



UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG

**Registry of Transplant Recipients Annual Report:
Wits Donald Gordon Medical Centre
Adult and Paediatric Kidney Transplantation
December 2022**

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Adult Kidney Transplantation

Figure 1: Number of adult kidney transplants per year

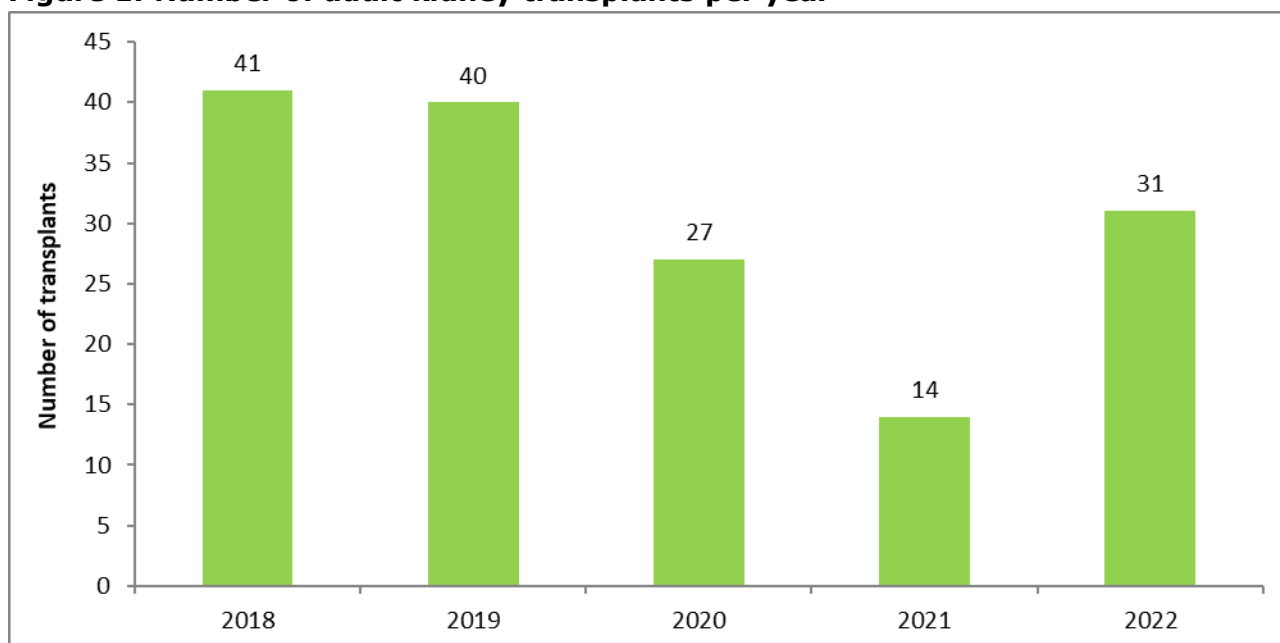


Table 1: Overview of adult kidney transplants

	2018	2019	2020	2021	2022
Number of transplants	41	40	27	14	31
Donor type (n)					
Living donor transplants	13	15	8	8	15
Deceased donor transplants	28	25	19	6	15
Autotransplants (not considered in rest of report)					1

Table 2: Adult kidney transplant recipient characteristics

	2018	2019	2020	2021	2022
<i>Number of transplants</i>	41	40	27	14	30
Age (%)					
18-34 years	22	20	41	36	10
35-49 years	44	47	30	50	57
50-64 years	29	30	22	7	20
65 years or older	5	3	7	7	13
Gender (%)					
Male	58	60	74	57	80
Female	42	40	26	43	20
Ethnicity (%)					
Black	42	43	37	21	33
White	34	37	48	72	54
Indian	20	15	7	7	13
East Asian/Chinese	4	0	4	0	0
Mixed	0	5	4	0	0
Aetiology of renal disease (%)					
Cystic / hereditary / congenital disease					20
Diabetic nephropathy					23
Glomerulonephritis					20
Hypertensive nephropathy					43
Interstitial nephritis/ pyelonephritis					0
Nephrectomy					10
Nephrotoxins					13
Other					7
Unknown/not recorded					3
Transplant history (%)					
First	95	88	100	100	97
Re-transplant	5	12	0	0	3
Blood type (%)					
O	37	42	33	50	27
A	22	38	48	36	43
B	24	12	11	14	17
AB	12	8	8	0	13
Unknown	5	0	0	0	0
BMI (%)					
< 18.5 kg/m ²	2	3	11	14	0
18.5-< 25 kg/m ²	44	35	41	29	33
25-< 28 kg/m ²	22	10	11	29	27
28-< 30 kg/m ²	5	22	15	0	7
30-< 35 kg/m ²	17	10	15	21	10
>= 35 kg/m ²	0	0	0	0	3
Unknown	10	20	7	7	20
Diabetes (%)					
Yes	17	10	11	21	20
No	83	90	89	79	80

