



CHAPTER 6

Australian Transplant Waiting List

Reporting the deceased donor kidney transplant waiting list dynamics in Australia, the demographics of patients on the waiting list, and transplantation rates and survival for wait listed patients

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SUMMARY AND HIGHLIGHTS

The impact of the COVID-19 pandemic on the dynamics of the deceased donor transplant waiting list in Australia in 2023 was mixed. Table 6.1 shows an increase in the number of deceased donor kidney transplants in 2023 to pre-pandemic level. The number of patients made active was similar. As a result, the accumulation of waitlisted patients since 2020 persisted, with the number of patients on the waiting list at the end of 2023 remaining higher than in 2019. This is reflected in the median waiting time (Table 6.12) of prevalent patients on the waiting list increasing from 2.1 to 2.5 years. An exception was the age 65+ group where the number of deceased donor kidney transplants decreased from 214 in 2019 to 97 in 2023 (Table 6.3). In parallel, the number made active decreased from 275 to 130 and the number taken off list increased from 35 to 52 in 2019 to 2023 respectively. As a result, the number of age 65+ patients active on the waiting list decreased from 224 in 2019 to 160 in 2023.

In this 2024 ANZDATA report, the panel reactive antibody (PRA) category of 99-100% was further stratified into 99.0-99.6% and 99.7-100.0%. The was to more granularly examine the impact of the implementation of the revised national and state kidney allocation algorithm since May 2021. One of the changes was the prioritisation for sensitised patients with PRA ≥95%, with the highest score awarded to those with PRA ≥99.7% followed by 99.0-99.6%. While the percentage of waitlisted patients with PRA of ≥99.7% reduced from 9.6% in 2020 to 6.5% in 2023, this group was still over-represented in the prevalent waitlisted population. This contrasted with 2.1% and 2.9% for PRA of 99.0-99.6% and 95.0-98.9% respectively in 2023 (Table 6.12). The deceased donor transplant rate increased for the PRA categories of 99.0-99.6% and 95.0-98.9% from 2020 to 2023 to a level similar to those with lower PRA. In contrast, this transplant rate for PRA of ≥99.7% remained static and lower than 95.0-99.6% (Figure 6.22). At 5 years post-waitlisting, approximately 80% of the PRA 95-98% group received a deceased donor kidney transplant, similar to the PRA 0-79% and 80-94% groups (Figure 6.27). However, the PRA 95-98% group achieved this earlier than the less sensitised groups, suggesting that this group could have been over-prioritised.

After waitlisting for deceased donor kidney transplant and subsequent de-listing for the first time, approximately 75% of patients were re-listed or received a deceased donor kidney transplant within 6 months and approximately 90% within 3 years (Figure 6.34). Less than 5% of patients following first de-listing would die before re-listing or transplantation. While most of the age 65+ group were also re-listed within the first 6 months since first de-listing, only approximately 80% achieved re-listing within the first 5 years (Figure 6.36). Unlike the younger age groups, approximately 10% of this age group died before re-listing or transplantation. Since first waitlisting, including those with or without de-listing or re-listing, Figure 6.31 shows the survival rate of 70% at 4 years for the age 65+ group, much lower than the younger age groups. The survival rate dropped down to 49% if they also had diabetes (Figure 6.33). For the age 65+ group, the time to waitlist from kidney replacement therapy (KRT) commencement was outpaced by death before waitlisting or transplantation (Figure 6.7). A similar pattern of higher mortality risk following first waitlisting (Figure 6.32), first de-listing (Figure 6.37) and waitlisting being outpaced by death after KRT commencement (Figure 6.8) was observed in patients with diabetes. This suggests the importance of exploring options for those aged ≥65 years especially with concomitant diabetes to achieve earlier kidney transplantation.

To facilitate earlier kidney transplantation in those most vulnerable, in addition to changes to the kidney allocation algorithm, more timely waitlisting is essential. There was a variation in the time to waitlist since KRT commencement amongst different jurisdictions (Figure 6.6). Even for younger patients aged 18-60, there was a significant variability amongst hospitals and states to achieve waitlisting or transplantation within 12 months after commencing KRT (Figure 6.3 and 6.4). Identifying the logistical barriers to timely waitlisting and providing tailored resources might help reduce this disparity.

SUGGESTED CITATION

D Lee, C Davies, E Au, S Bateman, J Chen, P Clayton, K Hurst, F Kholmurodova, H McCarthy, S McDonald, W Mulley, M Roberts, B Solomon, T Sun, G Irish. 47th Report, Chapter 6: Australian Transplant Waiting List. Australia and New Zealand Dialysis and Transplant Registry, Adelaide, Australia. 2024. Available at: <http://www.anzdata.org.au>

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WAITING LIST DYNAMICS

On 1 April 2019 Australia implemented a new national clinical transplant system for the management of solid organ transplant waiting lists and organ allocation known as OrganMatch that replaced the previous National Organ Matching System (NOMS). The waiting list data presented in this chapter has been provided to ANZDATA by NOMS and OrganMatch for reporting purposes and relates to wait-listing for deceased donor (DD) kidney-only transplants. Patients wait-listed for multi-organ transplants are excluded. Data has been sourced from NOMS prior to 1 Jan 2019 and from OrganMatch from 1 Jan 2019 onwards. The OrganMatch data includes NOMS data migrated to OrganMatch from 1 Jan 2019 to 1 April 2019 as NOMS was the clinical system in use during this time period.

The number of people moving on and off the active waiting list is shown. Patients are categorised as either active or off the list - an 'on hold', 'interim' or 'temporarily off list' status is considered to be 'off list', since these patients will not be allocated kidneys. A number of de-listed patients may return to the list in subsequent years. If a patient was listed and de-listed more than once in a calendar year, only the net change at the end of the year is counted.

The ANZDATA registry does not currently receive deceased donor kidney waiting list data for New Zealand and hence this is not reported. New Zealand is only included in the 'Time to Primary Transplant' and 'Waiting Time for Transplant Recipients' sections as no waiting list information is required.

Table 6.1 shows the waiting list dynamics tables for Australia for each year. Living donor (LD) transplants performed in patients who were not on the DD waiting list are not included in this table or the subsequent waiting list dynamics tables (6.2-6.5).

Table 6.1
Australian Kidney Transplant Waiting List Dynamics 2018-2023

Event	2018	2019	2020	2021	2022	2023
Active start of year	963	964	1118	1162	1350	1299
Made active	996	1098	902	1012	929	1092
Taken off list	145	120	192	185	281	237
DD graft	810	784	632	596	647	767
LD graft*	34	35	31	37	43	44
Overseas graft	0	0	0	0	0	1
Died on list	6	5	3	6	9	12
Active end of year	964	1118	1162	1350	1299	1330

*LD transplants performed in patients who were on the DD waiting list

Table 6.2 shows data for Aboriginal and/or Torres Strait Islander and Other ethnicity patients.

Table 6.2
Australian Kidney Transplant Waiting List Dynamics by Ethnicity 2018-2023

Ethnicity	Event	2018	2019	2020	2021	2022	2023
Aboriginal and/or Torres Strait Islander	Active start of year	37	46	63	50	76	68
	Made active	68	82	52	88	64	85
	Taken off list	9	9	16	12	16	16
	DD graft	49	54	49	49	53	65
	LD graft*	0	2	0	0	0	1
	Overseas graft	0	0	0	0	0	0
	Died on list	1	0	0	1	3	1
	Active end of year	46	63	50	76	68	70
Other	Active start of year	886	874	1022	1080	1246	1200
	Made active	869	981	819	897	833	972
	Taken off list	135	106	175	163	259	217
	DD graft	707	691	553	526	571	669
	LD graft*	34	31	30	37	43	42
	Overseas graft	0	0	0	0	0	1
	Died on list	5	5	3	5	6	11
	Active end of year	874	1022	1080	1246	1200	1232
Not reported	Active start of year	40	44	33	32	28	31
	Made active	59	35	31	27	32	35
	Taken off list	1	5	1	10	6	4
	DD graft	54	39	30	21	23	33
	LD graft*	0	2	1	0	0	1
	Overseas graft	0	0	0	0	0	0
	Died on list	0	0	0	0	0	0
	Active end of year	44	33	32	28	31	28

*LD transplants performed in patients who were on the DD waiting list

The numbers of both dialysis patients and transplants vary with age; in Table 6.3 the waiting list dynamics for the years 2018-2023 is shown by broad age groups. Age is calculated at the mid-point of the analysis time period.

Table 6.3
Australian Kidney Transplant Waiting List Dynamics by Age 2018-2023

Age	Event	2018	2019	2020	2021	2022	2023
0-17	Active start of year	9	10	2	9	18	14
	Made active	23	8	19	24	27	38
	Taken off list	1	0	0	3	3	1
	DD graft	20	16	11	12	26	34
	LD graft*	1	0	1	0	2	2
	Overseas graft	0	0	0	0	0	0
	Died on list	0	0	0	0	0	0
	Active end of year	10	2	9	18	14	15
18-44	Active start of year	245	258	320	373	390	365
	Made active	230	266	257	260	258	355
	Taken off list	27	24	42	48	71	45
	DD graft	169	161	148	176	191	262
	LD graft*	19	18	12	17	20	11
	Overseas graft	0	0	0	0	0	1
	Died on list	2	1	2	2	1	1
	Active end of year	258	320	373	390	365	400
45-54	Active start of year	198	243	275	284	354	357
	Made active	215	252	206	253	232	270
	Taken off list	28	25	39	46	78	53
	DD graft	135	184	151	131	143	190
	LD graft*	6	10	7	6	7	18
	Overseas graft	0	0	0	0	0	0
	Died on list	1	1	0	0	1	2
	Active end of year	243	275	284	354	357	364
55-64	Active start of year	265	250	297	316	385	379
	Made active	287	297	251	297	272	299
	Taken off list	44	36	51	47	77	86
	DD graft	251	209	175	166	187	184
	LD graft*	5	3	5	12	11	11
	Overseas graft	0	0	0	0	0	0
	Died on list	2	2	1	3	3	6
	Active end of year	250	297	316	385	379	391
65+	Active start of year	246	203	224	180	203	184
	Made active	241	275	169	178	140	130
	Taken off list	45	35	60	41	52	52
	DD graft	235	214	147	111	100	97
	LD graft*	3	4	6	2	3	2
	Overseas graft	0	0	0	0	0	0
	Died on list	1	1	0	1	4	3
	Active end of year	203	224	180	203	184	160

*LD transplants performed in patients who were on the DD waiting list

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Differences between transplanting regions are shown in Table 6.4. Waiting list numbers in each region are reflective of both listing practices and donation rates, both current and historical.

Table 6.4
Australian Kidney Transplant Waiting List Dynamics by Transplant Region 2018-2023

Transplant Region	Event	2018	2019	2020	2021	2022	2023
NSW/ACT	Active start of year	378	370	449	488	562	543
	Made active	315	379	317	338	327	363
	Taken off list	52	51	72	65	116	112
	DD graft	250	225	184	179	200	240
	LD graft*	17	22	20	17	25	16
	Overseas graft	0	0	0	0	0	1
	Died on list	4	2	2	3	5	9
	Active end of year	370	449	488	562	543	528
VIC/TAS	Active start of year	365	319	350	351	401	364
	Made active	322	335	259	293	298	347
	Taken off list	61	41	64	67	99	71
	DD graft	297	252	186	160	223	236
	LD graft*	10	10	7	15	11	15
	Overseas graft	0	0	0	0	0	0
	Died on list	0	1	1	1	2	1
	Active end of year	319	350	351	401	364	388
QLD	Active start of year	106	133	150	188	210	217
	Made active	194	190	190	184	145	153
	Taken off list	18	15	29	34	37	31
	DD graft	146	156	122	123	95	160
	LD graft*	3	0	1	5	6	5
	Overseas graft	0	0	0	0	0	0
	Died on list	0	2	0	0	0	1
	Active end of year	133	150	188	210	217	173
SA/NT	Active start of year	82	98	106	80	100	108
	Made active	84	96	64	93	81	127
	Taken off list	11	12	19	10	16	15
	DD graft	52	73	69	61	55	72
	LD graft*	4	3	2	0	1	5
	Overseas graft	0	0	0	0	0	0
	Died on list	1	0	0	2	1	1
	Active end of year	98	106	80	100	108	142
WA	Active start of year	32	44	63	55	77	67
	Made active	81	98	72	104	78	102
	Taken off list	3	1	8	9	13	8
	DD graft	65	78	71	73	74	59
	LD graft*	0	0	1	0	0	3
	Overseas graft	0	0	0	0	0	0
	Died on list	1	0	0	0	1	0
	Active end of year	44	63	55	77	67	99

*LD transplants performed in patients who were on the DD waiting list

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Table 6.5 shows the same data by blood group.

Table 6.5
Australian Kidney Transplant Waiting List Dynamics by Blood Group 2018-2023

Blood Group	Event	2018	2019	2020	2021	2022	2023
A	Active start of year	252	226	300	321	391	344
	Made active	347	421	342	365	323	383
	Taken off list	31	17	48	49	78	59
	DD graft	331	318	266	233	273	300
	LD graft*	8	12	7	11	15	20
	Overseas graft	0	0	0	0	0	0
	Died on list	3	0	0	2	4	1
	Active end of year	226	300	321	391	344	347
AB	Active start of year	27	15	18	28	27	19
	Made active	47	38	42	44	27	46
	Taken off list	1	0	2	2	2	3
	DD graft	56	34	29	43	32	35
	LD graft*	2	1	1	0	1	1
	Overseas graft	0	0	0	0	0	0
	Died on list	0	0	0	0	0	0
	Active end of year	15	18	28	27	19	26
B	Active start of year	188	199	222	194	245	223
	Made active	147	153	119	152	131	147
	Taken off list	36	26	37	28	55	36
	DD graft	94	96	101	68	88	84
	LD graft*	5	7	8	5	10	8
	Overseas graft	0	0	0	0	0	1
	Died on list	1	1	1	0	0	2
	Active end of year	199	222	194	245	223	239
O	Active start of year	496	524	578	619	687	713
	Made active	455	486	399	451	448	516
	Taken off list	77	77	105	106	146	139
	DD graft	329	336	236	252	254	348
	LD graft*	19	15	15	21	17	15
	Overseas graft	0	0	0	0	0	0
	Died on list	2	4	2	4	5	9
	Active end of year	524	578	619	687	713	718

*LD transplants performed in patients who were on the DD waiting list

PROPORTION OF PATIENTS TRANSPLANTED OR ON WAITING LIST

Figure 6.1 shows the proportion of prevalent kidney replacement therapy (KRT) patients who were either transplanted or actively wait-listed at the end of 2023, by state or territory and age group.

