

**Wits Donald Gordon Medical Centre Transplant
Programme**

**Registry of Transplant Recipients Annual Report:
Adult Liver Transplantation
December 2021**

Contents

Figure 1: Number of transplants per year	3
Table 1: Overview of transplants.....	3
Table 2: Recipient characteristics.....	4
Table 3: Donor characteristics.....	5
Table 4: Donor-Recipient serology matching (2021)	6
Table 5: Transplant characteristics	6
Figure 2: Incidence of biopsy-proven acute graft rejection in the first 90 days after transplant.....	7
Table 6: Survival.....	8
Table 7: 1-year survival by selected groups.....	8
Table 8: Characteristics of adult liver transplant candidates on the waiting list on 31 December	9
Table 9: Outcome 1 year after listing, of liver transplant candidates.....	10

Figure 1: Number of transplants per year

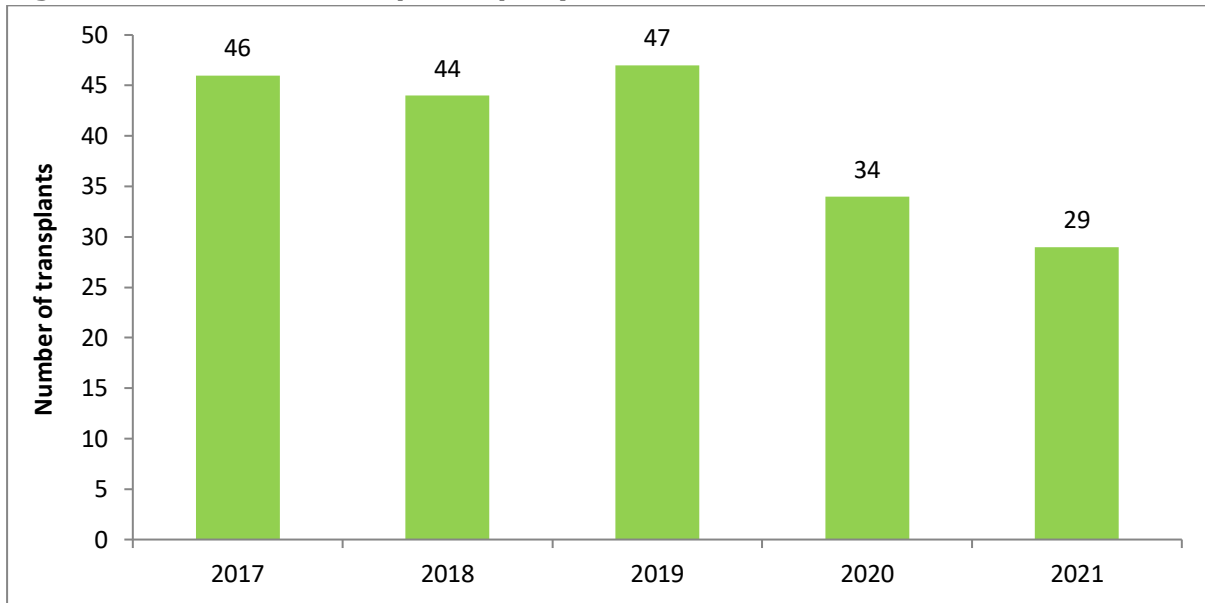


Table 1: Overview of transplants

	2017	2018	2019	2020	2021
Number of transplants	46	44	47	34	29
Donor type (n)					
Living donor transplants	0	0	1	7	12
Deceased donor transplants	46	44	46	27	17
<i>Whole liver</i>	40	43	44	26	17
<i>Split liver</i>	6	1	2	1	0

