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<b>Supplemental Table 1. Transplant failure patients included and excluded from the study</b>			
		Included patients N = 27,459	Excluded due to lack of updated Medevid form at transplant failure N = 18,431
<b>Age</b>	median [Q1, Q3]	50.3 [40.1, 60.8]	51.4 [41.1, 62.4]
<b>Male</b>		59%	60%
<b>Race</b>			
	White	65%	57%
	African-American	30%	36%
	Other	5%	7%
<b>Cause of ESKD</b>			
	Diabetes	28%	31%
	Hypertension	20%	22%
	Glomerulonephritis	31%	26%
	Polycystic disease	7%	5%
	Other	14%	16%
<b>Duration of first transplant survival</b>			
	< 3 years	18%	85%
	≥ 3 years	82%	15%
<b>Year of first transplant failure</b>			
	1995-1999	4%	7%
	2000-2004	17%	28%
	2005-2009	34%	33%
	2010-2014	46%	32%

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<b>Supplemental Table 2. Factors associated deceased donor transplantation from date of first dialysis or transplant failure</b>				
		Hazard Ratio	Lower 95% CI	Upper 95% CI
<b>Transplant failure patients.</b>	ref: incident ESKD patients	1.16	1.12	1.20
<b>Age</b>	per year older	0.97	0.97	0.97
<b>Gender</b>				
	Female	reference		
	Male	1.16	1.15	1.18
<b>Race</b>				
	White	reference		
	African-American	0.77	0.76	0.78
	Other	0.92	0.91	0.94
<b>Cause of ESKD</b>				
	Diabetes	reference		
	Hypertension	0.96	0.95	0.98
	Glomerulonephritis	1.10	1.09	1.12
	Polycystic disease	1.92	1.87	1.96
	Other	0.71	0.70	0.73
<b>Body Mass Index (kg/m<sup>2</sup>)</b>				
	< 18.5	reference		
	18.5 – 24.9	1.21	1.17	1.25
	25.0 – 29.9	1.31	1.27	1.35
	>= 30.0	0.99	0.96	1.03
	missing	1.28	1.23	1.33
<b>Year of ESKD incidence / transplant failure</b>				
	1995-1999	reference		
	2000-2004	0.84	0.83	0.85
	2005-2009	0.79	0.78	0.80
	2010-2014	0.64	0.62	0.65
<b>Medical Insurance</b>				
	Medicare/Medicaid	reference		
	Private	1.76	1.74	1.79
	None	1.02	1.00	1.04
	Other	1.41	1.38	1.43
<b>Employment status</b>				
	Employed	reference		
	Unemployed	0.66	0.65	0.67
	Other	0.74	0.73	0.75
<b>Comorbid conditions</b>				
	Congestive heart failure	0.63	0.62	0.64
	Peripheral vascular disease	0.73	0.71	0.75
	Cerebrovascular disease	0.74	0.72	0.76
	Atherosclerotic heart disease	0.80	0.78	0.82
	Chronic obstructive pulmonary disease	0.58	0.56	0.61
	Alcohol dependence	0.58	0.54	0.62
	Drug dependence	0.46	0.43	0.50
	Tobacco use (current smoker)	0.80	0.78	0.82
	Inability to ambulate	0.29	0.27	0.32
*Cox multivariate regression with time to event determined from date of first ESKD or date of transplant failure. Body Mass Index was missing for 3% of patients.				
<b>Supplemental Table 3. Factors associated with activation to the waiting list *</b>				