Figure 6.1

Proportion of Patients Transplanted or on Waiting List - By State or Territory and Age, Dec 2023

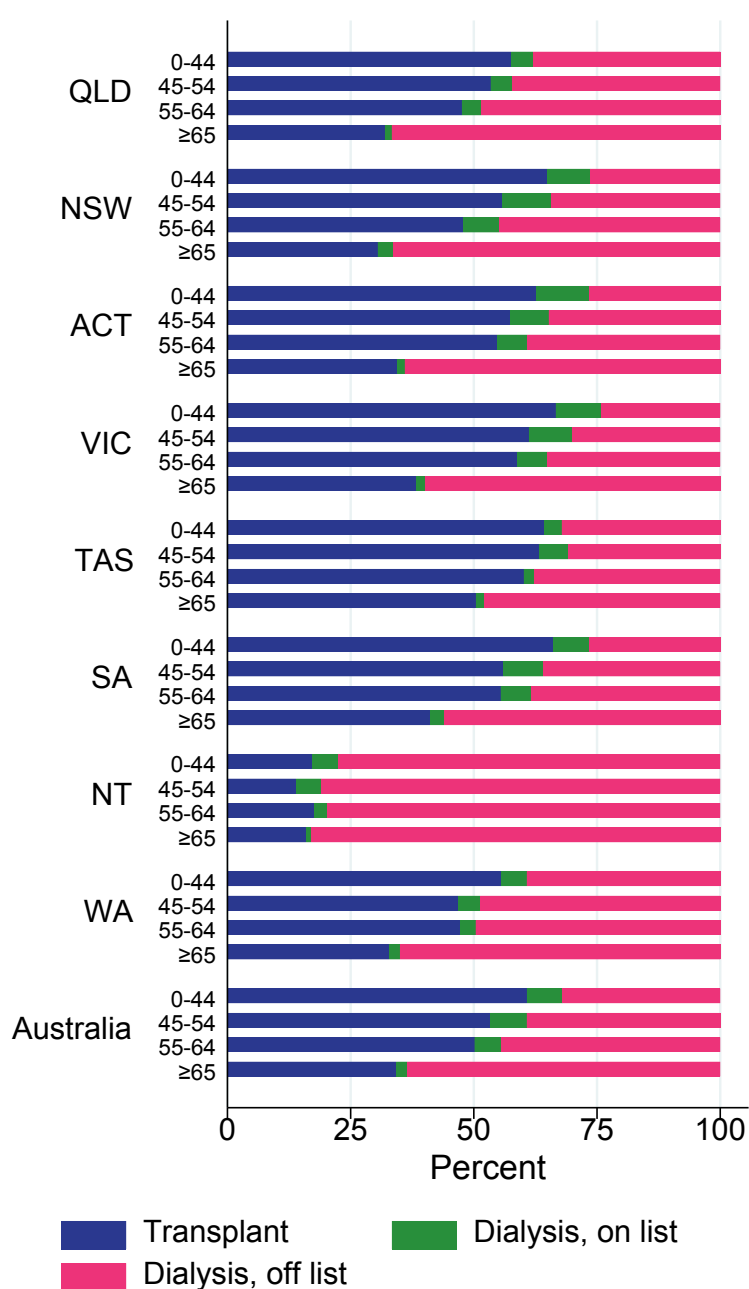


Figure 6.2 shows the proportion of prevalent KRT patients who were either transplanted or actively wait-listed at the end of 2023, by state or territory and diabetes status.

Figure 6.2

Proportion of Patients Transplanted or on Waiting List - By State or Territory and Diabetes Status, Dec 2023

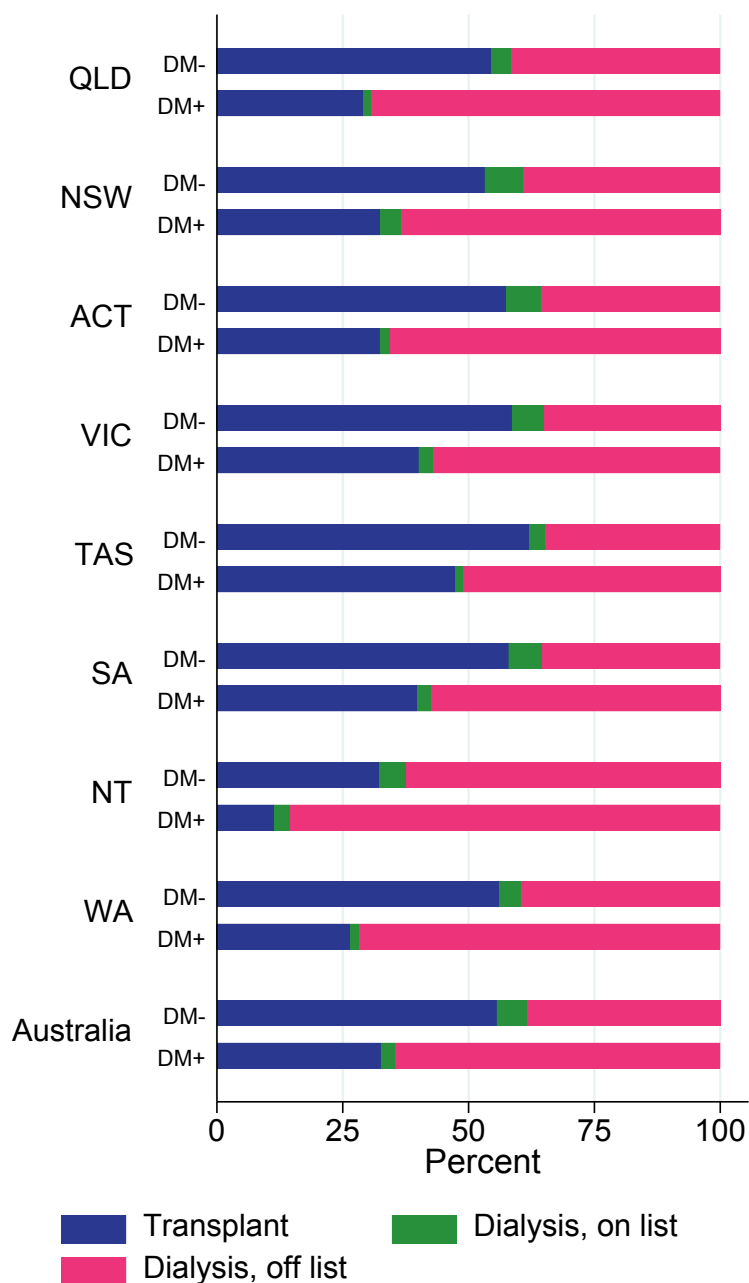


Figure 6.3 shows differences in access to the waiting list or transplantation for incident patients, by treating hospital. This analysis is restricted to patients aged 18-60 who commenced KRT at an adult hospital in Australia over 2018-2022, and shows the proportion of these patients who had either been made active on the kidney transplant waiting list or received a kidney transplant within one year of starting KRT. Figure 6.4 shows the same data by state or territory.

Figure 6.3
Proportion of New KRT Patients Aged 18-60 who were Wait- listed and/ or Transplanted within 1 year of Commencing KRT - By Hospital, Australia 2018-2022

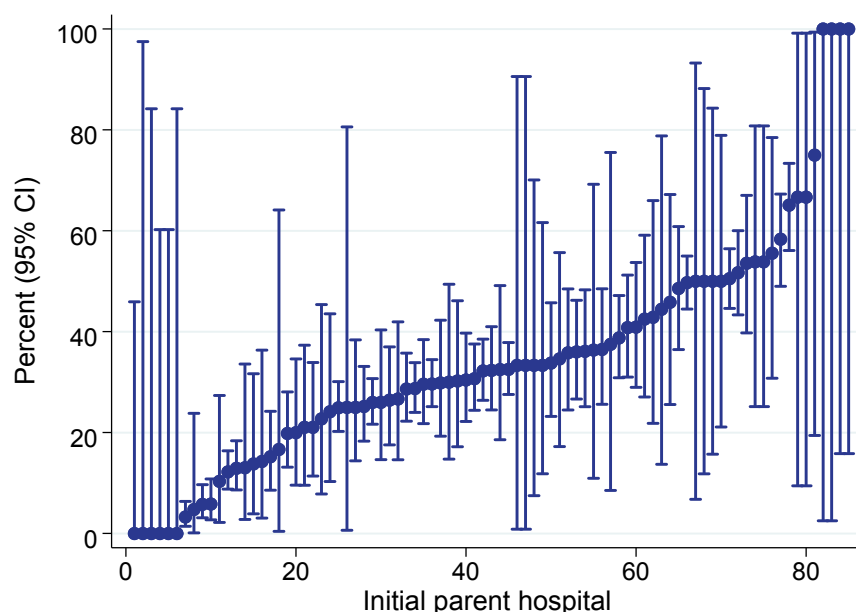
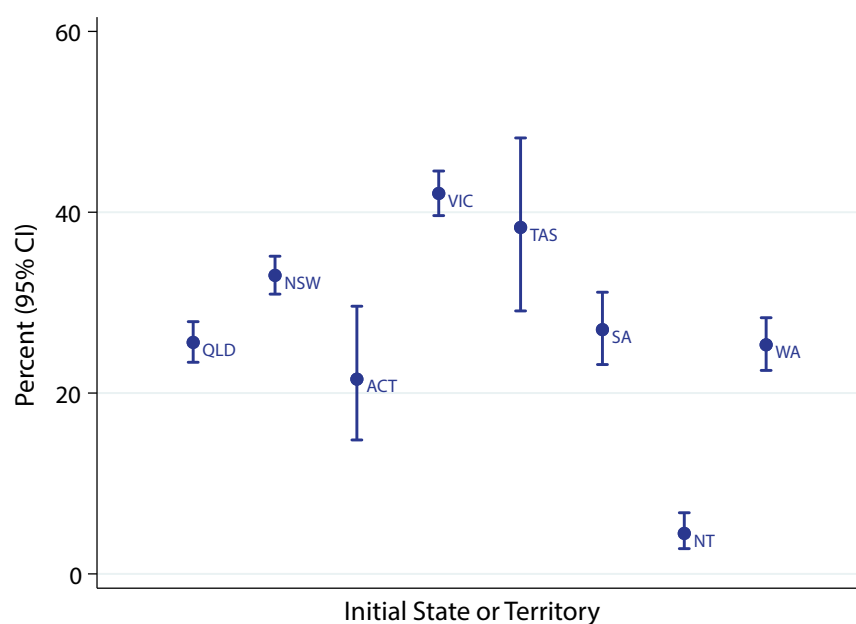


Figure 6.4
Proportion of New KRT Patients Aged 18-60 who were Wait- listed and/ or Transplanted within 1 year of Commencing KRT - By State or Territory, Australia 2018-2022



TIME TO WAIT-LISTING

Figures 6.5 to 6.7 show the time to wait-listing to receive a kidney transplant for patients who commenced KRT during 2018-2023. These analyses show the cumulative incidence of wait-listing for deceased donor transplantation, living donor transplantation and death. Each outcome is considered a competing risk for the other outcomes, and only the first event is considered.