Table 2: Recipient characteristics

	2017	2018	2019	2020	2021
<i>Number of transplants</i>	46	44	47	34	29
Age (%)					
18-34 years	22	16	28	21	24
35-49 years	19	21	19	35	28
50-64 years	48	52	42	32	24
65 years or older	11	11	11	12	24
Gender (%)					
Male	63	57	45	59	59
Female	37	43	55	41	41
Ethnicity (%)					
Black	29	14	23	18	24
White	61	73	55	67	62
Indian	4	9	20	6	11
Mixed	4	4	2	9	3
Unknown	2	0	0	0	0
Primary Disease (%)					
Acute liver failure	9	16	13	9	10
ASH/NASH	26	25	21	15	24
Cholestatic	31	25	36	50	41
Hepatitis B	4	5	0	3	0
Hepatitis C	4	0	5	3	4
Metabolic	13	4	4	0	4
Malignancy	2	9	6	11	14
Other	11	16	15	9	3
Transplant history (%)					
First	93	98	93	97	100
Re-transplant	7	2	9	3	0
Blood type (%)					
A	39	32	26	23	28
B	15	25	15	21	17
AB	4	7	4	9	0
O	41	36	55	47	55
Health Care Sector (%)					
Funded	89	89	94	91	97
State	11	11	6	9	3
Wait time (%)					
< 31 days	35	45	45	35	34
31-60 days	13	21	21	12	7
61-90 days	15	11	6	3	10
3-< 6 months	22	9	13	29	21
6-< 12 months	9	7	4	18	7
1-< 2 years	6	7	11	3	21

	2017	2018	2019	2020	2021
BMI (%)					
< 18.5 kg/m ²	4	0	0	0	4
18.5-< 25 kg/m ²	22	36	43	47	41
25-< 28 kg/m ²	37	21	23	23	17
28-< 30 kg/m ²	11	9	13	15	17
30-< 35 kg/m ²	24	25	13	6	21
>= 35 kg/m ²	2	9	8	9	0
Medical urgency (%)					
Status 1	9	16	13	9	10
MELD ≥ 35	0	0	0	3	0
MELD 30-34	9	2	2	3	0
MELD 15-29	48	36	53	38	55
MELD < 15	35	45	32	44	34
Unknown	0	0	0	3	0
Diabetes (%)	22	27	37	21	24

Table 3: Donor characteristics

	2017	2018	2019	2020	2021
<i>Number of transplants</i>	46	44	47	34	29
Blood type (%)					
A	39	36	34	35	14
B	17	27	13	15	17
AB	2	5	6	3	3
O	41	32	47	47	66
Donor Risk Index (cadaver donors) (%)					
<=1.00	4	0	0	0	0
1.01-1.40	11	23	28	26	18
1.41-1.60	24	20	11	18	18
1.61-1.80	17	14	22	15	12
1.81-2.00	11	14	11	11	23
>2.00	33	27	22	11	23
Unknown	-	2	6	19	6
Donor-recipient blood group compatibility (%)					
ABO incompatibility-major ¹	2	16	23	9	10

¹ A or B or AB to O; AB to A or B; A to B; B to A

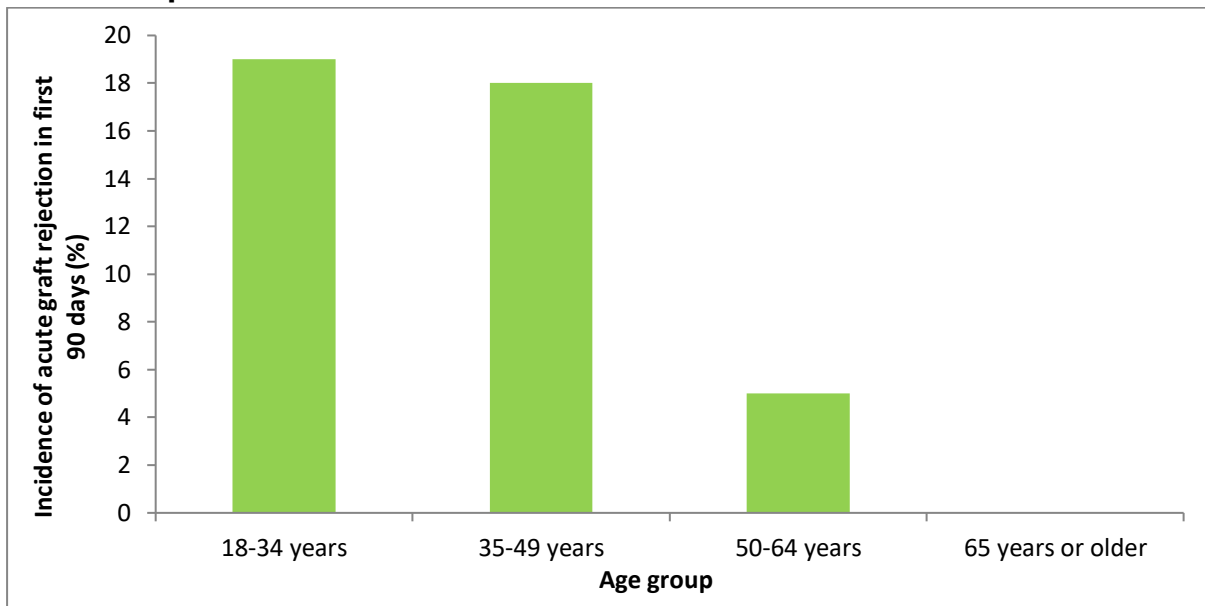
Table 4: Donor-Recipient serology matching (2021)

