| London, Great Ormond Street | 14 | 16 | (31) |
| **UK** | **98** | **116** | **(57)** |

Offers declined due to *recipient did not need transplant* are excluded.

**Table 3b Paediatric DCD donor kidney offer decline reasons by kidney transplant centre where the kidney was subsequently transplanted, 1 January 2020 – 31 December 2024**

| Centre | Donor unsuitable | Organ unsuitable | Recipient reasons | Other[1] |
|---|---|---|---|---|
| Belfast | - | - | - | - |
| Newcastle | 7 (78%) | 2 (22%) | 0 (0%) | 0 (0%) |
| Leeds | 3 (43%) | 2 (29%) | 0 (0%) | 2 (29%) |
| Nottingham | 9 (50%) | 5 (28%) | 1 (6%) | 3 (17%) |
| London, Evelina | 1 (17%) | 3 (50%) | 0 (0%) | 2 (33%) |
| Bristol | 3 (75%) | 0 (0%) | 0 (0%) | 1 (25%) |
| Birmingham | 3 (30%) | 5 (50%) | 0 (0%) | 2 (20%) |
| Manchester | 1 (14%) | 2 (29%) | 1 (14%) | 3 (43%) |
| Glasgow | - | - | - | - |
| London, Great Ormond Street | 2 (40%) | 0 (0%) | 1 (20%) | 2 (40%) |
| **UK** | **29 (44%)** | **19 (29%)** | **3 (5%)** | **15 (23%)** |

[1]Four declines due to logistic reasons and one due to consent/authorisation have been grouped with Other
Offers declined due to *recipient did not need transplant* are excluded.

14 **Table 4** shows the national DCD decline rates in the last 10 years by calendar year. Between 3rd September 2014 – 10 September 2019, the National DCD kidney allocation scheme meant that paediatric patients could receive offers from a DCD donor via centre-based offering. During this period, only patient specific offers have been included in **Table 4** as they are easily identified. DCD kidney offers to the local centre where a paediatric patient ranked 1st, but was not named at offer, are not included. Following the introduction of the 2019 Kidney Offering Scheme, DBD and DCD kidneys are offered within the same national scheme.

**Table 4 Paediatric DCD donor kidney offer decline rates by offer year where the kidney was subsequently transplanted, 1 January 2015 - 31 December 2024**

| Offer year | No. patients receiving offers | No. offers | Decline rate |
|---|---|---|---|
| 2015 | 10 | 12 | (58) |
| 2016 | 4 | 4 | (0) |
| 2017 | 11 | 12 | (83) |
| 2018 | 12 | 13 | (62) |
| 2019* | 2 | 2 | (50) |
| 2020 | 17 | 17 | (59) |
| 2021 | 23 | 23 | (39) |
| 2022 | 27 | 31 | (65) |
| 2023 | 20 | 23 | (52) |
| 2024 | 21 | 22 | (68) |
| **UK** | **147** | **159** | **(58)** |

Note: Only patient named offers included up to 10 September 2019.
*Note, 2019 includes offers from both the 2006 KAS and the 2019 KOS
Offers declined due to *recipient did not need transplant* are excluded.

## SUMMARY

15 Since 2014, the national DBD paediatric offer decline rates have fluctuated around 40%. For paediatric DBD kidney offers Nottingham had a decline rate higher than the upper 95% confidence limit. The national decline rate for DCD offers over the last 10 years was 58%. There is also variation in paediatric DCD declines across centres, however as the numbers are small it is difficult to say if these differences are significant.

## RECOMMENDATION

16 While it is accepted that offer decline rates do not necessarily impact on kidney utilisation, significant variation in these rates is likely to lead to delays in the offering process and inequities in access to transplant for children listed at centres with notably higher offer decline rates. For this reason, it is important to ensure centre practice is consistent.

17 Members are asked to regularly review their reasons for declining kidney offers in order to minimise offer decline rates within their individual transplant centres.