Figure 6.5
Time to Wait-listing - Australian Incident KRT Patients 2018-2023

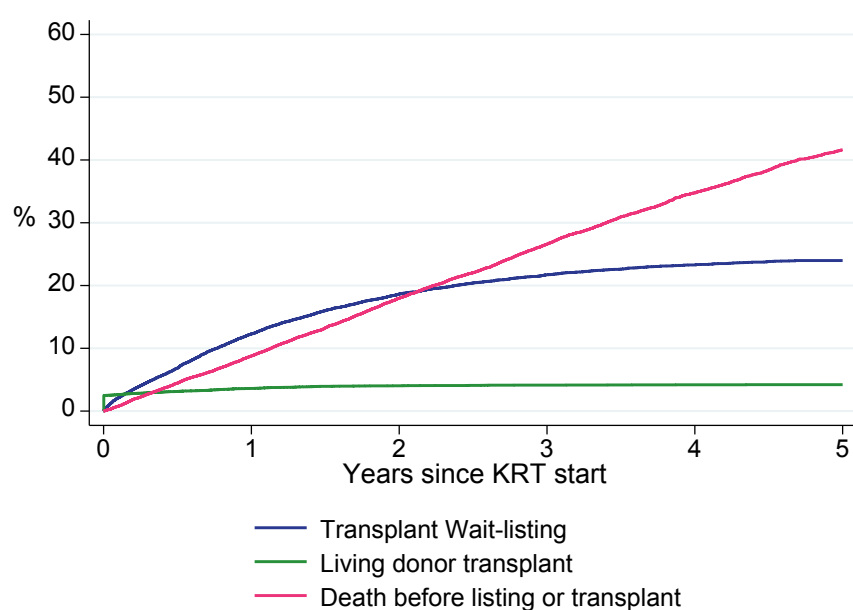


Figure 6.6
Time to Wait-listing by Transplanting Region - Australian Incident KRT Patients 2018-2023

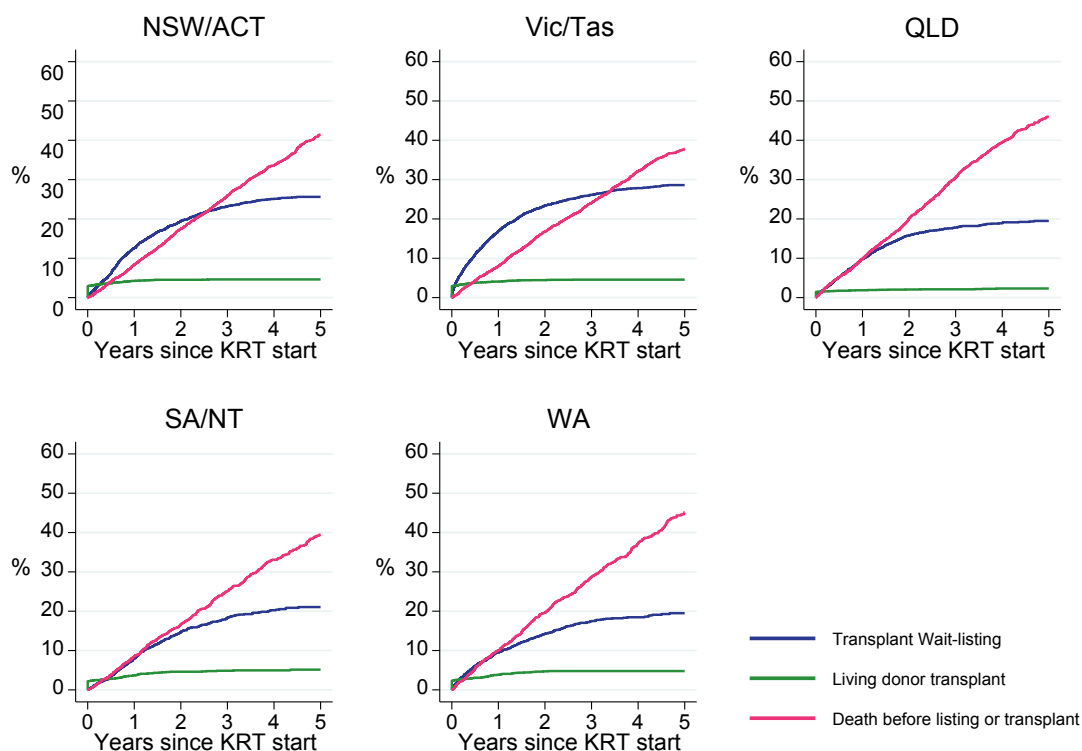


Figure 6.7
Time to Wait-listing by Age - Australian Incident KRT Patients 2018-2023

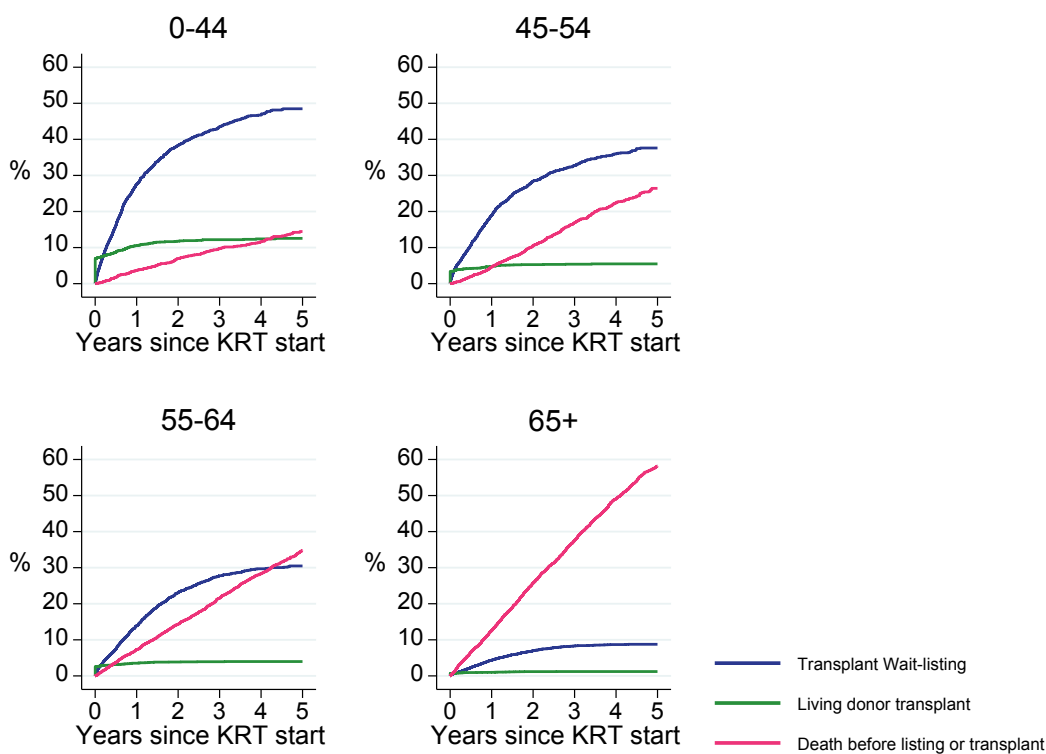


Figure 6.8
Time to Wait-listing by Diabetes Status - Australian Incident KRT Patients 2018-2023

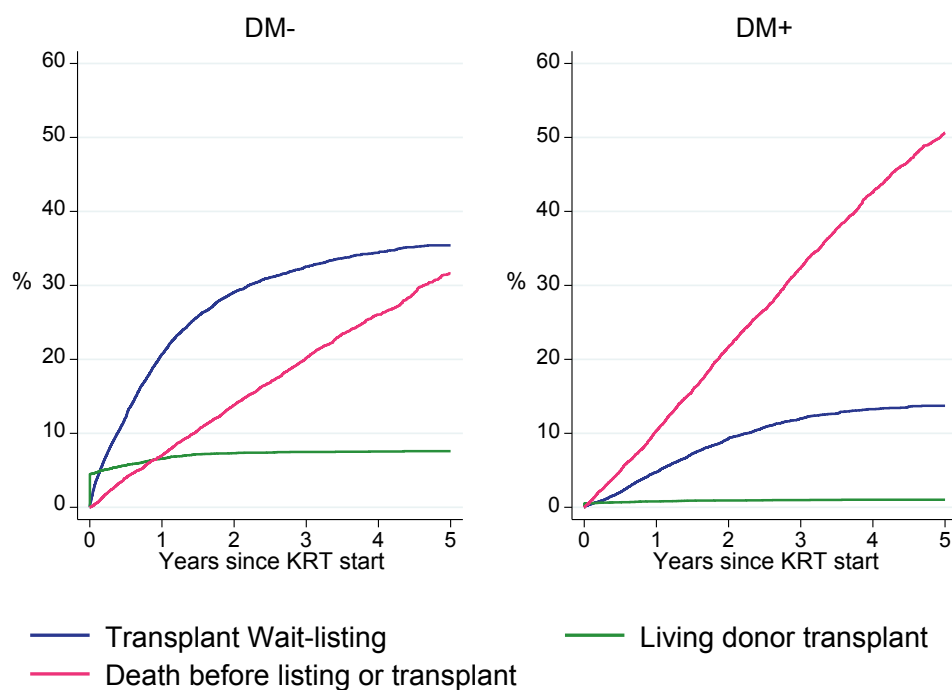
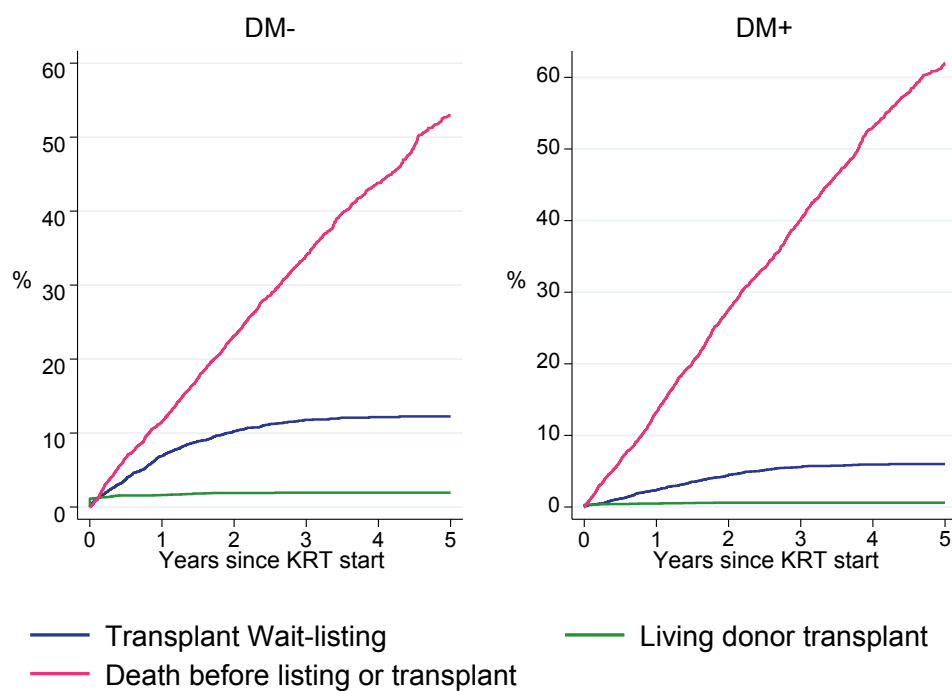


Figure 6.9
Time to Wait-listing for Age 65+ by Diabetes Status - Australian Incident KRT Patients 2018-2023



TIME TO PRIMARY TRANSPLANT

Figures 6.10 to 6.14 show the time to receive a primary kidney transplant from commencement of KRT for patients aged < 65 years. These analyses show the cumulative incidence of deceased donor transplantation, living donor transplantation and death. Each outcome is considered a competing risk for the other outcomes, and only the first event is considered. For these figures, New Zealand is included as no waiting list information is required.

Figure 6.10
Time to Primary Transplant from KRT Start - Incident KRT Patients <65y 2018-2023

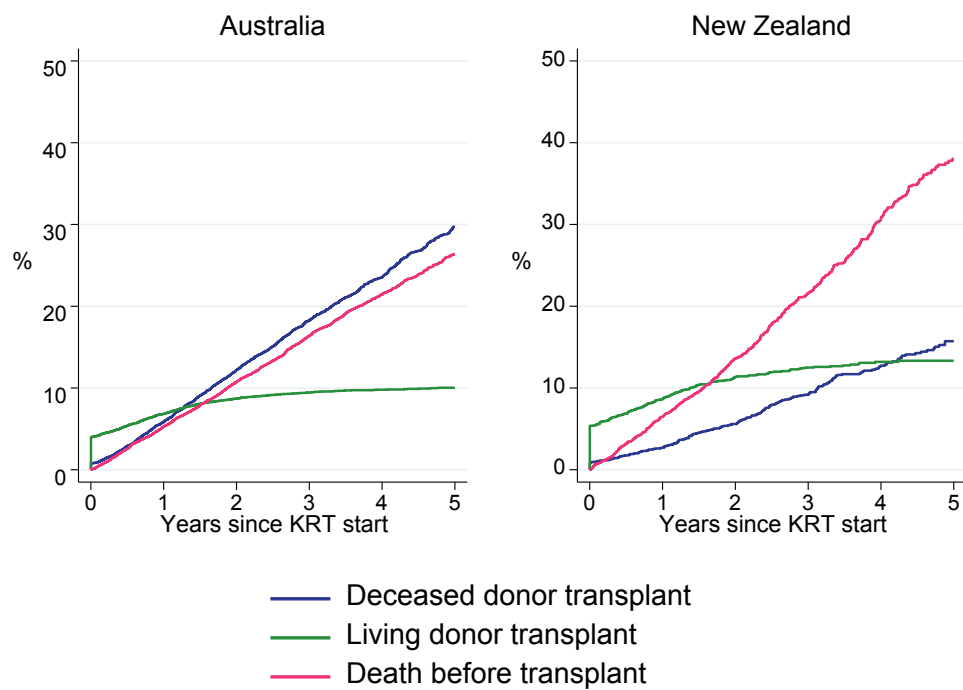


Figure 6.11
Time to Primary Transplant from KRT Start by Transplanting Region - Australian Incident KRT Patients <65y 2018-2023

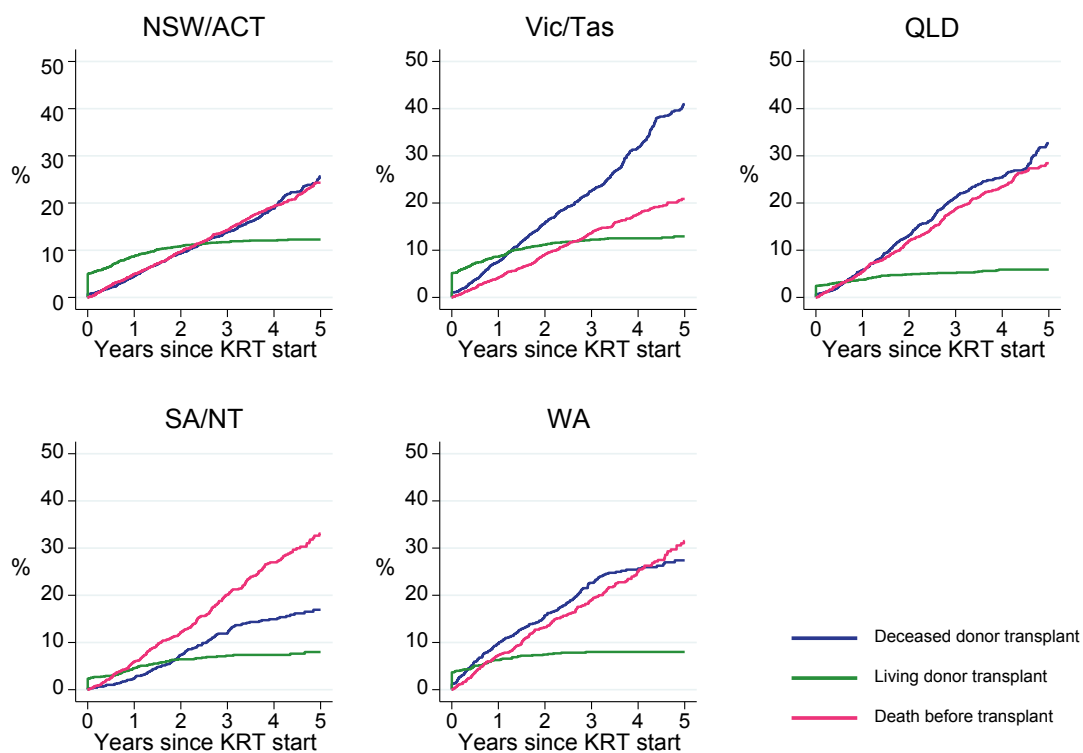


Figure 6.12
Time to Primary Transplant from KRT Start by Age - Incident KRT Patients <65y, Australia and New Zealand 2018-2023

