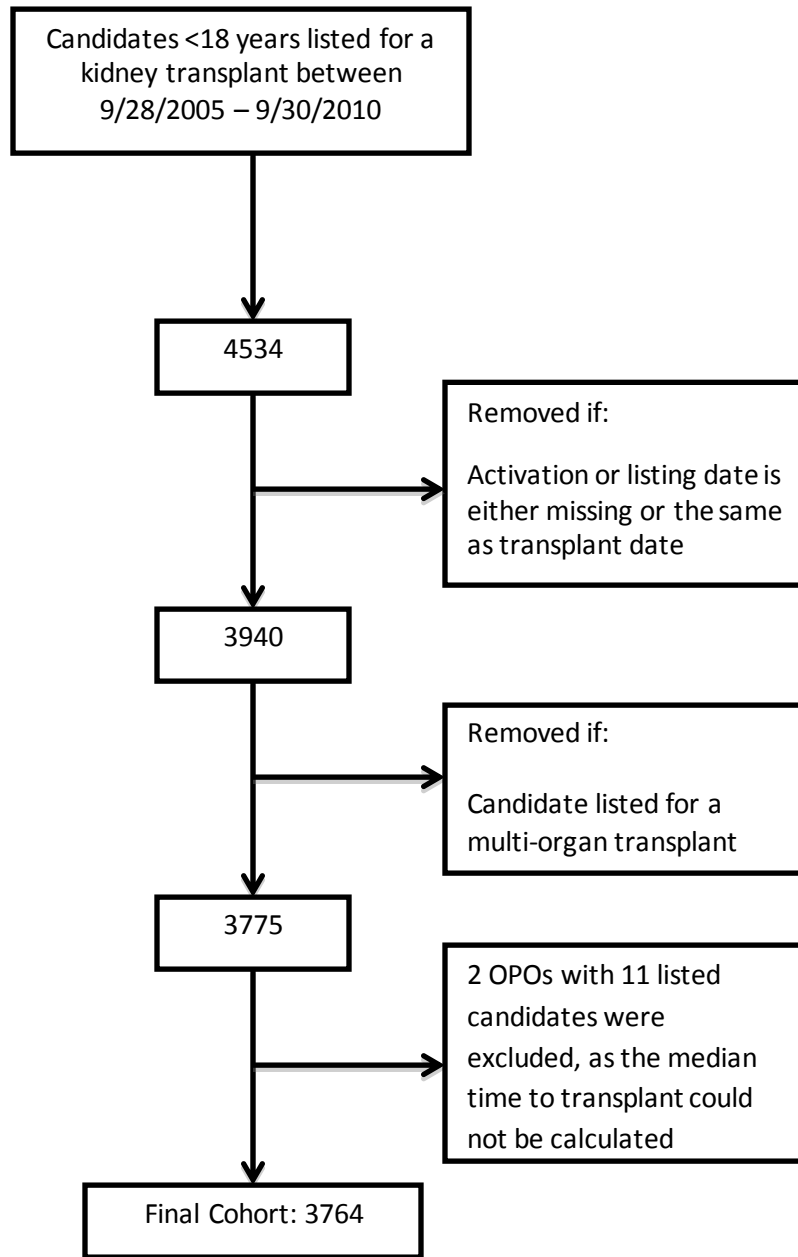


APPENDICES

Appendix 1: Cohort generation



Appendix 2

Supplementary tables showing results of primary analysis and secondary analyses using multivariable Cox regression for the outcome of deceased donor kidney transplant								
Covariates	Final Model with Individual and Donor Service Area Level Covariates (n=3764)				Competing Risks Model with Individual and Donor Service Area Level Covariates (n=3764)			
	Hazard-Ratio	95% Confidence Interval		P-value	Sub-distribution Hazard-Ratio	95% Confidence Interval		P-value
Age (years)								
>11	1 (ref)				1 (ref)			
6 – 10	0.97	0.88	1.08	0.62	0.96	0.86	1.08	0.50
2 – 5	0.77	0.66	0.89	<0.001	0.81	0.70	0.94	0.005
<2	0.78	0.67	0.89	<0.001	0.75	0.63	0.90	0.001
Gender								
Female	1 (ref)				1 (ref)			
Male	0.94	0.87	1.02	0.15	0.96	0.90	1.03	0.30
Race								
White	1 (ref)				1 (ref)			
African American	0.91	0.80	1.05	0.19	1.11	0.97	1.26	0.12
Hispanic	0.88	0.77	1.02	0.08	1.04	0.91	1.19	0.55
Other	0.98	0.77	1.25	0.89	1.09	0.87	1.38	0.45
Listed cause of ESRD								
CAKUT	1 (ref)				1 (ref)			
Primary glomerular	1.09	0.95	1.26	0.24	1.00	0.86	1.16	0.99
Secondary glomerular	0.85	0.72	1.00	0.054	0.88	0.75	1.04	0.13
FSGS/NS	1.07	0.94	1.22	0.29	1.02	0.90	1.17	0.71
Other	1.02	0.93	1.11	0.71	0.97	0.88	1.07	0.58
Received Previous Transplant	0.36	0.29	0.46	<0.001	0.51	0.42	0.63	<0.001
Recipient PRA Level								
<20	1 (ref)				1 (ref)			
20 – 79	0.65	0.69	0.69	0.69	0.69	0.53	0.88	0.003
>79	0.40	0.46	0.46	0.46	0.46	0.32	0.67	<0.001
Missing	0.98	0.93	0.93	0.93	0.93	0.79	1.10	0.42
Insurance								
Public	1 (ref)				1 (ref)			
Private	0.88	0.81	0.81	0.81	0.81	0.73	0.91	<0.001
Other	1.04	0.89	0.89	0.89	0.89	0.55	1.45	0.65
Ever inactive during wait-listing								
No	1 (ref)				1 (ref)			

Yes	0.35	0.48	0.48	0.48	0.48	0.31	0.42	<0.001
DSA-level covariates								
Diversions of kidneys to local adult transplant candidates (per 10%)	0.93	0.91	0.91	0.91	0.91	0.98	1.00	0.12
Ratio of all high-quality kidneys to waitlisted candidates								
<2:1	0.56	0.38	0.84	0.005	0.60	0.44	0.81	0.001
2:1 to <3:1	0.69	0.47	1.02	0.055	0.77	0.56	1.07	0.12
3:1 to <4:1	0.87	0.68	1.11	0.27	0.87	0.70	1.07	0.18