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## Appendix

**Table A1 Paediatric DBD kidney offers by offer centre, 1 January 2015 – 31 December 2024**

| | Number of offers (% declined) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Centre** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **Total** |
| Belfast | 0 (0) | 2 (0) | 0 (0) | 0 (0) | 1 (0) | 0 (0) | 0 (0) | 0 (0) | 0 (0) | 1 (0) | **4 (0)** |
| Newcastle | 2 (50) | 7 (43) | 4 (100) | 3 (33) | 4 (25) | 2 (50) | 3 (67) | 3 (67) | 1 (100) | 1 (100) | **30 (57)** |
| Leeds | 13 (38) | 7 (29) | 11 (36) | 6 (17) | 10 (60) | 5 (40) | 3 (33) | 2 (50) | 2 (0) | 4 (50) | **63 (38)** |
| Nottingham | 10 (40) | 19 (26) | 9 (56) | 9 (33) | 8 (50) | 16 (69) | 9 (56) | 6 (83) | 9 (67) | 3 (0) | **98 (49)** |
| London, Evelina | 7 (29) | 4 (50) | 14 (43) | 14 (50) | 10 (30) | 4 (75) | 8 (50) | 6 (33) | 7 (0) | 3 (67) | **77 (40)** |
| Bristol | 4 (50) | 13 (46) | 12 (42) | 10 (60) | 15 (53) | 7 (86) | 14 (57) | 8 (38) | 2 (0) | 3 (0) | **88 (50)** |
| Birmingham | 13 (38) | 11 (36) | 8 (50) | 11 (55) | 16 (44) | 9 (44) | 10 (40) | 11 (27) | 9 (11) | 7 (14) | **105 (37)** |
| Manchester | 14 (57) | 9 (33) | 5 (40) | 12 (33) | 4 (25) | 4 (25) | 9 (11) | 2 (0) | 11 (36) | 9 (44) | **79 (35)** |
| Glasgow | 5 (20) | 1 (0) | 6 (33) | 5 (40) | 3 (67) | 2 (0) | 1 (0) | 4 (50) | 1 (0) | 2 (0) | **30 (30)** |
| London, Great Ormond Street | 9 (33) | 9 (33) | 14 (50) | 12 (33) | 18 (33) | 7 (29) | 8 (25) | 6 (0) | 9 (44) | 9 (56) | **101 (36)** |
| **Total** | **77 (40)** | **82 (34)** | **83 (47)** | **82 (41)** | **89 (43)** | **56 (54)** | **65 (42)** | **48 (38)** | **51 (31)** | **42 (36)** | **675 (41)** |

**Table A2 Paediatric DCD kidney offers by offer centre, 1 January 2015 – 31 December 2024**

| | Number of offers (% declined) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Centre** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** | **2024** | **Total** |
| Newcastle | 2 (100) | 0 (0) | 1 (100) | 0 (0) | 1 (0) | 2 (100) | 2 (100) | 3 (100) | 1 (0) | 2 (100) | **14 (86)** |
| Leeds | 1 (0) | 0 (0) | 0 (0) | 2 (100) | 0 (0) | 1 (100) | 2 (50) | 1 (100) | 0 (0) | 4 (100) | **11 (82)** |
| Nottingham | 0 (0) | 1 (0) | 2 (0) | 2 (100) | 1 (100) | 2 (100) | 3 (33) | 7 (86) | 4 (100) | 5 (100) | **27 (78)** |
| London, Evelina | 2 (0) | 0 (0) | 2 (100) | 1 (0) | 0 (0) | 1 (100) | 3 (33) | 1 (100) | 3 (100) | 0 (0) | **13 (62)** |
| Bristol | 0 (0) | 0 (0) | 2 (100) | 2 (100) | 0 (0) | 3 (33) | 2 (50) | 4 (50) | 0 (0) | 1 (0) | **14 (57)** |
| Birmingham | 3 (100) | 0 (0) | 0 (0) | 2 (100) | 0 (0) | 4 (50) | 4 (75) | 6 (33) | 4 (25) | 4 (50) | **27 (56)** |
| Manchester | 3 (67) | 3 (0) | 1 (100) | 2 (0) | 0 (0) | 2 (0) | 3 (0) | 5 (80) | 3 (67) | 2 (50) | **24 (42)** |
| Glasgow | 0 (0) | 0 (0) | 0 (0) | 2 (0) | 0 (0) | 1 (0) | 1 (0) | 1 (0) | 2 (0) | 1 (0) | **8 (0)** |
| London, Great Ormond Street | 1 (0) | 0 (0) | 4 (100) | 0 (0) | 0 (0) | 1 (100) | 3 (0) | 3 (33) | 6 (33) | 3 (33) | **21 (43)** |
| **Total** | **12 (58)** | **4 (0)** | **12 (83)** | **13 (62)** | **2 (50)** | **17 (59)** | **23 (39)** | **31 (65)** | **23 (52)** | **22 (68)** | **159 (58)** |