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	Hazard Ratio	Lower 95% CI	Upper 95% CI
<b>Patients with transplant failure</b> ref: incident ESKD patients	1.49	1.47	1.52
<b>Age</b> per year older	0.97	0.97	0.97
<b>Gender</b>			
Female	reference		
Male	1.14	1.13	1.15
<b>Race</b>			
White	reference		
African-American	0.76	0.75	0.77
Other	1.08	1.06	1.09
<b>Cause of ESKD</b>			
Diabetes	reference		
Hypertension	1.02	1.01	1.03
Glomerulonephritis	1.38	1.36	1.39
Polycystic disease	2.52	2.48	2.55
Other	0.79	0.78	0.80
<b>Body Mass Index (kg/m<sup>2</sup>)</b>			
< 18.5	reference		
18.5 – 24.9	1.23	1.20	1.25
25.0 – 29.9	1.39	1.36	1.42
>= 30.0	1.11	1.08	1.13
missing	1.22	1.19	1.25
<b>Medical Insurance</b>			
Medicare/Medicaid	reference		
Private	1.94	1.92	1.96
None	0.96	0.95	0.97
Other	1.48	1.46	1.49
<b>Employment status</b>			
Employed	reference		
Unemployed	0.61	0.60	0.62
Other	0.67	0.66	0.67
<b>Comorbid conditions</b>			
Congestive heart failure	0.64	0.63	0.65
Peripheral vascular disease	0.73	0.72	0.74
Cerebrovascular disease, CVA, TIA	0.73	0.71	0.74
Atherosclerotic heart disease	0.84	0.83	0.85
Chronic obstructive pulmonary disease	0.54	0.53	0.56
Alcohol dependence	0.59	0.57	0.62
Drug dependence	0.43	0.41	0.44
Tobacco use (current smoker)	0.69	0.68	0.70
Inability to ambulate	0.30	0.29	0.31
<b>Year of ESKD incidence / transplant failure</b>			
1995-1999	reference		
2000-2004	1.00	0.98	1.01
2005-2009	1.11	1.10	1.12
2010-2014	1.19	1.18	1.21

\*Cox multivariate regression with time to event determined from date of first ESKD or transplant failure. Body Mass Index was missing for 3% of patients.

**Supplemental Table 4. Factors associated with deceased donor transplantation after wait-listing**

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		Hazard Ratio	Lower 95% CI	Upper 95% CI
<b>Patients with failure</b>	ref: incident ESKD patients	0.98	0.94	1.01
<b>Age at waitlisting</b>	per year older	1.00	1.00	1.00
<b>Gender</b>				
	Female	reference		
	Male	1.02	1.01	1.03
<b>Race</b>				
	White	reference		
	African-American	0.80	0.79	0.81
	Other	0.73	0.72	0.75
<b>Cause of ESKD</b>				
	Diabetes	reference		
	Hypertension	1.12	1.11	1.14
	Glomerulonephritis	1.27	1.25	1.29
	Polycystic disease	1.54	1.50	1.57
	Other	1.18	1.16	1.21
<b>Body Mass Index (kg/m<sup>2</sup>)</b>				
	< 18.5	reference		
	18.5 – 24.9	1.05	1.02	1.09
	25.0 – 29.9	1.06	1.03	1.09
	>= 30.0	0.91	0.88	0.94
	missing	1.23	1.18	1.28
<b>ABO blood group</b>				
	A1	1.51	1.43	1.59
	A1B	2.51	2.12	2.96
	A2	1.80	1.59	2.05
	A2B	1.77	1.31	2.39
	AB	1.68	1.64	1.72
	B	0.59	0.58	0.60
	O	0.61	0.61	0.62
	missing	0.89	0.74	1.07
<b>Panel reactive antibody</b>				
	0%	reference		
	1-30%	0.96	0.94	0.97
	31-80%	0.77	0.76	0.79
	> 80%	0.63	0.61	0.64
	missing	2.73	2.27	3.29
<b>Year of ESKD / transplant failure</b>				
	1995-1999	reference		
	2000-2004	0.78	0.77	0.80
	2005-2009	0.63	0.62	0.64
	2010-2014	0.48	0.47	0.49
Cox multivariate regression among n = 334,334 patients activated to the waiting list. Body Mass Index was missing for 3% of patients. ABO and PRA data were missing for 4% of wait-listed patients.				