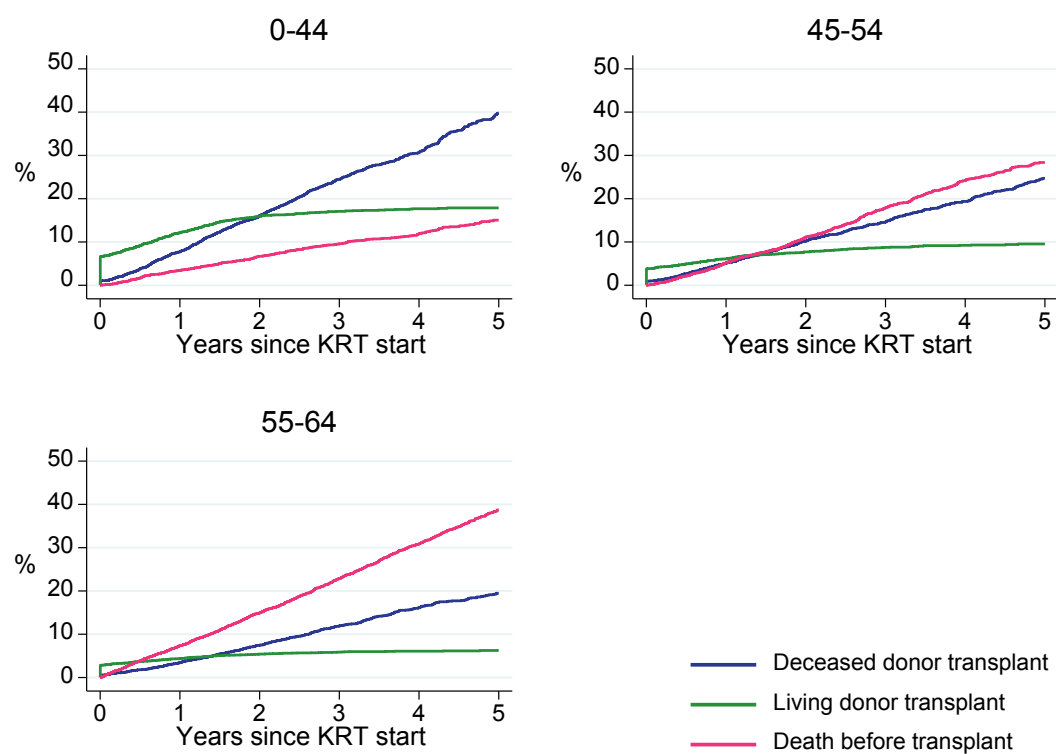
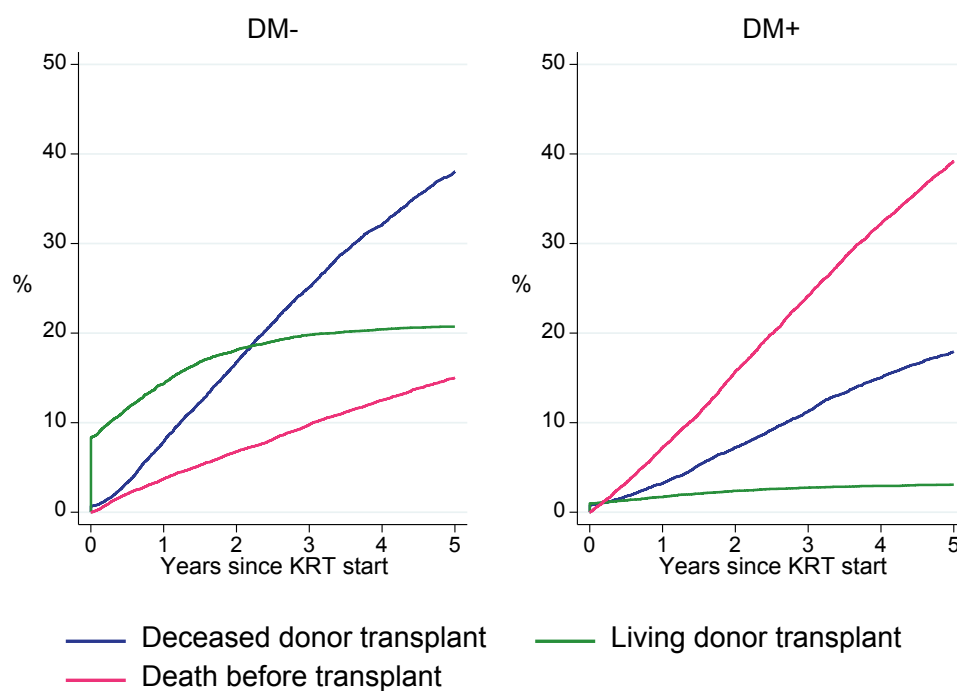


Figure 6.13
Time to Primary Transplant from KRT Start by Diabetes Status - Incident KRT Patients <65y, Australia and New Zealand 2018-2023



WAITING TIME FOR TRANSPLANT RECIPIENTS

Figures 6.14 and 6.15 show the time to receive a primary kidney transplant from commencement of KRT, for recipients of deceased donor kidney-only transplants from 2018 to 2023. For these figures, New Zealand is included as no waiting list information is required. Tables 6.6-6.8 show the waiting time over 2018-2023 by transplant region, blood group and PRA category, respectively.

Figure 6.14

Waiting time to transplantation By Blood group and Transplant Region 2018-2023 - Primary deceased donor kidney-only transplants

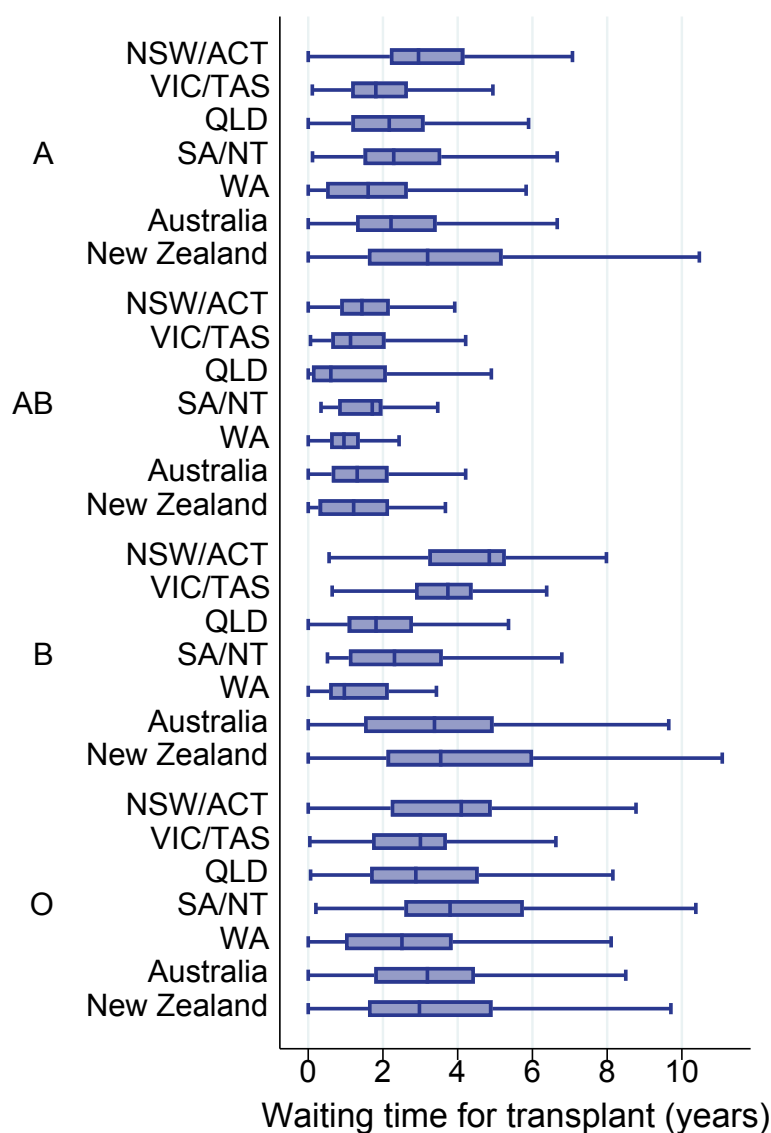


Figure 6.15

Waiting time to transplantation By PRA Category Australia and New Zealand 2018-2023 - Primary deceased donor kidney-only transplants

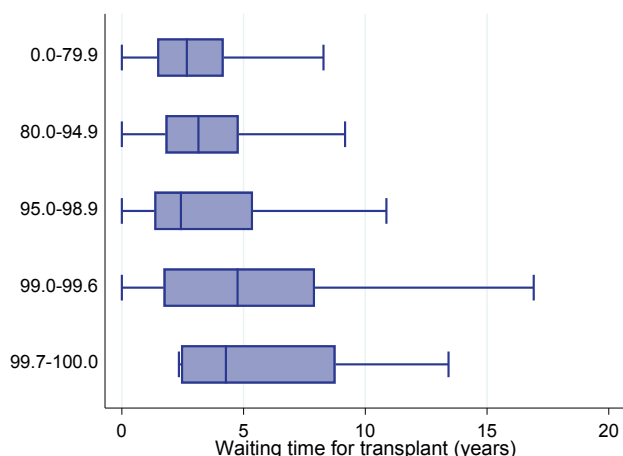


Figure 6.6

Waiting time to transplantation (years), median (IQR) for primary deceased donor kidney-only transplants by Transplant Region 2018-2023

Transplant Region	2018-2019	2020-2021	2022-2023
NSW/ACT	3.0 (1.7, 4.5)	3.7 (2.2, 5.0)	3.9 (2.1, 5.0)
VIC/TAS	2.0 (1.2, 3.3)	2.6 (1.5, 3.6)	2.9 (1.5, 4.1)
QLD	2.0 (1.1, 3.2)	2.2 (1.4, 3.6)	2.7 (1.7, 4.6)
SA/NT	2.4 (1.5, 3.6)	3.1 (1.8, 4.3)	3.0 (1.8, 5.2)
WA	1.3 (0.5, 2.5)	1.7 (0.6, 3.4)	2.2 (1.1, 3.1)
Australia	2.3 (1.2, 3.7)	2.7 (1.5, 4.3)	3.0 (1.7, 4.4)
New Zealand	3.1 (1.5, 5.3)	2.6 (1.4, 4.2)	3.4 (1.9, 5.4)

Figure 6.7

Waiting time to transplantation (years), median (IQR) for primary deceased donor kidney-only transplants by Blood Group Australia and New Zealand 2018-2023

Blood group	2018-2019	2020-2021	2022-2023
A	1.9 (1.1, 2.9)	2.3 (1.4, 3.7)	2.7 (1.6, 3.9)
AB	0.9 (0.4, 1.8)	1.5 (0.9, 2.8)	1.5 (0.7, 2.5)
B	3.2 (1.3, 4.7)	3.2 (1.4, 5.0)	3.9 (2.1, 5.0)
O	3.0 (1.6, 4.2)	3.2 (1.9, 4.3)	3.5 (1.9, 4.8)

Figure 6.8

Waiting time to transplantation (years), median (IQR) for primary deceased donor kidney-only transplants by PRA Category Australia and New Zealand 2018-2023

PRA Category	2018-2019	2020-2021	2022-2023
0.0-79.9	2.3 (1.3, 3.9)	2.7 (1.5, 4.2)	3.0 (1.7, 4.5)
80.0-94.9	3.1 (2.1, 4.6)	2.1 (1.1, 5.4)	4.1 (2.5, 6.1)
95.0-98.9	1.9 (1.3, 5.6)	4.0 (1.7, 4.8)	2.5 (1.2, 5.7)
99.0-99.6	2.3 (1.6, 5.9)	6.2 (4.6, 8.8)	4.6 (1.5, 8.0)
99.7-100.0	3.1 (2.3, 3.9)	5.2 (2.4, 13.4)	4.6 (2.5, 12.3)

WAITING TIME OF THE AUSTRALIAN KIDNEY TRANSPLANT WAITLIST

Figures 6.16 and 6.17 show the waiting time of patients on the waitlist and yet to receive a kidney transplant at the end of 2023. The waiting time is the time since KRT start or most recent graft failure. Tables 6.9-6.11 show the waiting time over 2018-2023 by transplant region, blood group and PRA category, respectively.

