NHS BLOOD AND TRANSPLANT

PAEDIATRIC SUB GROUP OF THE KIDNEY ADVISORY GROUP

KIDNEY DECLINE RATES OF PAEDIATRIC OFFERS

INTRODUCTION

1 Historically there has been variation across centres in the acceptance of kidneys for transplantation in adult and paediatric patients. While it is accepted that offer decline rates do not necessarily impact on kidney utilisation, significant variation in these rates are likely to lead to delays in the offering process and inequities in access to transplant for patients listed at centres with notably higher offer decline rates.

2 Over the past few years, offer decline rates have been monitored. Adult centres were asked to consider their offer acceptance protocols with an aim to minimising offer decline rates and striving towards reducing the variation across centres wherever possible. For paediatric centres, a prospective audit was conducted in 2011, 2014 and 2017 examining the reasons for declining offers of kidneys for paediatric patients. Also, national guidelines for offer acceptance for paediatric patients were produced to help minimise variation in offer decline rates.

3 This paper continues monitoring the offer decline rates for paediatric patients, comparing to the previous 10 years of activity which includes the prospective audits in 2014 and 2017.

DATA

4 Data were obtained from the UK Transplant Registry on all DBD donor single kidney-only transplants performed in the UK between 1 January 2012 and 31 December 2022. The outcomes of offering data relating to paediatric offers to named individual patients were analysed. Declined offers were defined as those immediately declined and those where the kidney was accepted but not used by the accepting centre. To note, centre based offering in Tier B occurred between 30 March 2020 – 15 June 2020.

5 On 11 September 2019 the new 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.

6 Since September 2014, the national DCD kidney allocation scheme and subsequent 2019 Kidney Offering Scheme has enabled paediatric patients to receive offers from DCD donors. Therefore, this report also includes decline rates for DCD donor offers over the shorter time period of 1 January 2016 to 31 December 2022.

7 Centre specific DBD offer decline rates were calculated for each centre and compared with the national rate using funnel plot analysis. Centre specific decline rates have been calculated for the last five calendar years.

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.

CENTRE SPECIFIC OFFER DECLINE RATES

9 **Figure 1** and **Table 1** compare individual centre offer decline rates with the national rate for paediatric offers of DBD kidneys. The national decline rate is 44% which is slightly lower than the national decline rate for adult offers of standard criteria DBD donors (54% in 2021/22).

10 The DBD decline rate ranged from 23% to 60%. Manchester and London, Great Ormond Street had offer decline rates below the lower 95% confidence limit, indicating a potentially significant difference in the offer decline rates. Bristol had an offer decline rate above the upper 95% confidence interval, also indicating a potentially significant difference in the offer decline rate.

Figure 1 Funnel plot of kidney transplant centre DBD kidney decline rates for paediatric patients, 1 January 2018 – 31 December 2022