Table 2 (continued)

	2018	2019	2020	2021	2022
<i>Number of transplants</i>	41	40	27	14	30
Renal Replacement Therapy modality at the time of listing (%)	.				
CKD (not yet on dialysis)	.	5	15	14	13
Haemodialysis	.	95	81	86	87
Peritoneal dialysis	.	0	4	0	0

Table 3: Donor characteristics

	2018	2019	2020	2021	2022
<i>Number of transplants</i>	41	40	27	14	30
Blood type (%)					
O		55	37	50	37
A		33	52	36	43
B		7	11	14	13
AB		5	0	0	7
Donor-recipient blood group compatibility (%)					
ABO compatibility/minor incompatibility		92	96	100	100
ABO incompatibility-major		8	4	0	0
Expanded criteria organ (deceased donors only) (%)					
Yes		24	0	17	53
No		76	100	83	47
Increased risk organ (%)					
Yes		3	4	7	10
No		97	93	93	90
Unknown		0	3	0	0
Kidney Donor Risk Index (first, kidney-alone, ABO-compatible, deceased donor transplants only) (%)					
<i>Number of transplants</i>			18	5	14
<=1.00			33	20	0
1.01-1.20			33	40	29
1.21-1.40			0	0	7
1.41-1.60			11	0	21
1.61-1.80			11	0	7
1.81-2.00			0	40	0
>2.00			0	0	21
Unknown			11	0	14

Table 4: Donor-Recipient serology matching (2022)

Donor / Recipient	CMV	Hep B core	Hep B surface antigens	Hep C	HIV
D- / R-	13	54	97	97	90
D- / R+	13	11			3
D- / R unknown		17			
D+ / R-	17	3			
D+ / R+	57	3			
D+ / R unknown					
D unknown / R-		6	3	3	7
D unknown / R+		3			
D unknown / R unknown		3			

Table 5: Transplant characteristics

	2018	2019	2020	2021	2022
<i>Number of transplants</i>	41	40	27	14	30
Procedure Type (%)					
Kidney alone	100	98	96	93	97
Combined liver kidney transplant	0	2	4	7	3
Median days in hospital after transplant (kidney-alone transplants; excl. deaths in hospital)	11	10	11	12	15

Table 6: Adult kidney transplant survival

	Patient		Graft	
	Unadjusted	Risk-adjusted	Unadjusted	Risk-adjusted
1-month survival				
<i>Number of transplants</i>		53		53
Survival estimate (%) (95% CI)	98 (87-99)	96 (85-97)	98 (87-99)	98 (87-99)
1-year survival				
<i>Number of transplants</i>		53		53
Survival estimate (%) (95% CI)	94 (83-98)	93 (82-97)	94 (83-98)	96 (85-99)
3-year survival:				
<i>Number of transplants</i>		95		95
Survival estimate (%) (95% CI)	91 (83-95)	94 (86-98)	86 (77-92)	89 (80-95)