Figure 6.16
Waiting time of the Australian Kidney Transplant Waitlist -
By Blood Group and Transplant Region 2023

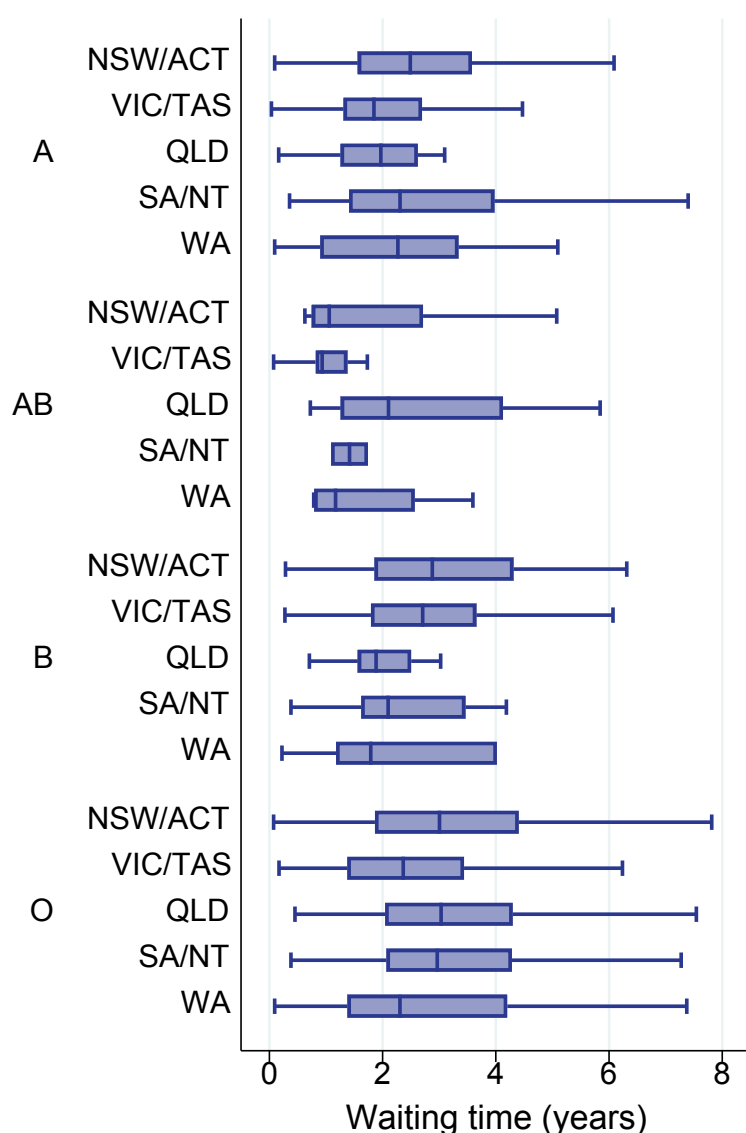


Figure 6.17
Waiting time of the Australian Kidney Transplant Waitlist - By PRA Category 2023

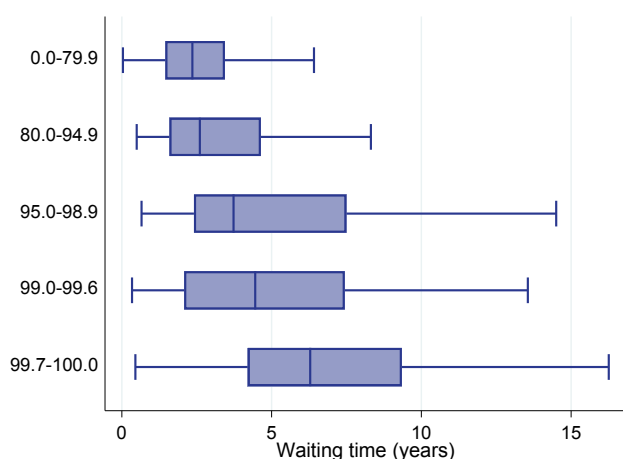


Figure 6.9
Waiting time (years), median (IQR) of the Australian Kidney Transplant Waiting List by Transplant Region 2018-2023

Transplant Region	2018	2019	2020	2021	2022	2023
NSW/ACT	2.2 (1.3, 3.5)	2.3 (1.3, 3.6)	2.4 (1.5, 3.5)	2.7 (1.7, 3.7)	2.9 (1.8, 4.1)	2.8 (1.7, 4.1)
VIC/TAS	2.1 (1.1, 3.8)	1.9 (1.0, 3.5)	2.0 (1.1, 3.4)	2.0 (1.2, 3.2)	2.2 (1.3, 3.5)	2.2 (1.4, 3.4)
QLD	1.5 (0.9, 3.4)	1.7 (1.0, 3.1)	1.8 (1.1, 2.6)	2.2 (1.3, 3.2)	2.5 (1.6, 3.7)	2.5 (1.7, 4.1)
SA/NT	2.3 (1.2, 3.2)	2.3 (1.4, 3.5)	2.9 (1.9, 4.2)	2.8 (1.6, 4.2)	2.3 (1.6, 4.2)	2.7 (1.9, 4.0)
WA	4.3 (2.1, 6.7)	2.3 (1.0, 5.8)	2.4 (1.4, 3.9)	1.8 (1.1, 3.1)	2.5 (1.4, 3.8)	2.2 (1.1, 3.8)

Figure 6.10
Waiting time (years), median (IQR) of the Australian Kidney Transplant Waiting List by Blood Group 2018-2023

Blood Group	2018	2019	2020	2021	2022	2023
A	1.6 (0.9, 3.4)	1.6 (0.9, 3.0)	1.8 (1.1, 2.7)	2.1 (1.3, 3.2)	2.2 (1.3, 3.3)	2.1 (1.3, 3.2)
AB	1.4 (0.6, 3.5)	3.6 (1.7, 4.9)	1.9 (0.7, 4.9)	1.5 (0.5, 3.8)	1.8 (1.2, 3.1)	1.1 (0.8, 1.8)
B	2.4 (1.3, 4.0)	2.6 (1.5, 3.9)	2.7 (1.4, 4.0)	2.3 (1.4, 3.9)	2.6 (1.5, 4.0)	2.6 (1.7, 3.9)
O	2.2 (1.2, 3.6)	2.2 (1.2, 3.5)	2.3 (1.4, 3.4)	2.5 (1.5, 3.7)	2.7 (1.7, 4.1)	2.7 (1.7, 4.1)

Figure 6.11
Waiting time (years), median (IQR) of the Australian Kidney Transplant Waiting List by PRA Category 2018-2023

PRA Category	2018	2019	2020	2021	2022	2023
0.0-79.9	1.8 (1.0, 2.7)	1.7 (1.0, 2.8)	1.9 (1.2, 2.7)	2.1 (1.3, 3.1)	2.3 (1.5, 3.4)	2.4 (1.5, 3.4)
80.0-94.9	3.9 (1.3, 6.5)	2.7 (1.6, 5.8)	2.3 (1.5, 3.2)	2.7 (1.6, 4.0)	2.9 (1.7, 4.8)	2.6 (1.6, 4.6)
95.0-98.9	3.6 (1.8, 7.3)	4.2 (2.3, 7.9)	3.6 (2.1, 7.2)	4.7 (2.7, 8.4)	4.2 (1.7, 7.0)	3.7 (2.4, 7.5)
99.0-99.6	3.7 (2.6, 6.6)	4.3 (1.9, 6.6)	5.2 (2.6, 8.0)	5.0 (3.2, 7.4)	4.6 (3.4, 6.9)	4.5 (2.1, 7.4)
99.7-100.0	5.3 (3.0, 8.0)	5.2 (2.8, 8.3)	5.0 (2.9, 8.3)	4.8 (3.1, 8.3)	5.2 (3.4, 8.3)	6.3 (4.2, 9.3)

WAITING LIST DEMOGRAPHICS

Table 6.12 shows the demographic characteristics of actively wait-listed patients over 2018-2023. The waiting time is the time since KRT start or most recent graft failure.

Figure 6.12

Demographics of the Australian Kidney Transplant Waiting List 2018-2023

Factor	2018	2019	2020	2021	2022	2023
N	964	1118	1162	1350	1299	1330
Waiting time (years), median (IQR)	2.1 (1.2, 3.6)	2.1 (1.2, 3.6)	2.2 (1.3, 3.4)	2.3 (1.4, 3.6)	2.5 (1.5, 3.9)	2.5 (1.6, 3.8)
Blood Group						
A	226 (23.4%)	300 (26.8%)	321 (27.6%)	391 (29.0%)	344 (26.5%)	347 (26.1%)
AB	15 (1.6%)	18 (1.6%)	28 (2.4%)	27 (2.0%)	19 (1.5%)	26 (2.0%)
B	199 (20.6%)	222 (19.9%)	194 (16.7%)	245 (18.1%)	223 (17.2%)	239 (18.0%)
O	524 (54.4%)	578 (51.7%)	619 (53.3%)	687 (50.9%)	713 (54.9%)	718 (54.0%)
PRA Category						
0.0-79.9	683 (70.9%)	819 (73.3%)	854 (73.5%)	1077 (79.8%)	1054 (81.1%)	1113 (83.7%)
80.0-94.9	45 (4.7%)	41 (3.7%)	48 (4.1%)	58 (4.3%)	50 (3.8%)	64 (4.8%)
95.0-98.9	85 (8.8%)	80 (7.2%)	92 (7.9%)	69 (5.1%)	65 (5.0%)	39 (2.9%)
99.0-99.6	49 (5.1%)	62 (5.5%)	56 (4.8%)	37 (2.7%)	30 (2.3%)	28 (2.1%)
99.7-100.0	102 (10.6%)	116 (10.4%)	112 (9.6%)	109 (8.1%)	100 (7.7%)	86 (6.5%)
Previous grafts						
0	731 (75.8%)	856 (76.6%)	898 (77.3%)	1102 (81.6%)	1065 (82.0%)	1094 (82.3%)
1	195 (20.2%)	220 (19.7%)	229 (19.7%)	205 (15.2%)	193 (14.9%)	199 (15.0%)
2	36 (3.7%)	40 (3.6%)	33 (2.8%)	41 (3.0%)	36 (2.8%)	31 (2.3%)
3	2 (0.2%)	2 (0.2%)	2 (0.2%)	2 (0.1%)	4 (0.3%)	6 (0.5%)
4	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (0.1%)	0 (0.0%)
Age (years)						
0-44	311 (32.3%)	353 (31.6%)	382 (32.9%)	377 (27.9%)	338 (26.0%)	335 (25.2%)
45-54	238 (24.7%)	272 (24.3%)	284 (24.4%)	345 (25.6%)	336 (25.9%)	352 (26.5%)
55-64	260 (27.0%)	306 (27.4%)	316 (27.2%)	391 (29.0%)	372 (28.6%)	375 (28.2%)
65+	155 (16.1%)	187 (16.7%)	180 (15.5%)	237 (17.6%)	253 (19.5%)	268 (20.2%)
Gender						
Male	584 (60.6%)	687 (61.4%)	725 (62.4%)	852 (63.1%)	838 (64.5%)	842 (63.3%)
Ethnicity						
Aboriginal and/or Torres Strait Islander	46 (4.8%)	63 (5.6%)	50 (4.3%)	76 (5.6%)	68 (5.2%)	70 (5.3%)
Other	874 (90.7%)	1022 (91.4%)	1080 (92.9%)	1246 (92.3%)	1200 (92.4%)	1232 (92.6%)
Not reported	44 (4.6%)	33 (3.0%)	32 (2.8%)	28 (2.1%)	31 (2.4%)	28 (2.1%)
Primary kidney disease						
Diabetic kidney disease	158 (16.4%)	185 (16.5%)	163 (14.0%)	204 (15.1%)	202 (15.6%)	212 (15.9%)
Glomerular disease	374 (38.8%)	421 (37.7%)	466 (40.1%)	525 (38.9%)	473 (36.4%)	511 (38.4%)
Hypertension / Renal vascular disease	82 (8.5%)	112 (10.0%)	95 (8.2%)	108 (8.0%)	122 (9.4%)	112 (8.4%)
Familial / hereditary kidney diseases	149 (15.5%)	172 (15.4%)	182 (15.7%)	209 (15.5%)	203 (15.6%)	207 (15.6%)
Tubulointerstitial disease	127 (13.2%)	130 (11.6%)	155 (13.3%)	178 (13.2%)	165 (12.7%)	162 (12.2%)
Other systemic diseases affecting the kidney	9 (0.9%)	7 (0.6%)	12 (1.0%)	17 (1.3%)	13 (1.0%)	12 (0.9%)
Miscellaneous kidney disorders	60 (6.2%)	81 (7.2%)	82 (7.1%)	101 (7.5%)	111 (8.5%)	110 (8.3%)
Not reported	5 (0.5%)	10 (0.9%)	7 (0.6%)	8 (0.6%)	10 (0.8%)	4 (0.3%)
Comorbidities						
Diabetes	233 (24.2%)	300 (27.0%)	283 (24.5%)	329 (24.6%)	342 (26.3%)	351 (26.4%)
Coronary artery disease	182 (18.9%)	231 (20.8%)	205 (17.7%)	253 (18.9%)	235 (18.1%)	250 (18.9%)
Peripheral vascular disease	92 (9.5%)	109 (9.8%)	95 (8.2%)	102 (7.6%)	122 (9.4%)	122 (9.2%)
Cerebrovascular disease	55 (5.7%)	54 (4.9%)	71 (6.2%)	72 (5.4%)	79 (6.1%)	81 (6.1%)
Chronic lung disease	92 (9.5%)	90 (8.1%)	87 (7.5%)	111 (8.3%)	116 (8.9%)	120 (9.0%)

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TRANSPLANT RATE

The transplant rate represents the likelihood of receiving a kidney transplant in patients who are actively wait-listed. For these analyses the transplant rate was calculated as the number of deceased donor kidney-only transplants performed (numerator) per 100 patient-years on the active kidney-only waiting list (denominator). The transplant rate depends on the number of organs available, the number of patients on the waiting list, and the kidney allocation system. Figures 6.18-6.22 show the transplant rate by transplanting region, age, ethnicity, blood group and PRA category, respectively.