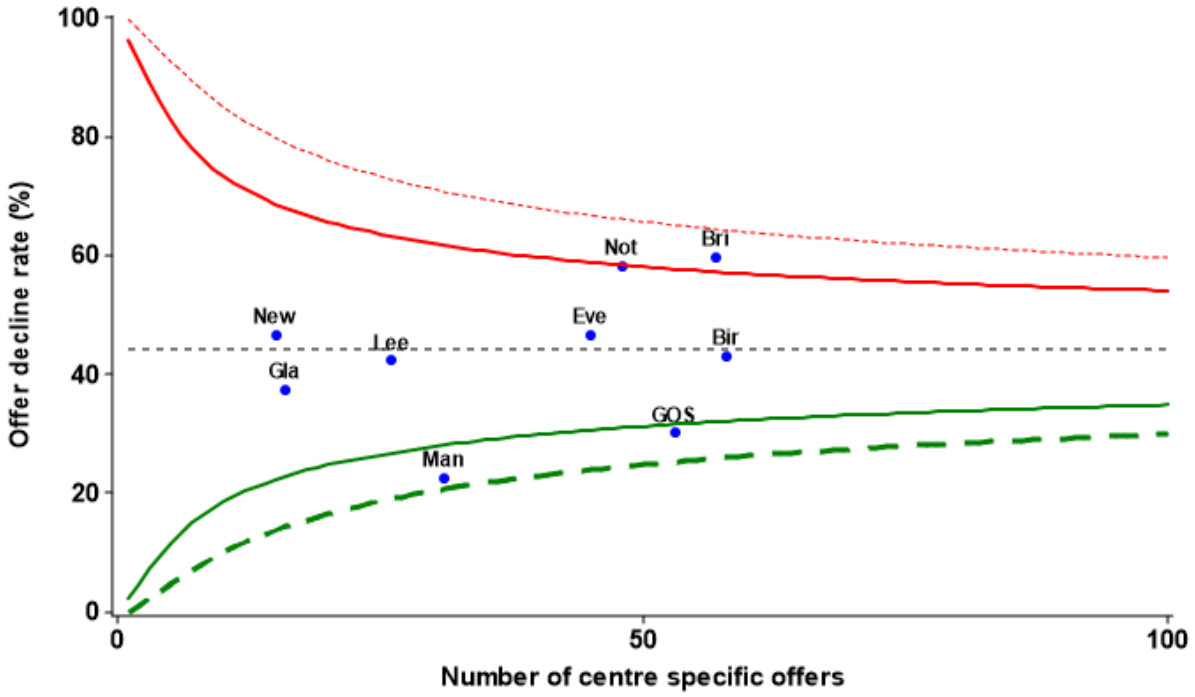


Table 1 Paediatric donor kidney offer decline rates by kidney transplant centre, 1 January 2018 – 31 December 2022

Centre	No. offers	Decline rate
Belfast	1	-
Newcastle	15	(47)
Leeds	26	(42)
Nottingham	48	(58)
London, Evelina	45	(47)
Bristol	57	(60)
Birmingham	58	(43)
Manchester	31	(23)
Glasgow	16	(38)
London, Great Ormond Street	53	(30)
UK	**349**	**(44)**

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

NATIONAL OFFER DECLINE RATES

11 National decline rates, by calendar year are presented in **Table 2**. Since 2012, the national paediatric offer decline rates have been fairly static at around 40%. The total number of offers reduced from 77 in 2012 to 50 in 2022. In 2019 the number of offers increased to 93. This increase 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 2012 – 31 December 2022

Offer year	No. patients receiving offers	No. offers	Decline rate
2012	63	77	(36)
2013	64	91	(40)
2014	46	69	(42)
2015	57	79	(42)
2016	56	85	(36)
2017	52	84	(48)
2018	51	83	(42)
2019*	54	93	(45)
2020	37	58	(53)
2021	49	66	(42)
2022	32	50	(38)
Total	**561**	**835**	**(42)**

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

12 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 3** 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. Numbers are small and so they are not presented by centre, however **Table 3** shows the decline rate in the last eight years.

Table 3 Paediatric DCD kidney offer decline rates by offer year where the kidney was subsequently transplanted, 1 January 2015 – 31 December 2022

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	19	(58)
2021	21	25	(36)
2022	24	31	(65)
Total	**102**	**119**	**(56)**

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

13 Since 2012, the national DBD paediatric offer decline rates have been fairly static at around 40%. For paediatric DBD kidney offers, Manchester and London, Great Ormond Street had a decline rate lower than the lower 95% confidence limit and Bristol had a decline rate higher than the upper 95% confidence limit. The national decline rate for DCD offers over the last eight years was 56%.

RECOMMENDATION

14 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.

15 Members are asked, where possible, to consider ways in which to minimise offer decline rates within their individual transplant centres. Examples of how this can be achieved are not limited to but include robust reporting of known unacceptable antigens, maintaining up-to-date centre specific offering criteria, suspending patients when known to be unavailable for transplantation and the use of minimum match requirements for individual patients.

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