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 DBD donor single kidney-only transplants performed in the UK between 1 January 2014 and 31 December 2023 and all DCD donor single kidney-only transplants performed in the UK between 1 January 2015 and 31 December 2023.

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. 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.

DBD OFFER DECLINE RATES

9 **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 43% which is slightly lower than the national decline rate for adult offers of standard criteria DBD donors (55% in 2022/23).

10 The DBD decline rate ranged from 23% to 65% across centres. Manchester lies outside the lower 95% confidence limit, indicating they may have an offer decline rate significantly lower than the national rate. 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 2019 – 31 December 2023

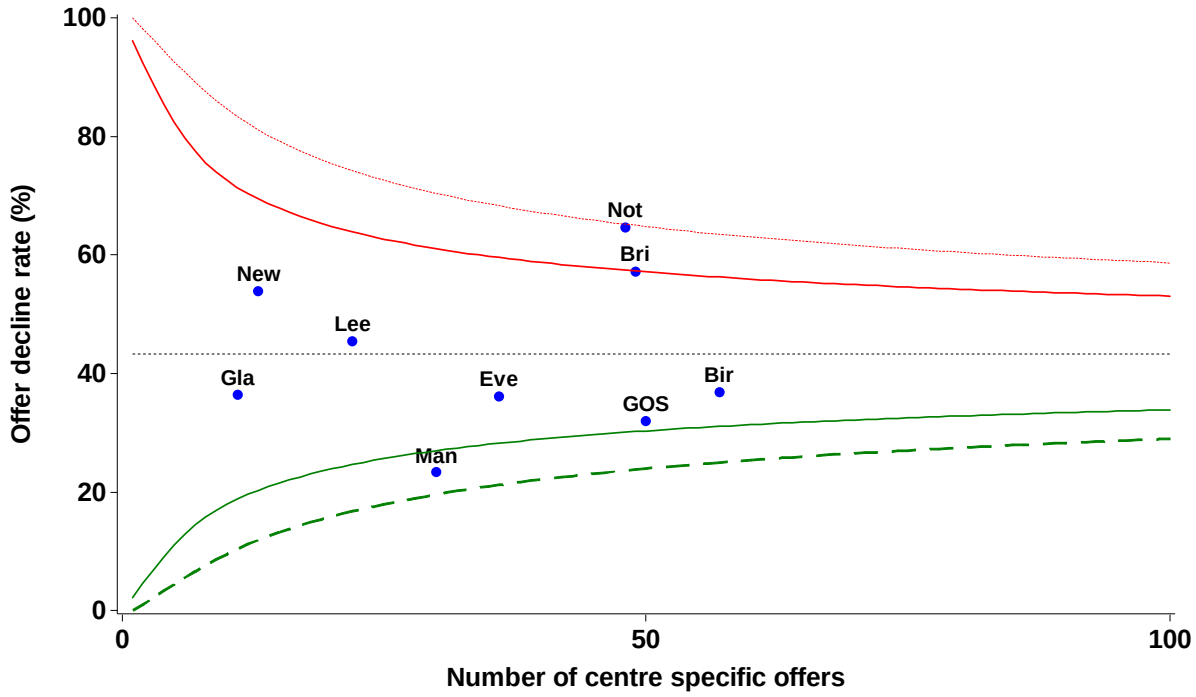
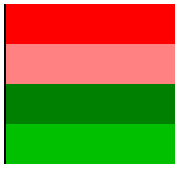


Table 1a **Paediatric DBD kidney offer decline rates by kidney transplant centre where the kidney was subsequently transplanted, 1 January 2019 – 31 December 2023**

Centre	No. patients receiving offers	No. offers	Decline rate
Belfast	1	1	-
Newcastle	10	13	(54)
Leeds	14	22	(45)
Nottingham	25	48	(65)
London, Evelina	29	36	(36)
Bristol	26	49	(57)
Birmingham	44	57	(37)
Manchester	24	30	(23)
Glasgow	9	11	(36)
London, Great Ormond Street	40	50	(32)
UK	**222**	**317**	**(43)**



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

Table 1b **Paediatric DBD kidney offer decline reasons by kidney transplant centre where the kidney was subsequently transplanted, 1 January 2019 – 31 December 2023**