Figure 6.18
Deceased Donor Transplant Rate by Transplanting Region - Per 100 Active Patient-Years

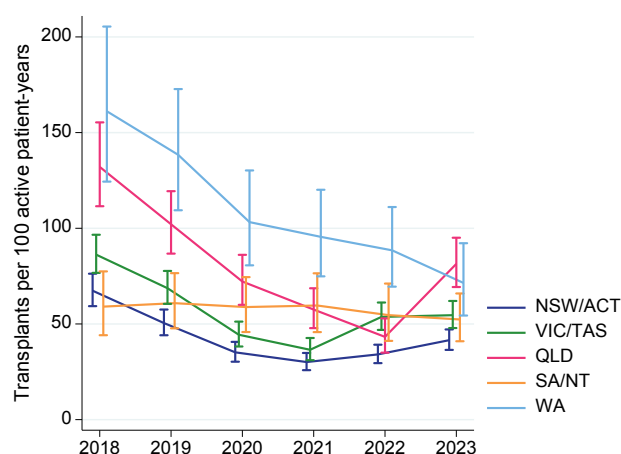


Figure 6.19
Deceased Donor Transplant Rate by Age - Per 100 Active Patient-Years

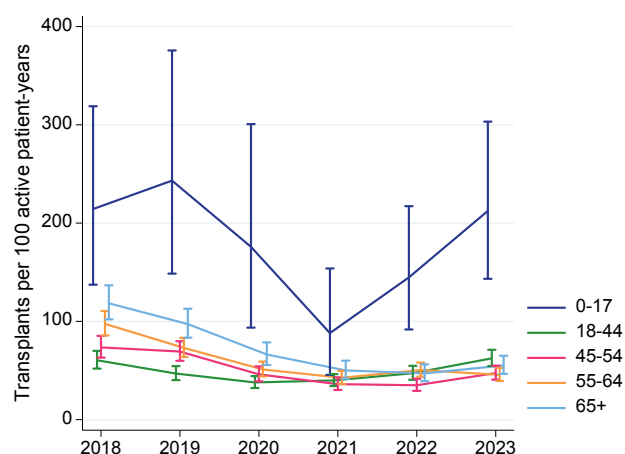


Figure 6.20
Deceased Donor Transplant Rate by Ethnicity -
Per 100 Active Patient-Years

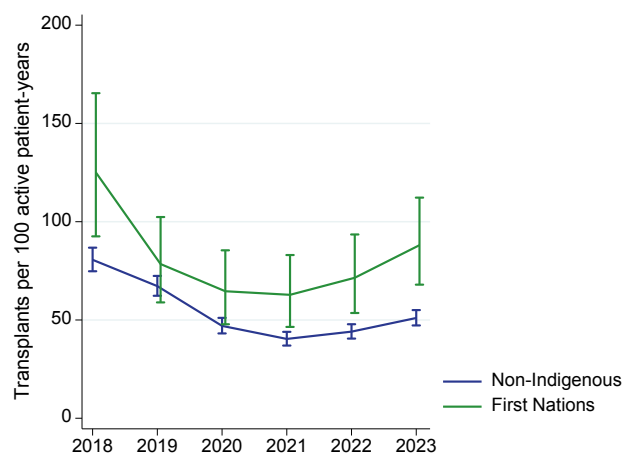


Figure 6.21
Deceased Donor Transplant Rate by Blood Group -
Per 100 Active Patient-Years

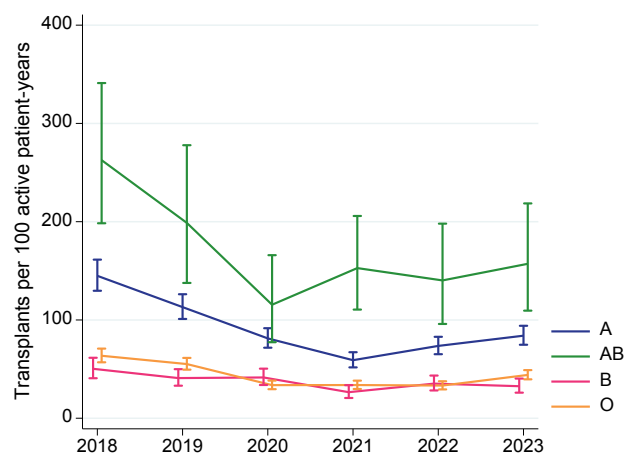
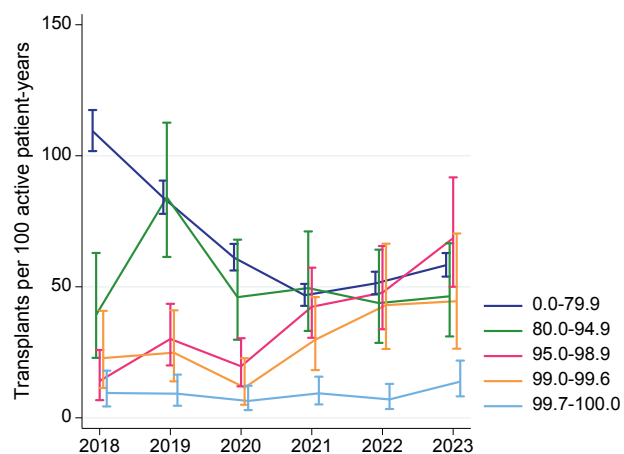


Figure 6.22
Deceased Donor Transplant Rate by PRA
Category - Per 100 Active Patient-Years



OUTCOMES OF WAIT-LISTING

Figures 6.23-6.27 show the outcomes of patients who commenced dialysis during 2018-2023 and were subsequently wait-listed for a kidney transplant. These analyses show the cumulative incidence of deceased donor transplantation, living donor transplantation or death. Each outcome is considered a competing risk for the other outcomes, and only the first event is considered.

Figure 6.23
Outcomes after Wait-listing - Australian Incident Dialysis Patients 2018-2023

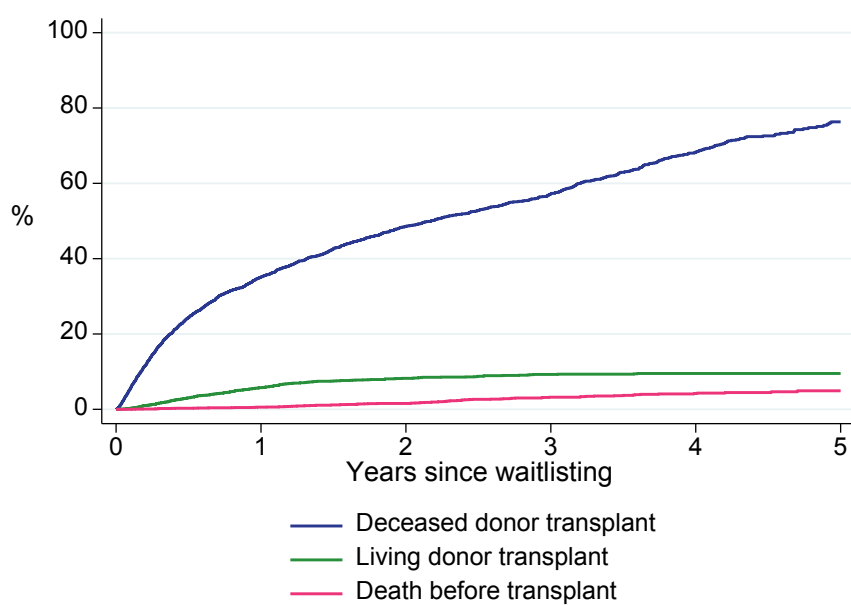
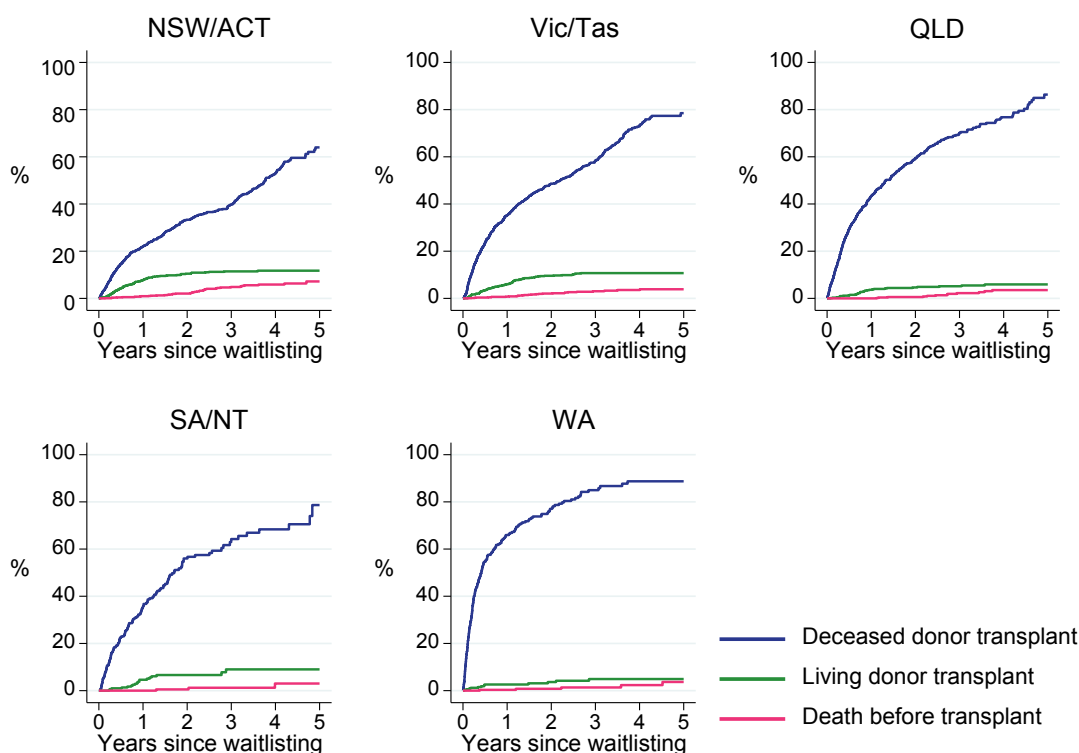


Figure 6.24
Outcomes after Wait-listing by Transplanting Region - Australian Incident Dialysis Patients 2018-2023



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Figure 6.25
Outcomes after Wait-listing by Blood Group - Australian Incident Dialysis Patients 2018-2023

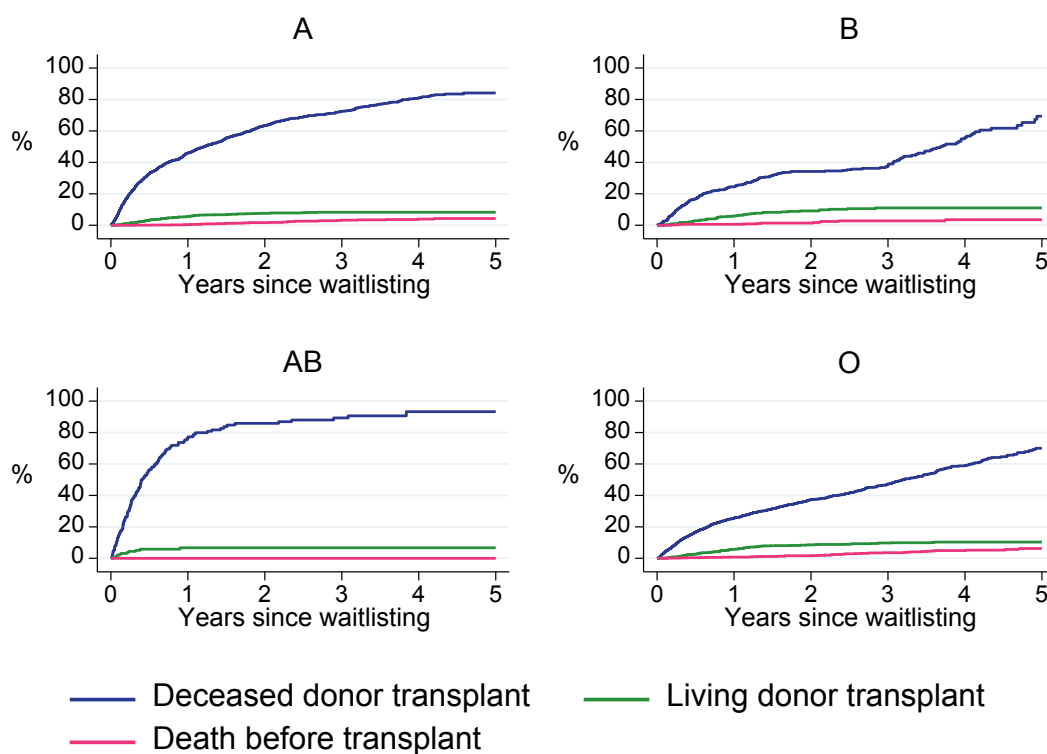


Figure 6.26
Outcomes after Wait-listing by Age Group - Australian Incident Dialysis Patients 2018-2023