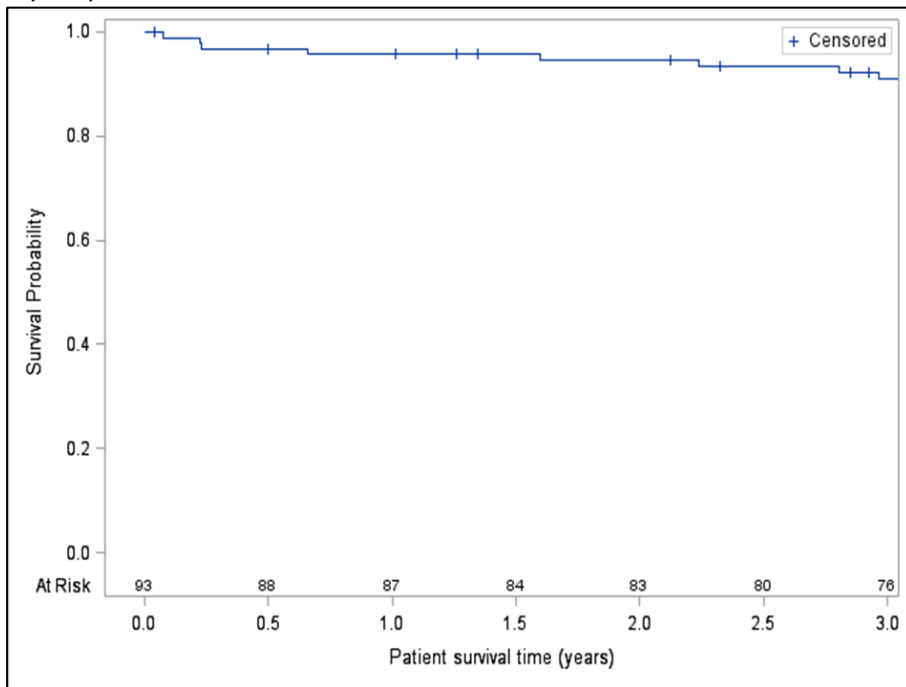
All survival estimates are for first transplants and all causes of end-stage kidney disease. One-month and one-year patient and graft survival estimates are based on transplants carried out in the 2.5 years prior to the last 12 months of follow-up, i.e. patients transplanted between 1 Jul 2019 and 31 Dec 2021. Three-year patient and graft survival estimates are based on transplants carried out in the 2.5 years prior to the last 3 years of follow-up, i.e. patients transplanted between 1 Jul 2017 and 31 Dec 2019. Risk-adjusted estimates are based on the observed vs estimated deaths (or graft failures) using a model based on transplant number, recipient age and gender. The 3-year survival curves are shown in Appendix A.

Table 7: 1-year adult kidney transplant survival by selected groups

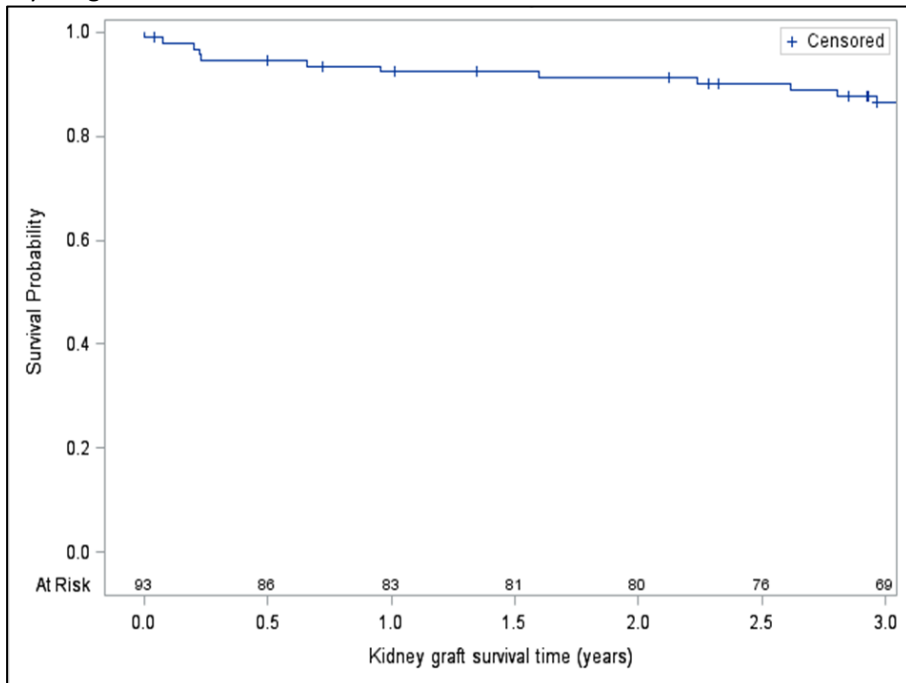
	Survival (%) (95% CI)	
	Patient	Graft
Recipient ethnicity:		
Black	94 (63-99)	93 (61-99)
White	96 (77-99)	93 (74-98)
Indian	100 (CI not est.)	100 (CI not est.)
Donor type:		
Living	96 (74-99)	96 (73-99)
Deceased	93 (75-98)	93 (74-98)

All survival estimates are for first transplants, based on transplants carried out in the 2.5 years prior to the last 12 months of follow-up, i.e. patients transplanted between 1 Jul 2019 and 31 Dec 2021. There were no statistically significant differences in survival between any of the groups. The survival curves are shown in Appendix B.