4:1 to <5:1	0.74	0.49	1.12	0.15	0.74	0.55	1.00	0.053
>5:1	1 (ref)				1 (ref)			

Abbreviations: CAKUT: Congenital Abnormality of the Kidney or Urinary Tract; FSGS: Focal and Segmental Glomerulosclerosis; NS: Nephrotic Syndrome; ESRD: End-stage renal disease; DSA: Donor Service Area

Appendix 2 (continued)

Covariates	ABO = "O" only (n=1936)				Excluding patients who were <2 years at time of listing (n=3520)			
	Hazard- Ratio	95% Confidence Interval		P- value	Hazard- Ratio	95% Confidence Interval		P- value
Age (in years)								
>11	1 (ref)				1 (ref)			
6 – 10	1.01	0.88	1.17	0.84	0.97	0.88	1.08	0.60
2 – 5	0.84	0.70	1.00	0.05	0.77	0.66	0.89	<0.001
<2	0.94	0.74	1.20	0.63				
Gender								
Female	1 (ref)				1 (ref)			
Male	0.92	0.83	1.02	0.11	0.94	0.87	1.02	0.14
Race								
White	1 (ref)				1 (ref)			
African American	0.95	0.80	1.12	0.52	0.89	0.78	1.02	0.10
Hispanic	0.88	0.73	1.06	0.17	0.86	0.75	0.99	0.04
Other	1.19	0.83	1.71	0.34	0.95	0.74	1.23	0.72
Listed cause of ESRD								
CAKUT	1 (ref)				1 (ref)			
Primary glomerular	1.17	0.98	1.41	0.08	1.09	0.94	1.26	0.26
Secondary glomerular	0.91	0.73	1.12	0.37	0.85	0.72	1.01	0.06
FSGS/NS	1.23	1.02	1.48	0.03	1.07	0.94	1.21	0.29
Other	1.19	1.03	1.36	0.02	1.02	0.94	1.11	0.65
Received Previous Transplant	0.37	0.28	0.48	<0.001	0.36	0.29	0.46	<0.001
Recipient PRA Level								
<20	1 (ref)				1 (ref)			
20 – 79	0.74	0.55	1.00	0.05	0.65	0.50	0.84	<0.001
>79	0.43	0.28	0.69	<0.001	0.39	0.26	0.58	<0.001
Missing	1.01	0.79	1.29	0.93	0.98	0.81	1.19	0.83
Insurance								
Public	1 (ref)				1 (ref)			
Private	0.86	0.74	1.00	0.04	0.87	0.77	1.00	0.05
Other	1.24	0.63	2.46	0.53	1.00	0.56	1.79	1.0
Ever inactive during wait-listing								
No	1 (ref)				1 (ref)			
Yes	0.36	0.32	0.42	<0.001	0.35	0.30	0.41	<0.001
DSA-level covariates								
Diversions of kidneys to local adult transplant candidates (per 10%)	0.90	0.82	1.04	0.16	0.94	0.82	1.08	0.40
Ratio of high quality kidneys to waitlisted candidates								
<2:1	0.50	0.35	0.70	<0.001	0.58	0.39	0.86	0.01
2:1 to <3:1	0.66	0.42	1.02	0.06	0.70	0.48	1.03	0.07
3:1 to <4:1	0.75	0.57	0.98	0.03	0.88	0.68	1.12	0.30
4:1 to <5:1	0.72	0.50	1.03	0.07	0.74	0.49	1.13	0.16
>5:1	1 (ref)				1 (ref)			