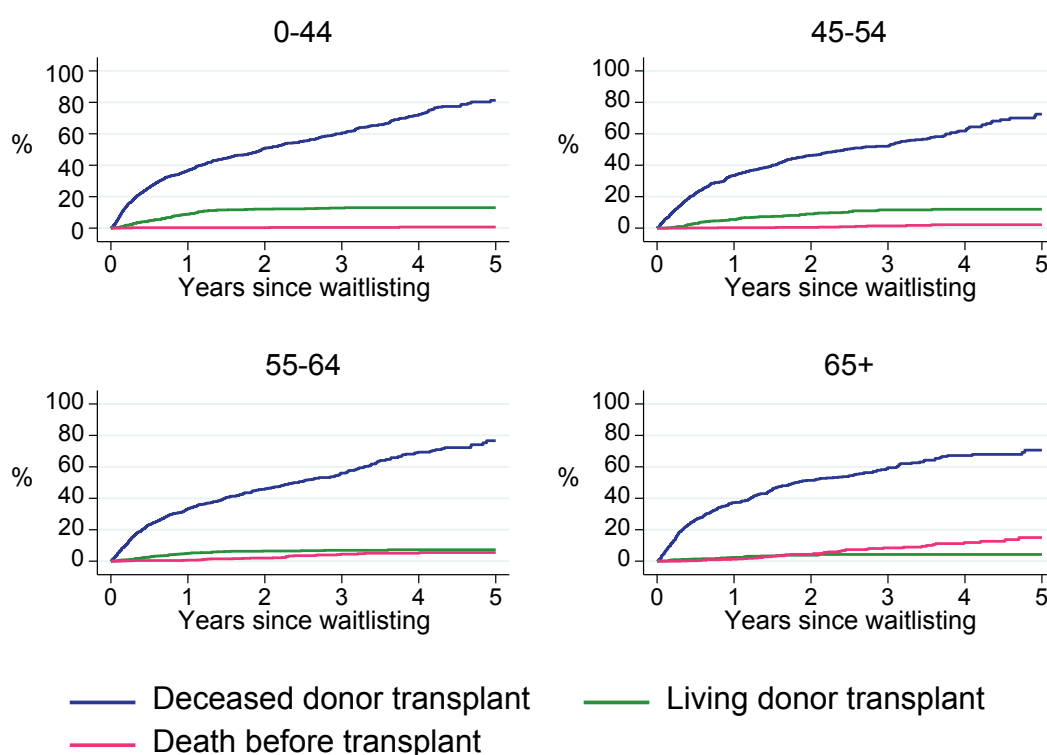


Figure 6.27
Outcomes after Wait-listing by PRA Category - Australian Incident Dialysis Patients 2018-2023

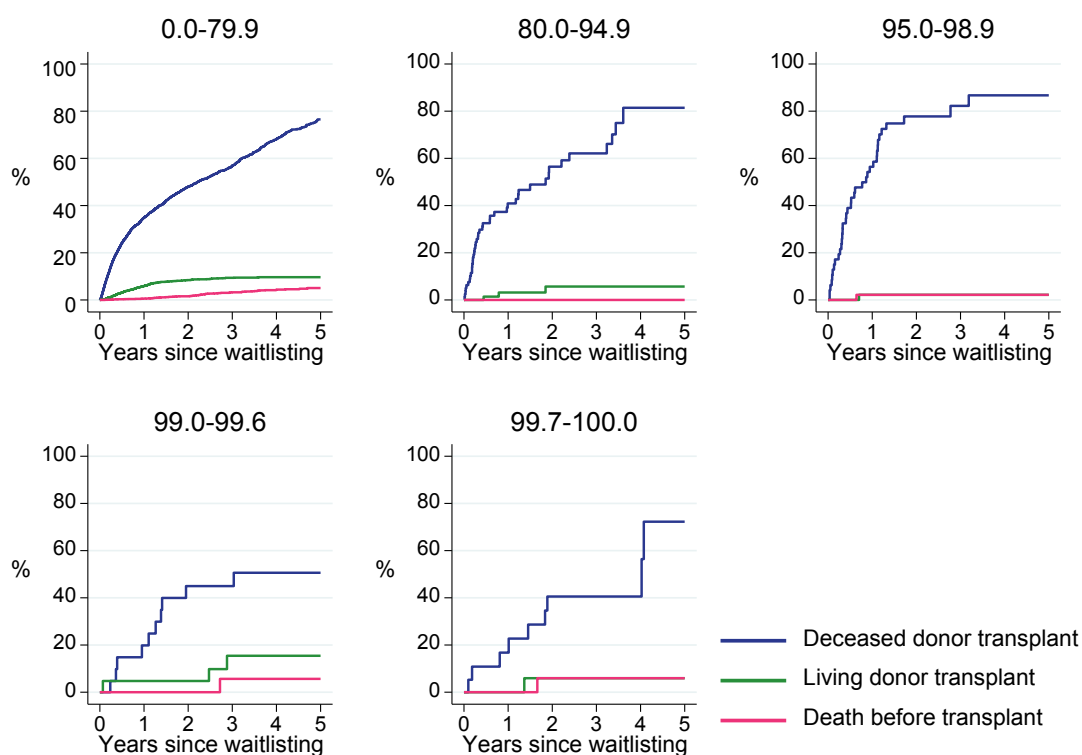


Figure 6.28
Outcomes after Wait-listing by Diabetes Status - Australian Incident KRT Patients 2018-2023

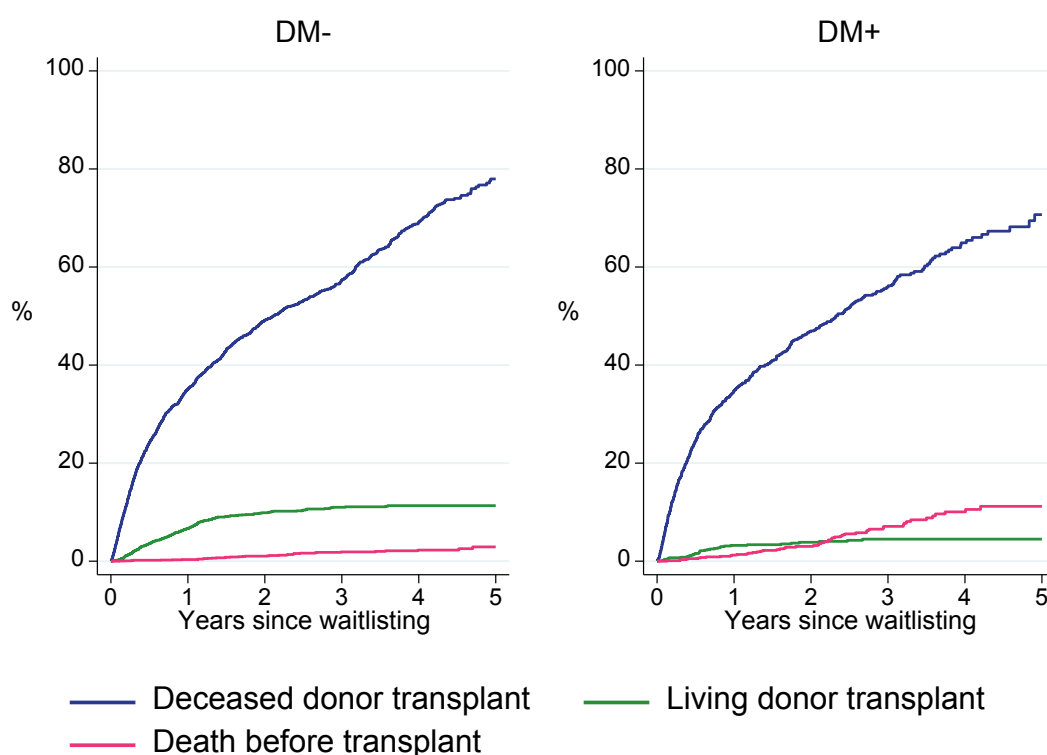
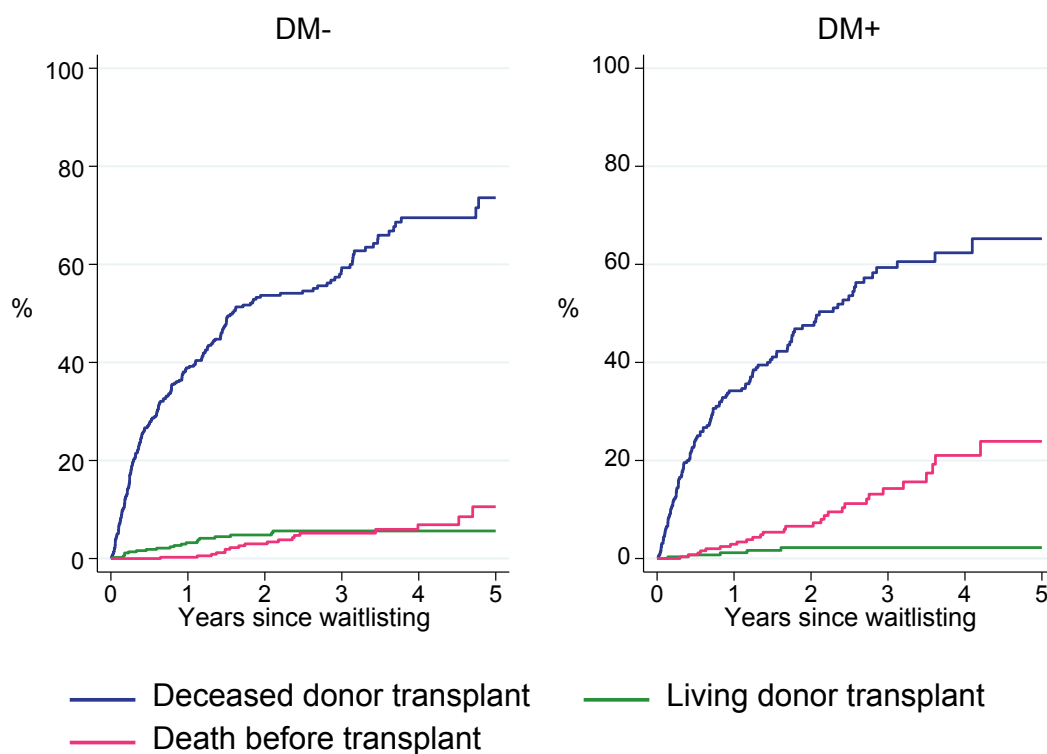


Figure 6.29
Outcomes after Wait-listing for Age 65+ by Diabetes Status - Australian Incident KRT Patients 2018-2023



SURVIVAL AFTER WAIT-LISTING

Figure 6.30 shows the survival of patients who commenced dialysis in Australia over 2018-2023 and were subsequently wait-listed for a deceased donor kidney-only transplant. Survival is shown from the time of listing and is censored at transplantation (but not at removal from the list). Survival at 1 and 3 years was 99.2% and 92.9% respectively and the mortality rate was 1.9 deaths per 100 patient-years (95% CI 1.5-2.3). Figures 6.31 and 6.32 show the same data by age group and diabetes status, with Figure 6.33 showing the data by diabetes status for patients aged 65 years and over.

Figure 6.30

Survival after Wait-listing - Australian Incident Dialysis Patients 2018-2023 Censored at Transplantation

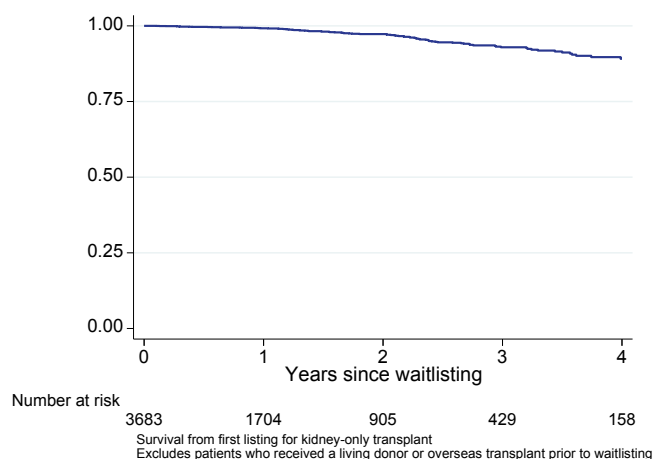


Table 6.13

Survival after Wait-listing - Australian Incident Dialysis Patients 2018-2023; % [95% Confidence Interval] - Censored at Transplantation

Number at risk	1 year	2 years	3 years	4 years
n=3683	99 [99, 99]	97 [96, 98]	93 [91, 94]	89 [86, 92]

Figure 6.31

Survival after Wait-listing by Age Group - Australian Incident Dialysis Patients 2018-2023 Censored at Transplantation

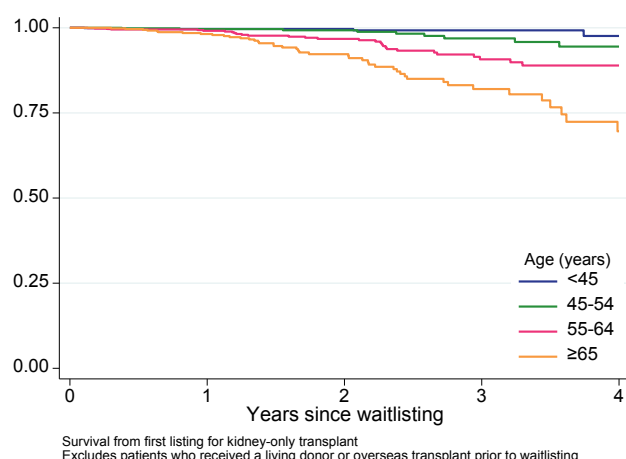


Figure 6.14

Survival after Wait-listing by Age Group - Australian Incident Dialysis Patients 2018-2023; % [95% Confidence Interval] - Censored at Transplantation

Age (years)	1 year	2 years	3 years	4 years
<45 (n=1089)	100 [99, 100]	100 [99, 100]	99 [98, 100]	98 [91, 99]
45-54 (n=834)	100 [98, 100]	99 [98, 100]	97 [93, 99]	94 [88, 97]
55-64 (n=1002)	99 [98, 100]	97 [95, 98]	91 [86, 94]	89 [84, 93]
65+ (n=758)	98 [96, 99]	92 [88, 95]	82 [75, 87]	70 [58, 79]

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Figure 6.32
Survival after Wait-listing by Diabetes Status - Australian Incident
Dialysis Patients 2018-2023 Censored at Transplantation

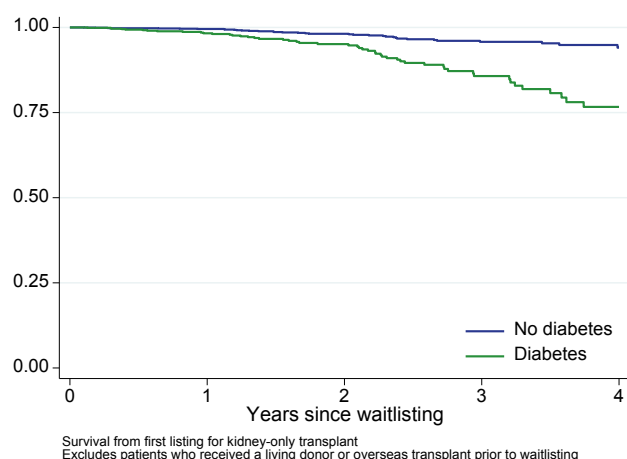


Figure 6.15
Survival after Wait-listing by Diabetes Status - Australian Incident Dialysis Patients 2018-
2023; % [95% Confidence Interval] - Censored at Transplantation

Diabetes Status	1 year	2 years	3 years	4 years
No diabetes (n=2632)	100 [99, 100]	98 [97, 99]	96 [94, 97]	94 [91, 96]
Diabetes (n=1021)	98 [97, 99]	95 [93, 97]	86 [80, 90]	77 [68, 83]

Figure 6.33
Survival after Wait-listing for Age 65+ by Diabetes Status - Australian
Incident Dialysis Patients 2018-2023 Censored at Transplantation

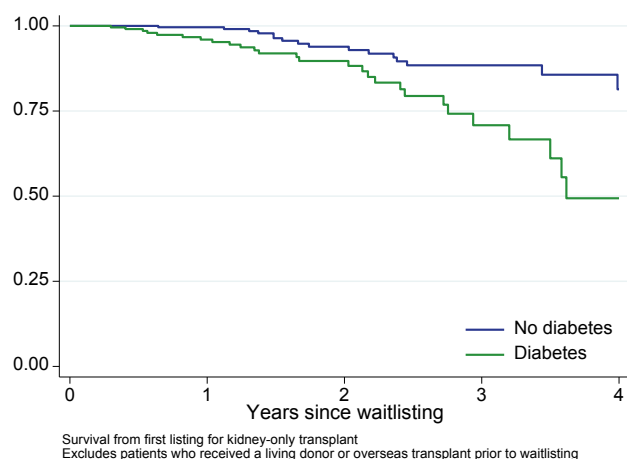


Figure 6.16
Survival after Wait-listing for Age 65+ by Diabetes Status - Australian Incident Dialysis
Patients 2018-2023; % [95% Confidence Interval] - Censored at Transplantation

Diabetes Status	1 year	2 years	3 years	4 years
No diabetes (n=458)	100 [97, 100]	94 [88, 97]	88 [81, 93]	81 [67, 90]
Diabetes (n=293)	96 [92, 98]	90 [83, 94]	71 [56, 81]	49 [29, 67]

OUTCOMES OF DE-LISTING

Figures 6.34-6.37 show the outcomes of patients who commenced dialysis during 2018-2023 and were subsequently wait-listed for a kidney transplant and later taken off the wait-list (de-listed). These analyses show the cumulative incidence of re-listing for deceased donor transplantation or receiving a deceased donor transplant, living donor transplantation or death. Survival time commences at the first de-listing. Each outcome is considered a competing risk for the other outcomes, and only the first event is considered.

Figure 6.34

Outcomes after De-listing - Australian Incident Dialysis Patients 2018-2023

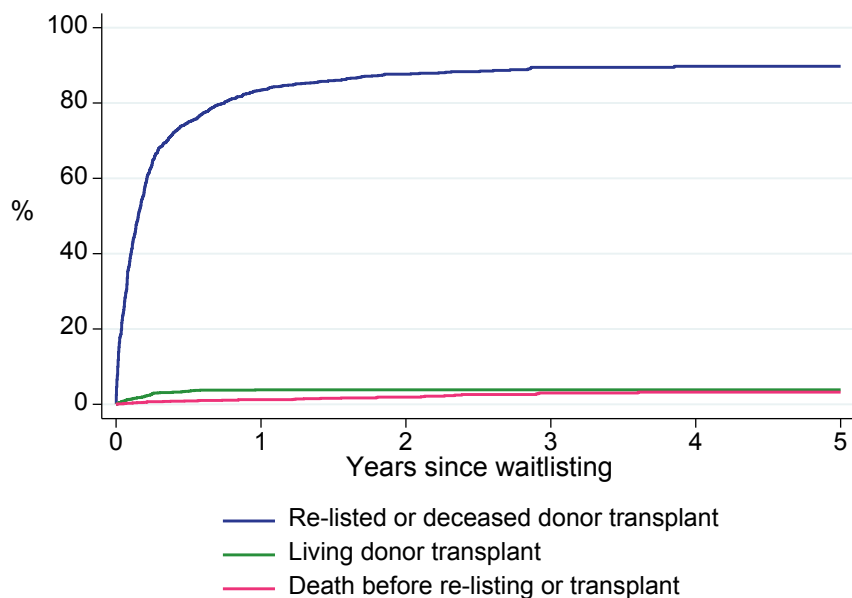


Figure 6.35

Outcomes after De-listing by Transplanting Region - Australian Incident Dialysis Patients 2018-2023

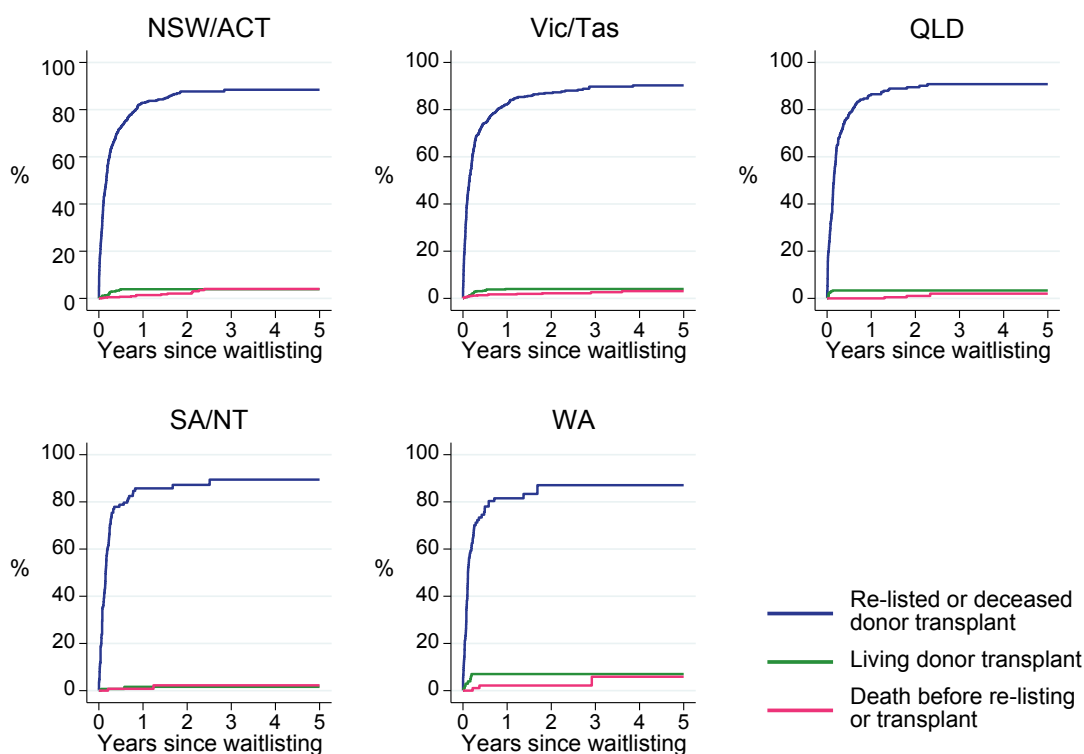


Figure 6.36

Outcomes after De-listing by Age Group - Australian Incident Dialysis Patients 2018-2023

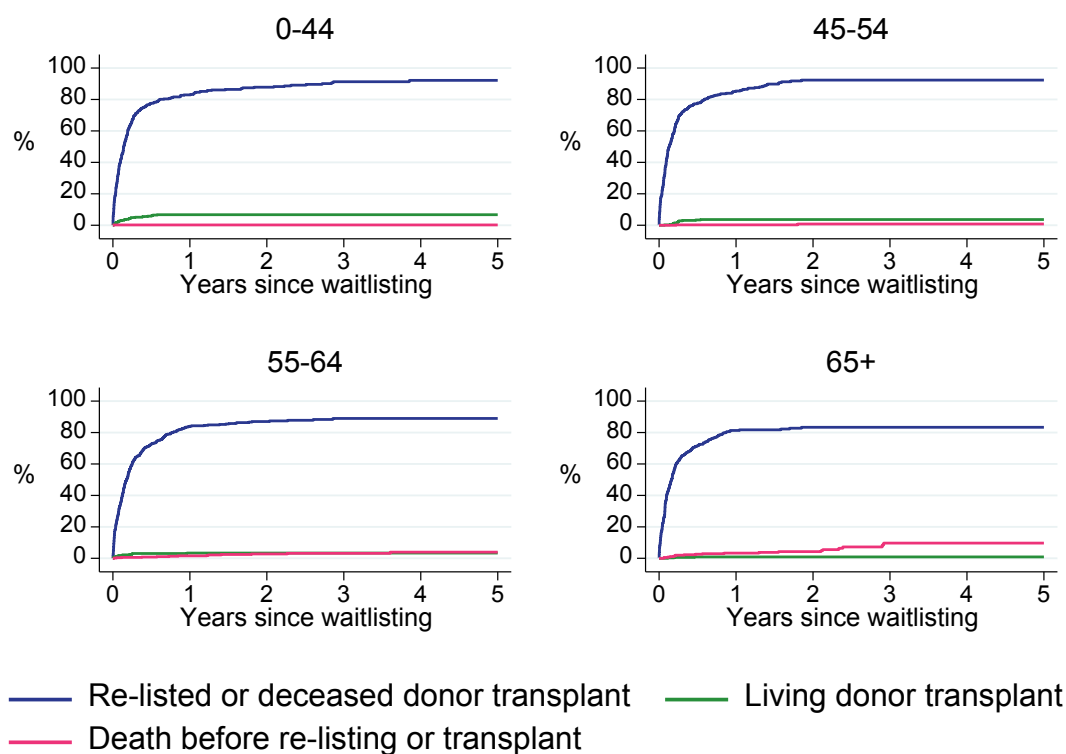


Figure 6.37

Outcomes after De-listing by Diabetes Status - Australian Incident Dialysis Patients 2018-2023

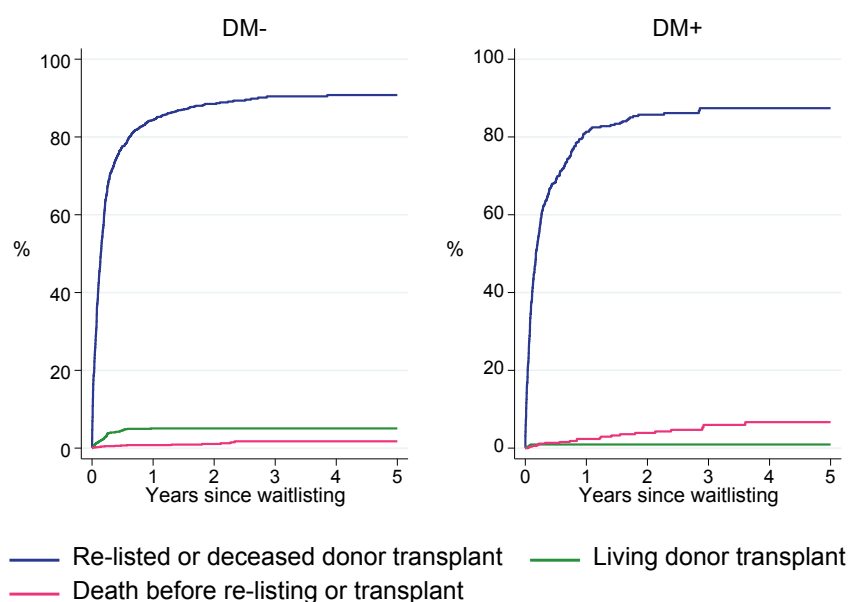
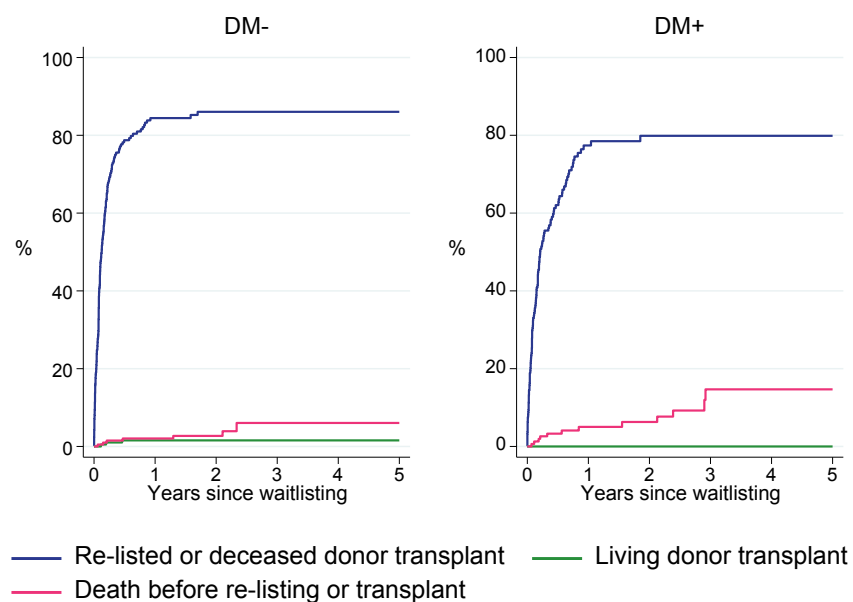


Figure 6.38
Outcomes after De-listing for Age 65+ by Diabetes Status - Australian Incident Dialysis Patients 2018-2023





CHAPTER 6

Australian Transplant Waiting List