Appendix A:
3-year patient survival:

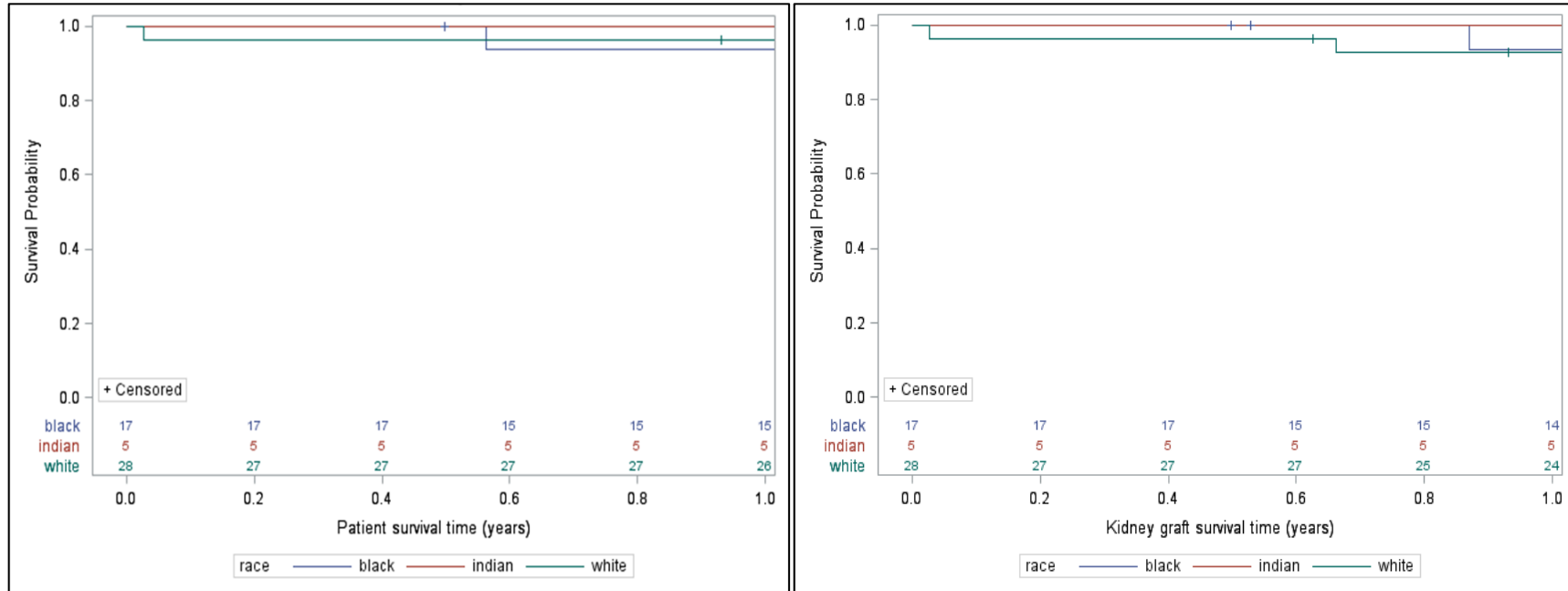


3-year graft survival:

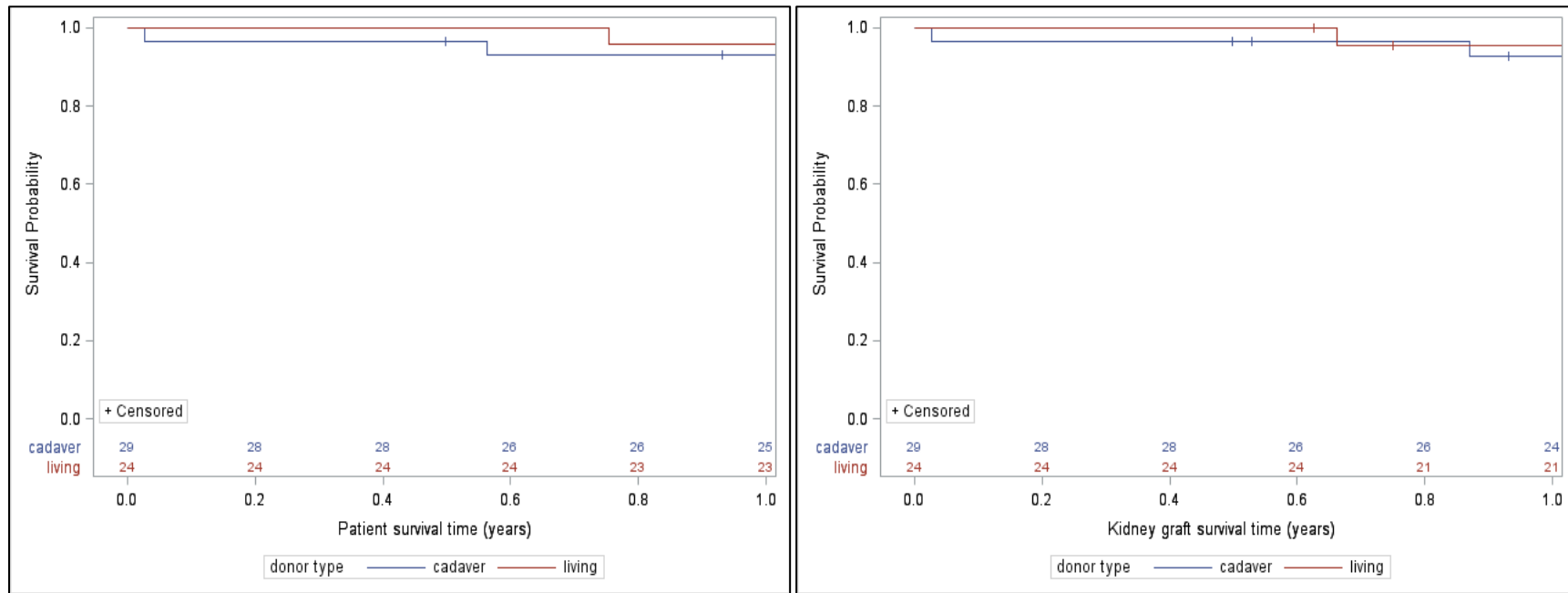


Appendix B:

1-year patient and graft survival by recipient ethnicity:



1-year patient and graft survival by donor type:



Paediatric Kidney Transplantation

Figure 2: Number of paediatric kidney transplants per year

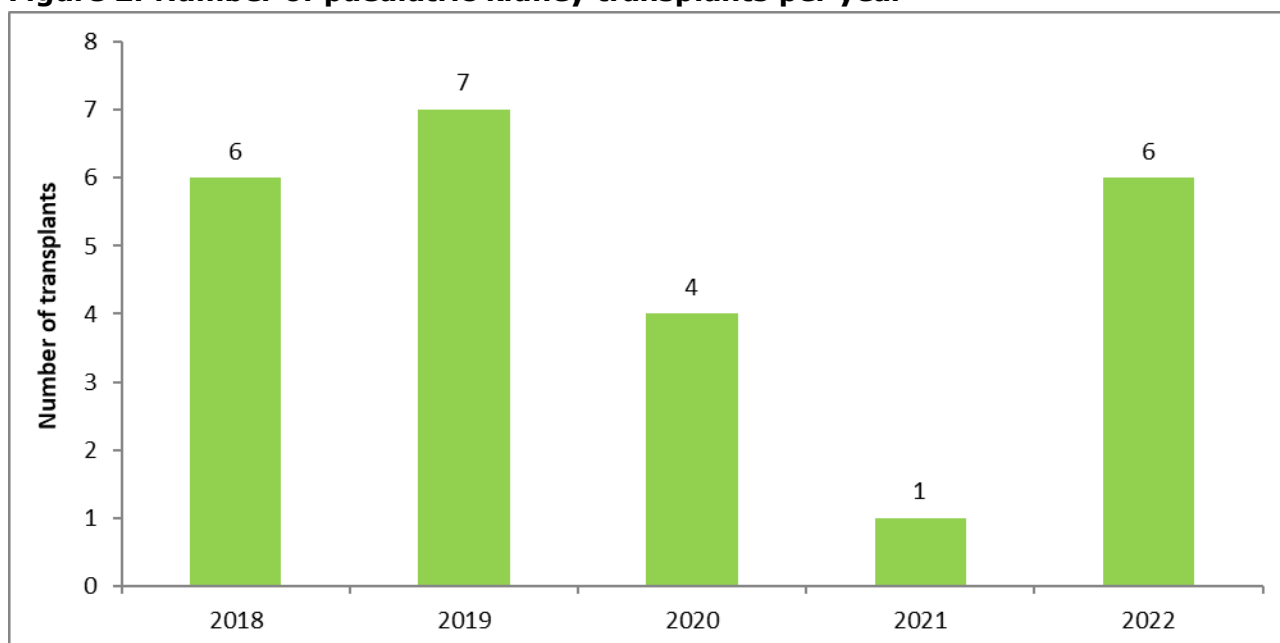


Table 8: Overview of paediatric kidney transplants

	2018	2019	2020	2021	2022
Number of transplants	6	7	4	1*	6
Donor type (n)					
Living donor transplants	3	1	3	1	4
Deceased donor transplants	3	6	1	0	2

*Since there was only one transplant carried out in 2021, no further details are reported for reasons of identifiability.

Table 9: Paediatric kidney transplant recipient characteristics

	2018	2019	2020	2021	2022
<i>Number of transplants</i>	6	7	4	1	6
Age (%)					
<1 year	0	0	0		0
1-5 years	33	0	25		0
6-10 years	17	14	25		33
11-17 years	50	86	50		67
Gender (%)					
Male	33	43	100		100
Female	67	57	0		0
Ethnicity (%)					
Black	17	43	0		33
White	83	43	75		50
Indian	0	0	25		17
East Asian/Chinese	0	14	0		0
Mixed	0	0	0		0
Aetiology of ESRD					
Cystic / hereditary / congenital disease	100	57	75		67
Glomerulonephritis	0	43	25		33
Transplant history (%)					
First	100	100	100		83
Re-transplant	0	0	0		17
Blood type (%)					
O	83	29	75		33
A	0	14	0		17
B	17	57	25		50
AB	0	0	0		0
BMI (%)					
< 18.5 kg/m ²	67	57	100		83
18.5-< 25 kg/m ²	33	29	0		0
25-< 28 kg/m ²	0	0	0		17
28-< 30 kg/m ²	0	0	0		0
30-< 35 kg/m ²	0	0	0		0
>= 35 kg/m ²	0	0	0		0
Unknown	0	14	0		0
Diabetes (%)					
Yes	0	0	0		0
No	83	100	100		100
Unknown	17	0	0		0
Renal Replacement Therapy modality at the time of listing (%)					
CKD (not yet on dialysis)	33	14	50		17
Haemodialysis	17	57	0		67
Peritoneal dialysis	50	29	50		16

Table 10: Paediatric kidney transplant donor characteristics

	2018	2019	2020	2021	2021
<i>Number of transplants</i>	6	7	4	1	6
Blood type (%)					
O	83	29	75		66
A	0	14	0		17
B	17	57	25		16
AB	0	0	0		0
Donor-recipient blood group compatibility (%)					
ABO compatibility/minor incompatibility	100	100	100		100
ABO incompatibility-major	0	0	0		0
Expanded criteria organ (deceased donors only) (%)					
Yes	33	0	0		0
No	67	100	100		100
Increased risk organ (%)					
Yes	0	0	0		0
No	100	100	100		100

Table 11: Donor-Recipient serology matching (2022)

Donor / Recipient	CMV (recipient age>=18m)	Hep B core (recipient age>=18m)	Hep B surface antigens (recipient age>=18m)	Hep C	HIV
D- / R-		33	100	100	100
D- / R+		33			
D- / R unknown					
D+ / R-	17				
D+ / R+	67				
D+ / R unknown					
D unknown / R-	16	33			
D unknown / R+					
D unknown / R unknown					

Table 12: Paediatric kidney transplant characteristics

	2018	2019	2020	2021	2021
<i>Number of transplants</i>	6	7	4	1	6
Procedure Type (%)					
Kidney alone	83	86	100		100
Combined liver kidney transplant	17	14	0		0
Median days in hospital after transplant (Kidney alone transplants)	5	5	5		6

Table 13: Paediatric kidney transplant survival

	Patient	Graft
	Unadjusted	Unadjusted
1-month survival		
<i>Number of transplants</i>	101	101
Survival estimate (%) (95% CI)	98 (92-99)	96 (90-98)
1-year survival		
<i>Number of transplants</i>	101	101
Survival estimate (%) (95% CI)	98 (92-99)	94 (87-97)
3-year survival:		
<i>Number of transplants</i>	91	91
Survival estimate (%) (95% CI)	96 (89-98)	88 (79-93)

All survival estimates are for first transplants and all causes of end-stage kidney disease. One-month and one-year patient and graft survival estimates are based on transplants carried out prior to the last 12 months of follow-up, i.e. patients transplanted between 1 Jan 2004 and 31 Dec 2021. Three-year patient and graft survival estimates are based on transplants carried prior to the last 3 years of follow-up, i.e. patients transplanted between 1 Jan 2004 and 31 Dec 2019. The 3-year survival curves are shown in Appendix C.