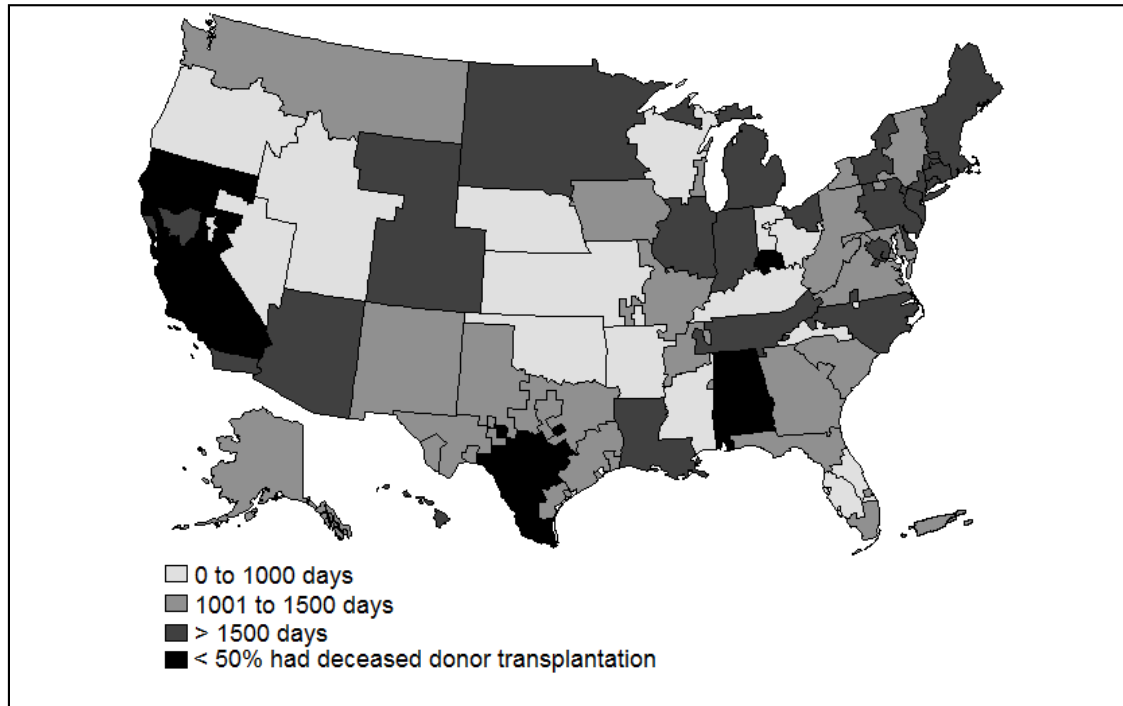
Appendix 2 (continued)

Covariates	Covariate for all diversions of pediatric kidneys instead of local diversions (n=3764)				Excluding 5 DSAs with a policy variance related to waiting time (n=3170)			
	Hazard-Ratio	95% Confidence Interval		P-value	Hazard-Ratio	95% Confidence Interval		P-value
Age (years)								
>11	1 (ref)				1 (ref)			
6 – 10	0.97	0.88	1.08	0.61	0.96	0.85	1.09	0.54
2 – 5	0.77	0.66	0.89	0.001	0.76	0.64	0.89	0.001
<2	0.78	0.67	0.89	<0.001	0.76	0.65	0.89	0.001
Gender								
Female	1 (ref)				1 (ref)			
Male	0.94	0.87	1.02	0.15	0.94	0.85	1.04	0.21
Race								
White	1 (ref)				1 (ref)			
African American	0.91	0.79	1.04	0.18	0.99	0.86	1.13	0.86
Hispanic	0.88	0.76	1.01	0.07	0.93	0.82	1.06	0.28
Other	0.98	0.77	1.25	0.88	1.15	0.95	1.39	0.15
Listed cause of ESRD								
CAKUT	1 (ref)				1 (ref)			
Primary glomerular	1.10	0.95	1.27	0.22	1.12	0.94	1.34	0.22
Secondary glomerular	0.85	0.72	1.00	0.05	0.79	0.66	0.95	0.01
FSGS/NS	1.07	0.94	1.21	0.29	1.06	0.92	1.23	0.40
Other	1.02	0.93	1.11	0.74	1.00	0.90	1.10	0.95
Received Previous Transplant	0.36	0.29	0.46	<0.001	0.36	0.28	0.46	<0.001
Recipient PRA Level								
<20	1 (ref)				1 (ref)			
20 – 79	0.65	0.50	0.84	0.001	0.62	0.48	0.81	<0.001
>79	0.39	0.26	0.59	<0.001	0.41	0.27	0.61	<0.001
Missing	0.98	0.80	1.20	0.83	0.88	0.75	1.05	0.16
Insurance								
Public	1 (ref)				1 (ref)			
Private	0.88	0.78	1.01	0.06	0.88	0.76	1.02	0.09
Other	1.04	0.63	1.72	0.87	1.02	0.60	1.74	0.94
Ever inactive during wait-listing								
No	1 (ref)				1 (ref)			
Yes	0.35	0.30	0.41	<0.001	0.34	0.28	0.40	<0.001
DSA-level covariates								
Diversions of kidneys to local adult transplant candidates (per 10%)	0.93	0.79	1.09	0.40	0.99	0.88	1.13	0.90
Ratio of high quality kidneys to waitlisted candidates								
<2:1	0.55	0.37	0.83	0.004	0.58	0.39	0.87	0.008
2:1 to <3:1	0.67	0.46	0.97	0.03	0.54	0.35	0.84	0.006
3:1 to <4:1	0.85	0.68	1.07	0.18	0.82	0.65	1.04	0.10
4:1 to <5:1	0.72	0.48	1.10	0.13	0.68	0.46	1.01	0.06
>5:1	1 (ref)				1 (ref)			

Appendix 2: (continued)

	Analysis limited to never-inactive kidney transplant candidates (n=1899)			
Covariates	Hazard-Ratio	95% Confidence Interval		P-value
Age (years)				
>11	1 (ref)			
6 – 10	0.91	0.81	1.02	0.11
2 – 5	0.70	0.58	0.85	0.001
<2	0.75	0.61	0.91	0.004
Gender				
Female	1 (ref)			
Male	0.95	0.86	1.02	0.11
Race				
White	1 (ref)			
African American	0.92	0.80	1.05	0.22
Hispanic	0.85	0.73	0.98	0.03
Other	0.98	0.72	1.35	0.92
Listed cause of ESRD				
CAKUT	1 (ref)			
Primary glomerular	1.15	0.98	1.35	0.08
Secondary glomerular	0.84	0.67	1.07	0.16
FSGS/NS	1.08	0.93	1.27	0.30
Other	1.01	0.89	1.14	0.92
Received Previous Transplant	0.39	0.30	0.52	<0.001
Recipient PRA Level				
<20	1 (ref)			
20 – 79	0.65	0.43	0.97	0.04
>79	0.38	0.23	0.65	<0.001
Missing	0.99	0.81	1.22	0.96
Insurance				
Public	1 (ref)			
Private	0.84	0.73	0.97	0.02
Other	1.02	0.4	1.92	0.96
DSA-level covariates				
Diversions of kidneys to local adult transplant candidates (per 10%)	0.97	0.82	1.13	0.72
Ratio of high quality kidneys to waitlisted candidates				
<2:1	0.63	0.42	0.93	0.02
2:1 to <3:1	0.58	0.33	1.02	0.06
3:1 to <4:1	0.78	0.60	1.01	0.07
4:1 to <5:1	0.70	0.46	1.08	0.11
>5:1	1 (ref)			

Appendix 3: Variation across donor service areas in waiting time (days) until 50% of adult candidates undergo deceased donor transplantation, 09/2005 - 09/2010.*



*Kaplan-Meier estimates with censoring for death, delisting and live donor transplant. Please note that the categories defining waiting time for adults are based on different waiting time cutpoints than those used for children, because adult waiting times are much longer than pediatric waiting times.