Centre	Donor unsuitable	Organ unsuitable	Recipient reasons	Other
Belfast	-	-	-	-
Newcastle	3 (43%)	2 (29%)	0 (0%)	2 (29%)
Leeds	5 (50%)	5 (50%)	0 (0%)	0 (0%)
Nottingham	12 (39%)	9 (29%)	7 (23%)	3 (10%)
London, Evelina	5 (38%)	2 (15%)	5 (38%)	1 (8%)
Bristol	6 (21%)	14 (50%)	6 (21%)	2 (7%)
Birmingham	10 (48%)	5 (24%)	5 (24%)	1 (5%)
Manchester	2 (29%)	3 (43%)	0 (0%)	2 (29%)
Glasgow	3 (75%)	1 (25%)	0 (0%)	0 (0%)
London, Great Ormond Street	5 (31%)	6 (38%)	4 (25%)	1 (6%)
UK	**51 (37%)**	**47 (34%)**	**27 (20%)**	**12 (9%)**

11 National decline rates are presented by calendar year in **Table 2**. Since 2014, the national paediatric offer decline rates have fluctuated around 40%. The total number of DBD offers reduced from 69 in 2014 to 53 in 2023. The increase in offers in 2019, to 93, coincided with a slight increase in paediatric patients on the waiting list.

Table 2 Paediatric DBD kidney offer decline rates by offer year where the kidney was subsequently transplanted, 1 January 2014 – 31 December 2023

Offer year	No. patients receiving offers	No. offers	Decline rate
2014	55	69	(42)
2015	63	80	(43)
2016	68	85	(36)
2017	60	84	(48)
2018	69	83	(42)
2019*	68	93	(45)
2020	46	57	(54)
2021	58	66	(42)
2022	43	48	(38)
2023	45	53	(34)
Total	**574**	**718**	**(43)**

*Note, 2019 includes offers from both the 2006 KAS and the 2019 KOS

DCD OFFER DECLINE RATES

12 **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 54% which is slightly lower than the national decline rate for adult offers of standard criteria DCD donors (58% in 2022/23). Although the number 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 kidney offer decline rates by kidney transplant centre where the kidney was subsequently transplanted, 1 January 2019 – 31 December 2023

Centre	No. patients receiving offers	No. offers	Decline rate
Belfast	0	0	-
Newcastle	7	9	(78)
Leeds	4	4	(75)
Nottingham	11	17	(82)
London, Evelina	7	8	(75)
Bristol	8	9	(44)
Birmingham	15	18	(44)
Manchester	12	13	(46)
Glasgow	5	5	-
London, Great Ormond Street	12	13	(31)
UK	**81**	**96**	**(54)**

Table 3b **Paediatric DCD kidney offer decline reasons by kidney transplant centre where the kidney was subsequently transplanted, 1 January 2019 – 31 December 2023**

Centre	Donor unsuitable	Organ unsuitable	Recipient reasons	Other[1]
Belfast	-	-	-	-
Newcastle	6 (86%)	1 (14%)	0 (0%)	0 (0%)
Leeds	1 (33%)	1 (33%)	0 (0%)	1 (33%)
Nottingham	7 (50%)	3 (21%)	1 (7%)	3 (21%)
London, Evelina	1 (17%)	3 (50%)	0 (0%)	2 (33%)
Bristol	3 (75%)	0 (0%)	0 (0%)	1 (25%)
Birmingham	3 (38%)	4 (50%)	0 (0%)	1 (13%)
Manchester	0 (0%)	2 (33%)	1 (17%)	3 (50%)
Glasgow	1 (25%)	0 (0%)	1 (25%)	2 (50%)
London, Great Ormond Street	6 (86%)	1 (14%)	0 (0%)	0 (0%)
UK	**22 (42%)**	**14 (27%)**	**3 (6%)**	**13 (25%)**

[1] Four declines due to logistic reasons have been grouped in Other

13 **Table 4** shows the national DCD decline rates in the last nine 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. 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 kidney offer decline rates by offer year where the kidney was subsequently transplanted, 1 January 2015 – 31 December 2023**

Offer year	No. patients receiving offers	No. offers	Decline rate
2015	10	12	(58)
2016	4	4	(0)
2017	12	13	(85)
2018	12	13	(62)
2019*	2	2	(50)
2020	17	17	(59)
2021	23	23	(39)
2022	27	31	(65)
2023	20	23	(52)
Total	**127**	**138**	**(57)**

Note: Only patient named offers included up to 10 September 2019.
*Note, 2019 includes offers from both the 2006 KAS and the 2019 KOS

SUMMARY

14 Since 2014, the national DBD paediatric offer decline rates have fluctuated around 40%. For paediatric DBD kidney offers, Manchester had a decline rate lower than the lower 95% confidence limit and Nottingham had a decline rate higher than the upper 95% confidence limit. The national decline rate for DCD offers over the last nine years was 57%. 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

15 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.

16 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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Statistics and Clinical Research