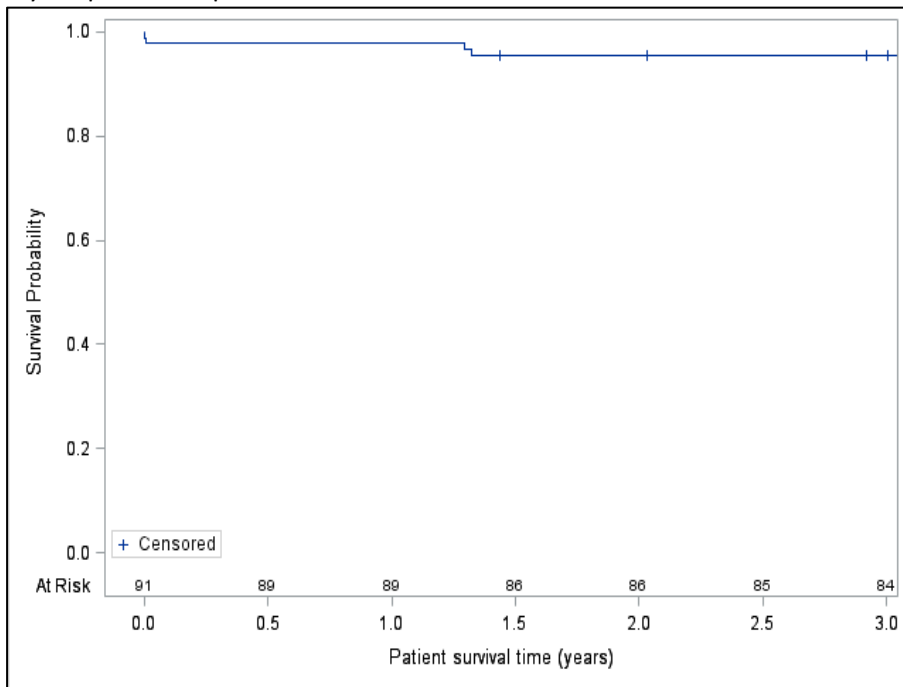
Table 14: 1-year paediatric kidney transplant survival by selected groups

	Survival (%) (95%CI)	
	Patient	Graft
Recipient ethnicity:		
Black	97 (81-99)	97 (81-99)
White	98 (88-99)	94 (83-98)
Donor type:		
Living	100 (-)	96 (85-99)
Deceased	96 (84-99)	92 (79-97)

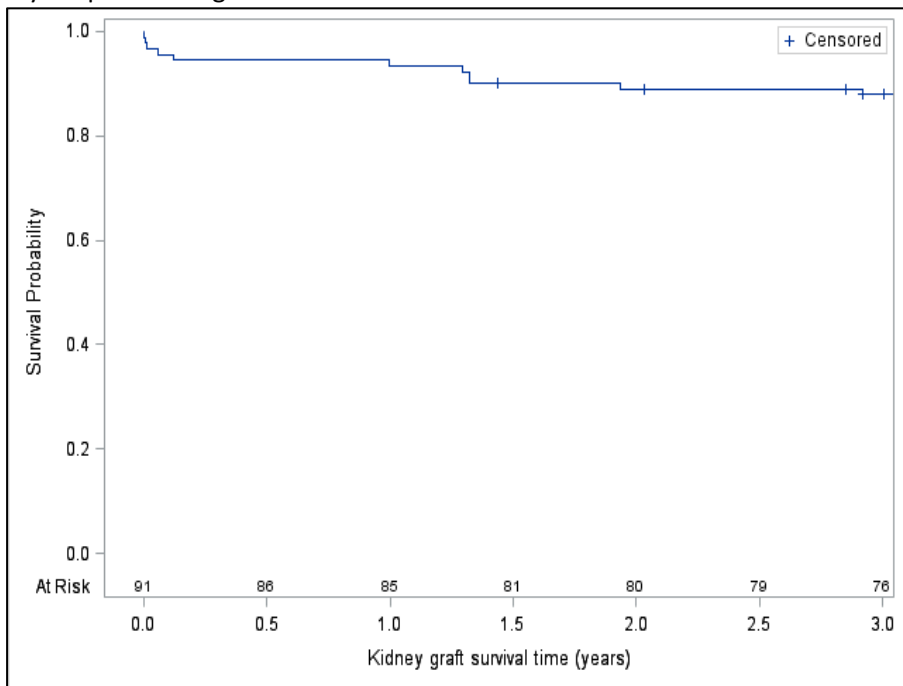
All survival estimates are for first transplants, based on transplants carried out prior to the last 12 months of follow-up, i.e. patients transplanted between 1 Jan 2004 and 31 Dec 2021. There were no statistically significant differences in survival between any of the groups. The survival curves are shown in Appendix D.