Donor / Recipient	CMV	Hep B core	Hep B surf. ant.	Hep C	HIV
D- / R-	-	97	52	97	86
D- / R+	21	-	35	3	10
D- / R unknown	-	-	-	-	-
D+ / R-	14	3	3	-	-
D+ / R+	55	-	3	-	-
D+ / R unknown	4	-	-	-	-
D unknown / R-	3	-	7	-	4
D unknown / R+	-	-	-	-	-
D unknown / R unknown	3	-	-	-	-

Table 5: Transplant characteristics

	2017	2018	2019	2020	2021
<i>Number of transplants</i>	46	44	47	34	29
Procedure Type (%)					
Liver alone	98	100	98	97	97
Liver and another organ	2	-	2	3	3
Median days in hospital after transplant (Liver alone transplants; excl. deaths pre discharge)	13	13	16	12	16

Figure 2: Incidence of biopsy-proven acute graft rejection in the first 90 days after transplant



These data are based on funded healthcare sector transplants carried out in the 2.5 years prior to the last 12 months of follow-up, i.e. patients transplanted between 1 Jul 2018 and 31 Dec 2020.

Table 6: Survival

	Patient		Graft	
	Unadjusted	Risk-adjusted	Unadjusted	Risk-adjusted
1-month survival				
<i>Number of transplants</i>		99		99
Survival estimate (%) (95% CI)	89 (80-94)	88 (79-93)	89 (80-94)	87 (78-92)
1-year survival				
<i>Number of transplants</i>		99		99
Survival estimate (%) (95% CI)	78 (68-85)	79 (69-86)	78 (68-85)	78 (68-85)
3-year survival:				
<i>Number of transplants</i>		105		105
Survival estimate (%) (95% CI)	81 (72-87)	72 (64-77)	80 (71-86)	71 (63-76)

All survival estimates are for first transplants and all causes of end-stage liver 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 2018 and 31 Dec 2020. 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 2016 and 31 Dec 2018. Risk-adjusted estimates are based on the observed vs estimated deaths (or graft failures) using a model based on transplant number, chronic vs acute liver failure, recipient age and gender. The 3-year survival curves are shown in Appendix A.

Table 7: 1-year survival by selected groups

	Survival (%) (95%CI)	
	Patient	Graft
Age:		
18-34y	75 (50-89)	75 (50-89)
35-49y	90 (65-96)	90 (65-96)
50-64y	80 (65-89)	80 (65-89)
65y+	55 (23-78)	55 (23-78)
Acute rejection in the first 90 days (funded healthcare sector recipients only):		
No	77 (66-85)	77 (66-85)
Yes	Not estimable (no deaths)	

All survival estimates are for first transplants and all causes of end-stage liver disease, 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 2018 and 31 Dec 2020. There were no statistically significant differences in survival between any of the groups. The survival curves are shown in Appendix B.

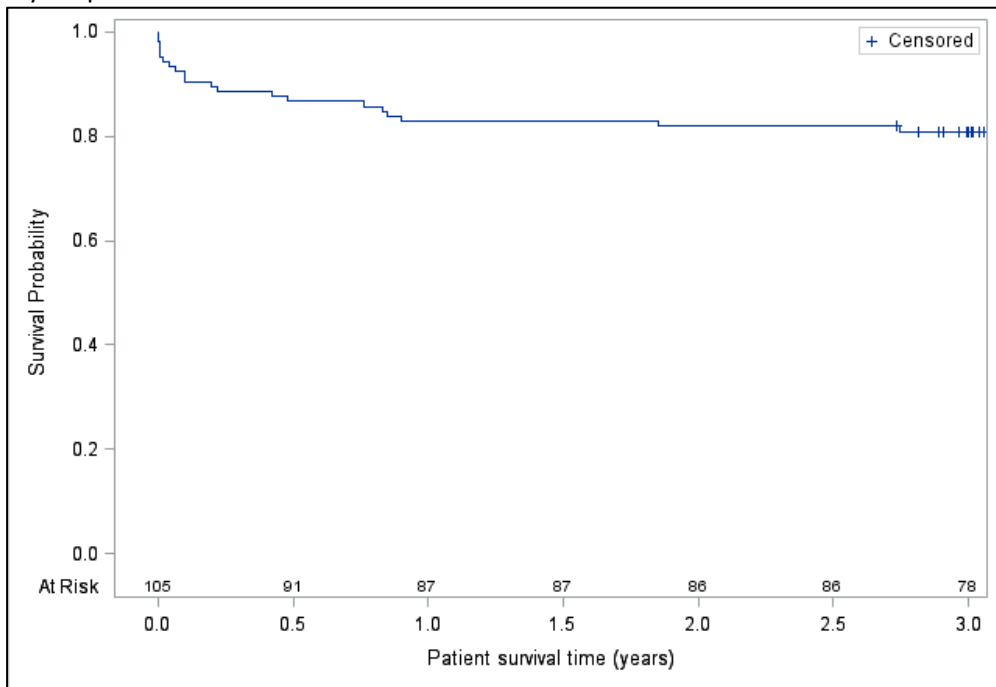
Table 8: Characteristics of adult liver transplant candidates on the waiting list on 31 December

	2017	2018	2019	2020	2021
<i>Number of patients</i>	26	27	32	28	33
Age (%)					
18-34 years	31	15	28	11	21
35-49 years	27	33	28	25	30
50-64 years	34	41	38	43	43
65 years or older	8	11	6	21	6
Gender (%)					
Male	38	48	59	43	48
Female	62	52	41	57	52
Ethnicity (%)					
Black	35	33	28	36	39
White	46	45	47	50	46
Indian	12	22	13	14	12
Mixed	4	-	9	-	3
Unknown	3	-	3	-	-
Diagnosis of liver failure (%)					
Acute liver failure	4	4	-	7	6
ASH/NASH	15	33	22	39	36
Cholestatic	58	41	50	39	40
Hepatitis B	-	-	3	-	3
Hepatitis C	4	4	-	-	-
Metabolic	4	3	3	4	3
Malignancy	8	4	6	4	6
Other	7	11	13	7	6
Unknown chronic	-	-	3	-	-
Medical urgency (%)					
Status 1	nd	nd	19	0	0
MELD ≥ 35	-	-	-	-	-
MELD 30-34	-	-	-	-	-
MELD 15-29	-	-	-	-	-
MELD < 15	100	100	81	100	100
Wait time (%)					
< 1 year	85	67	72	57	55
1-< 2 years	15	26	19	21	27
2-< 3 years	-	7	6	18	12
3-< 4 years	-	-	3	4	6
4-< 5 years	-	-	-	-	-
≥ 5 years	-	-	-	-	-

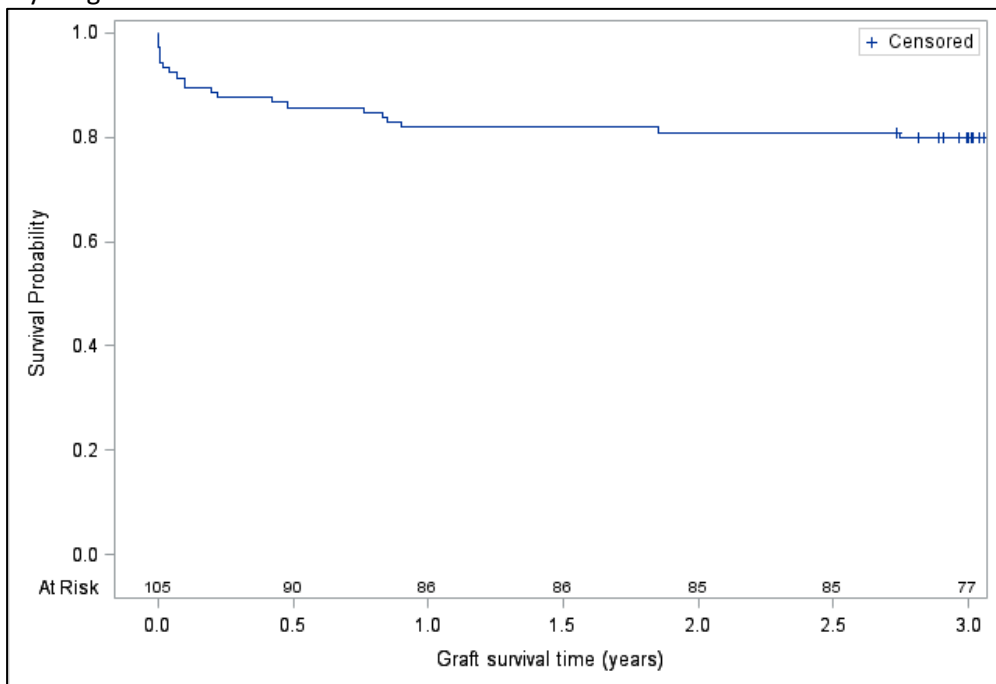
Table 9: Outcome 1 year after listing, of liver transplant candidates

	2017	2018	2019	2020
Patients listed during year	70	61	66	51
Status at 1 year after listing (%)				
Transplanted	66	62	73	49
Patient died	10	13	11	25
Removed from list (for reasons other than death or transplant)	11	10	11	10
Still waiting for transplant	13	15	9	24

Appendix A:
3-year patient survival:

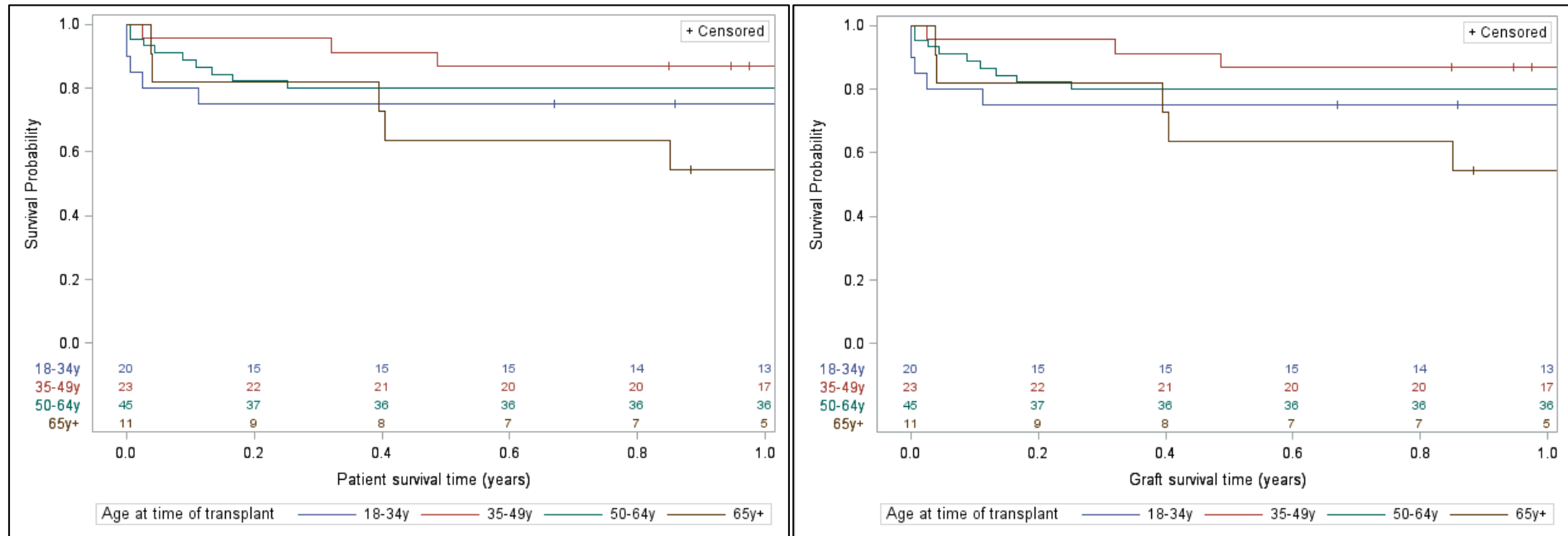


3-year graft survival:



Appendix B:

1-year patient and graft survival by age group:



1-year patient and graft survival by acute rejection in the first 90 days (funded healthcare sector recipients only):