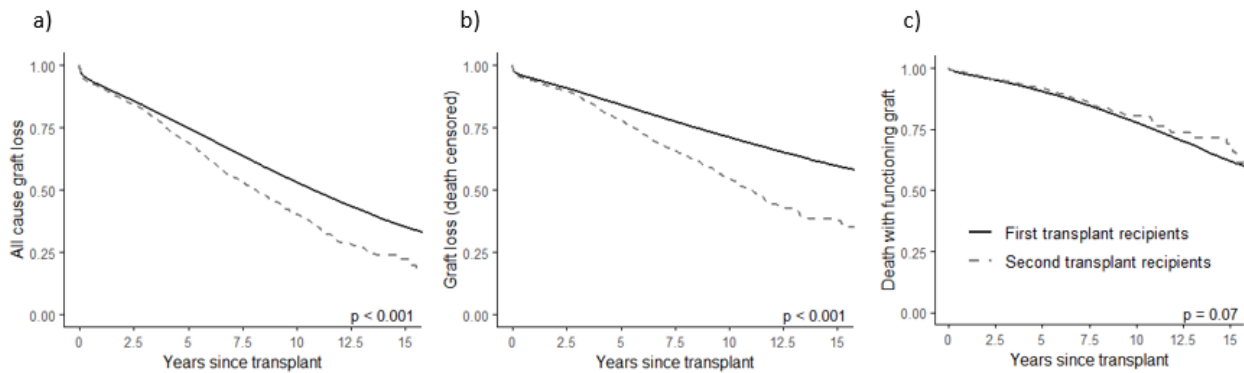
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<b>Supplemental Table 5. Factors associated with allograft loss from any cause</b>				
		Hazard Ratio	Lower 95% CI	Upper 95% CI
<b>Second transplant recipients</b>	ref: first transplant recipients	1.26	1.19	1.34
<b>Age</b>	per year older	1.01	1.01	1.01
<b>Gender</b>				
	Female	reference		
	Male	1.08	1.06	1.10
<b>Race</b>				
	White	reference		
	African-American	1.26	1.23	1.28
	Other	0.79	0.76	0.82
<b>Cause of ESKD</b>				
	Diabetes	reference		
	Hypertension	0.83	0.81	0.85
	Glomerulonephritis	0.74	0.72	0.76
	Polycystic disease	0.54	0.52	0.56
	Other	0.75	0.73	0.78
<b>Body Mass Index (kg/m<sup>2</sup>)</b>				
	< 18.5	reference		
	18.5 – 24.9	0.93	0.89	0.97
	25.0 – 29.9	0.95	0.91	0.99
	>= 30.0	1.08	1.03	1.13
	missing	0.97	0.92	1.02
<b>Transplant Year</b>				
	1995-1999	reference		
	2000-2004	0.93	0.91	0.96
	2005-2009	0.75	0.73	0.77
	2010-2014	0.59	0.57	0.61
<b>Panel Reactive Antibody</b>				
	0%	reference		
	1-30%	1.02	1.00	1.04
	31-80%	1.08	1.05	1.12
	>80%	1.16	1.12	1.21
	missing	0.78	0.74	0.82
<b>Type of Insurance</b>				
	Medicare/Medicaid	reference		
	Private	0.81	0.79	0.83
	None	0.93	0.90	0.96
	Other	0.85	0.83	0.88
<b>Comorbid conditions</b>				
	Congestive heart failure	1.17	1.14	1.20
	Peripheral vascular disease	1.13	1.09	1.18
	Cerebrovascular disease, CVA, TIA	1.12	1.07	1.17
	Atherosclerotic heart disease	1.19	1.16	1.22
	Chronic obstructive pulmonary disease	1.27	1.19	1.35
	Alcohol dependence	1.25	1.14	1.37
	Drug dependence	1.29	1.16	1.43
	Tobacco use (current smoker)	1.26	1.21	1.31
	Inability to ambulate	1.29	1.15	1.45
<b>Kidney Donor Profile Index</b>				
	0-20%	reference		

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21-85%	1.35	1.32	1.38
86-100%	2.06	1.99	2.12
missing	0.89	0.85	0.94
Cox multivariate regression among n = 131,518 transplant recipients including n= 127,670 first transplant recipients and n = 3848 second transplant recipients. Data on PRA was missing for 7% of transplant patients and KDPI was missing for 10% of transplant patients.			

### Supplemental Figure 1



**Supplemental Figure 1:** Time to transplant failure from any cause including death (4a), death censored allograft failure (4b), and death with a functioning allograft (4c) among first ( $n = 127,670$  solid) and second ( $n = 3,848$  dashed) transplant recipients. Curves are representative of a cohort characterised by the mean of the covariates included in the cox proportional hazards models, which were adjusted for age, sex, race, cause of ESKD, BMI, transplant year, type of medical insurance, congestive heart failure, peripheral vascular disease, cerebrovascular disease, atherosclerotic heart disease, chronic obstructive pulmonary disease, alcohol or drug dependencies, tobacco use, and the inability to ambulate, panel reactive antibody and kidney donor profile index and were truncated after 15 years.