Appendix C:

3-year paediatric patient survival:

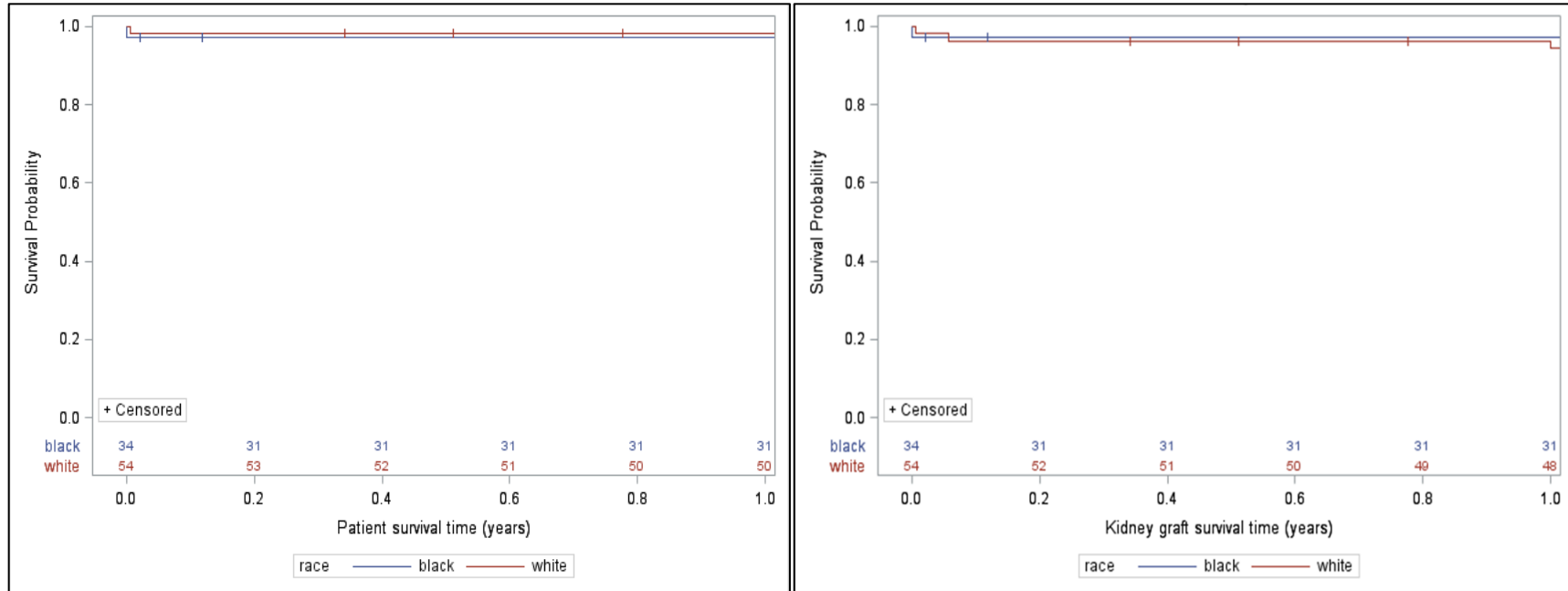


3-year paediatric graft survival:



Appendix B:

1-year paediatric patient and graft survival by recipient ethnicity:



1-year paediatric patient and graft survival by recipient donor type:

