## **Supplemental Material**

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## **Supplemental Tables:**

Supplemental Table 1. Full model results. Relative risk of graft loss from all causes including death, death censored graft loss, and death with a functioning graft in preemptive and non-preemptive deceased donor transplant recipients.

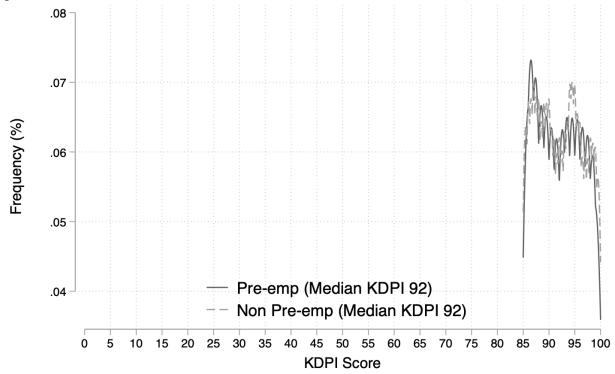
Supplemental Table 2. Characteristics of mate kidney transplants in which one kidney was transplanted preemptively and one kidney was transplanted after treatment with maintenance dialysis.

Supplemental Table 3. Full model results. Relative risk of graft loss from all causes including death among mate kidney transplants in which one kidney was transplanted preemptively and one kidney was transplanted after treatment with maintenance dialysis. Separate models were used in each KDPI group.

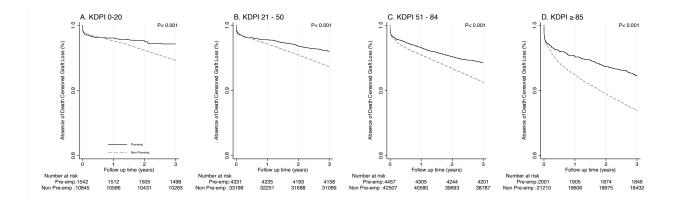
Supplemental Table 4. Results of sensitivity analyses where patients with less than 6 months dialysis duration were included in the preemptive cohort: Outcomes of this multivariable survival analysis include all-cause graft loss (ACGL) and death censored graft loss (DCGL).

Supplemental Table 5. Results of sensitivity analyses where patients with less than 6 months dialysis duration were included in the preemptive cohort: Outcomes of this multivariable survival analysis include all-cause graft loss (ACGL) and death censored graft loss (DCGL).

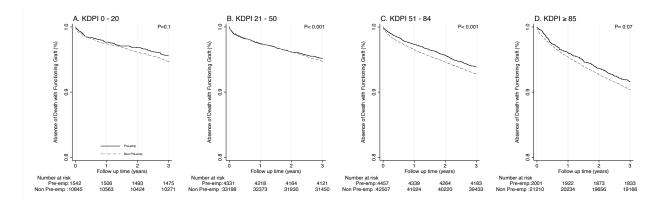
**Supplemental Figure 1:** Density plots representing the distribution of donor KDPI amongst the group of patients who received a kidney from a donor KDPI  $\ge$  85%. The recipients of a kidney transplant preemptively are represented in the solid line, while recipients of a kidney transplant non-preemptively are represented in the dashed line. The median KDPI of both groups is reported.



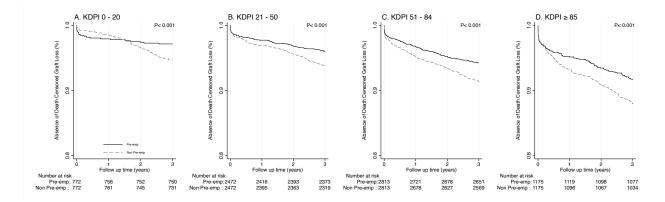
**Supplemental Figure 2.** Kaplan Meier curves of death censored graft loss in recipients receiving kidneys with a KDPI 0 - 20 (Panel A), KDPI 21 - 50 (Panel B), KDPI 51 - 84 (Panel C), and KDPI  $\ge 85\%$  (Panel D) following deceased donor transplantation stratified by preemptive transplantation (solid line) and non-preemptive transplantation (dashed line). The p-values represent the statistical significance of the log-rank test for each analysis.



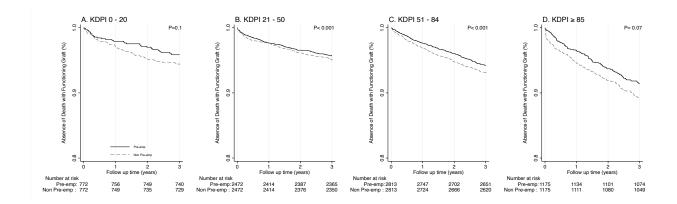
**Supplemental Figure 3.** Kaplan Meier curves of death with a functioning allograft in recipients receiving kidneys with a KDPI 0 - 20 (Panel A), KDPI 21 - 50 (Panel B), KDPI 51 - 84 (Panel C), and KDPI  $\ge 85\%$  (Panel D) following deceased donor transplantation stratified by preemptive transplantation (solid line) and non-preemptive transplantation (dashed line). The p-values represent the statistical significance of the log-rank test for each analysis.



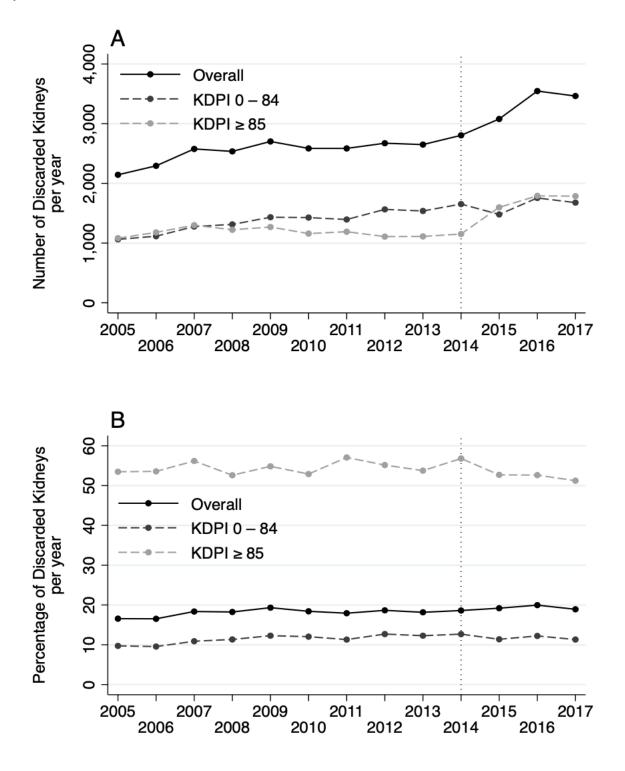
**Supplemental Figure 4.** Kaplan Meier curves of death censored graft loss by KDPI group: KDPI 0 – 20 (Panel A), KDPI 21 – 50 (Panel B), KDPI 51 – 84 (Panel C), and KDPI  $\geq$  85% (Panel D) among mate kidney transplants in which one kidney was transplanted preemptively (solid line) and one kidney transplanted after treatment with maintenance dialysis (dashed line). The p-values represent the statistical significance of the Wilcoxon-Breslow-Gehan (Panel A) and log-rank test (Panel B, C D) for each analysis.



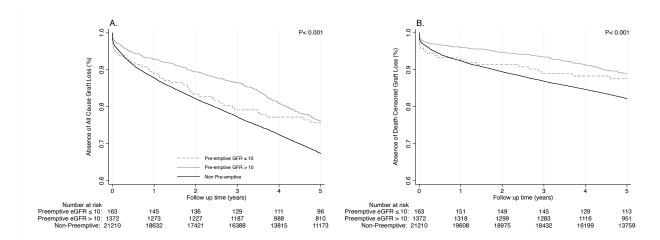
**Supplemental Figure 5**. Kaplan Meier curves of death with a functioning allograft by KDPI group: KDPI 0 - 20 (Panel A), KDPI 21 - 50 (Panel B), KDPI 51 - 84 (Panel C), and KDPI  $\ge 85\%$  (Panel D) among mate kidney transplants in which one kidney was transplanted preemptively (solid line) and one kidney transplanted after treatment with maintenance dialysis (dashed line). The p-values represent the statistical significance of the log-rank test for each analysis.



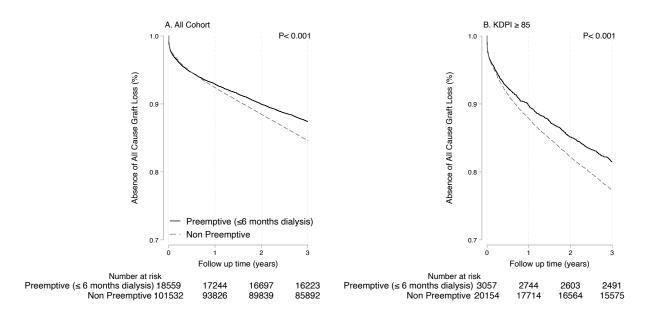
**Supplemental Figure 6A.** The total number of recovered deceased donor kidneys that were discarded per year overall and by KDPI 0-84%,  $\geq$  85%. **Supplemental Figure 6B.** The percentage of recovered deceased donor kidneys that were discarded, stratified by KDPI during the study period. The dashed line represents the implementation of the new kidney allocation system in 2014.



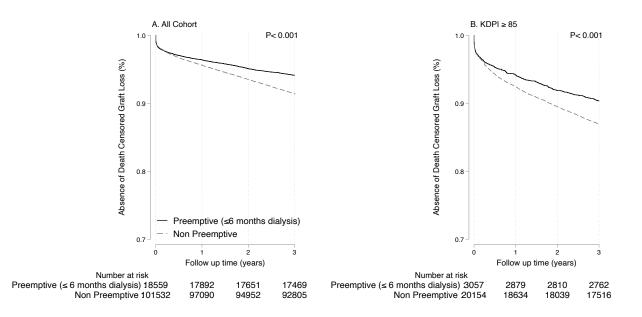
**Supplemental Figure 7.** Kaplan Meier curves of all cause graft loss (Panel A) and death censored graft loss (Panel B) in recipients receiving kidneys with KDPI  $\geq$  85% following deceased donor transplantation stratified by preemptive transplantation with eGFR  $\leq$  10 mL/min at time of listing (dotted gray), eGFR > 10 mL/min at time of waitlisting (solid grey), and non-preemptive transplantation (solid black). The p-values represent the statistical significance of the log-rank test for each analysis.



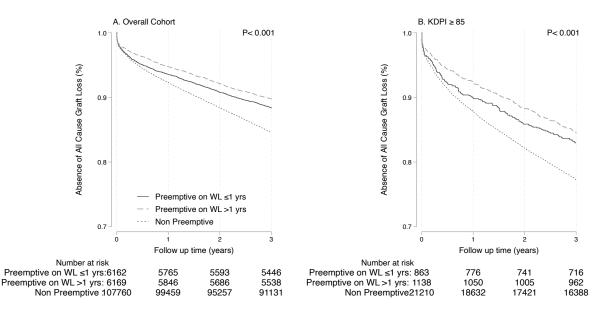
**Supplemental Figure 8**. Results of sensitivity analyses where patients with less than 6 months dialysis duration were included in the preemptive cohort: Kaplan-Meier curves of all cause graft loss comparing recipients of preemptive (solid line) and non-preemptive (dashed line) transplants. The analysis of the entire cohort is presented in panel A, while the analysis in the subcohort who received a kidney from a donor with KDPI  $\geq$  85% is in panel B. The number at risk is presented below.



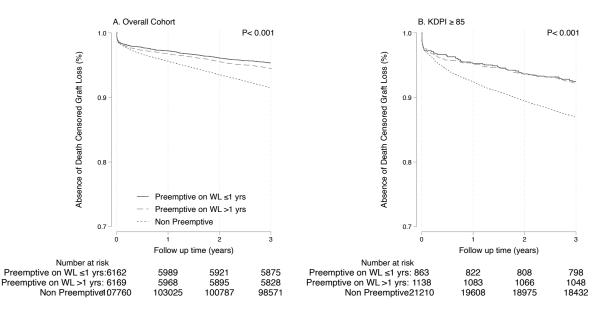
**Supplemental Figure 9.** Results of sensitivity analyses where patients with less than 6 months dialysis duration were included in the preemptive cohort: Kaplan-Meier curves of death censored graft loss comparing recipients of preemptive (solid line) and non-preemptive (dashed line) transplants. The analysis of the entire cohort is presented in panel A, while the analysis in the subcohort who received a kidney from a donor with KDPI  $\geq 85\%$  is in panel B. The number at risk is presented below.



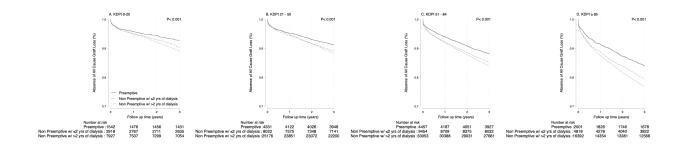
**Supplemental Figure 10.** Results of sensitivity analyses the patients who received a preemptive transplant were stratified into those who received a transplant with less than or equal to one year of waitlisting, and those who received a transplant after more than one year of waitlisting. Kaplan-Meier curves of all cause graft loss comparing recipients of preemptive transplant with less than or equal to one year of waitlisting, (solid line) recipients of preemptive transplant with more than one year of waitlisting (dashed line) and non-preemptive (dotted line) transplants. The analysis of the entire cohort is presented in panel A, while the analysis in the cohort who received a kidney from a donor with KDPI  $\geq$  85% is in panel B. The number at risk is presented below.



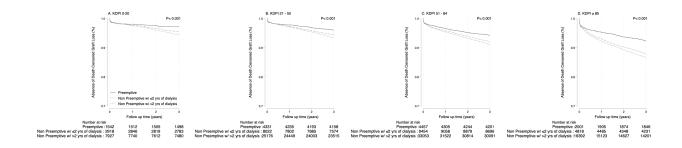
**Supplemental Figure 11.** Results of sensitivity analyses the patients who received a preemptive transplant were stratified into those who received a transplant with less than or equal to one year of waitlisting, and those who received a transplant after more than one year of waitlisting. Kaplan-Meier curves of death censored graft loss comparing recipients of preemptive transplant with less than or equal to one year of waitlisting, (solid line) recipients of preemptive transplant with more than one year of waitlisting (dashed line) and non-preemptive (dotted line) transplants. The analysis of the entire cohort is presented in panel A, while the analysis in the cohort who received a kidney from a donor with KDPI  $\geq 85\%$  is in panel B. The number at risk is presented below.



**Supplemental Figure 12.** Kaplan Meier curves of all cause graft loss comparing recipients of a preemptive transplant (solid line) to recipients of a non-preemptive transplant with less than or equal to 2 years of dialysis duration prior to transplant (dashed line) and those with more than 2 years of dialysis duration (dotted line).



**Supplemental Figure 13.** Kaplan Meier curves of all cause graft loss comparing recipients of a preemptive transplant (solid line) to recipients of a non-preemptive transplant with less than or equal to 2 years of dialysis duration prior to transplant (dashed line) and those with more than 2 years of dialysis duration (dotted line).



**Supplemental Table 1.** Multivariable Cox-regression analyses for the outcomes of all-cause graft loss (ACGL), death censored graft loss (DCGL), and death with function (DWF) in patients who received preemptive and non-preemptive deceased donor kidney transplants from January 1<sup>st</sup>, 2005 and December 31<sup>st</sup>, 2020.

January 1 <sup>st</sup> , 2005 and December 31	ACGL	DCGL	DWFG
	HR (95%)	HR (95%)	HR (95%)
Preemptive Transplant			
Non-preemptive	Reference	Reference	Reference
Preemptive	0.77 (0.75-0.80)	0.75 (0.71-0.79)	0.85 (0.81-0.89)
Age at Time of Transplant	X /		
18-30	Reference	Reference	Reference
31 – 45	0.83 (0.80-0.86)	0.63 (0.60-0.66)	2.42 (2.19-2.67)
46 - 60	0.96 (0.93-1.00)	0.48 (0.46-0.50)	4.75 (4.32-5.23)
61+	1.34 (1.29-1.39)	0.42 (0.40-0.44)	8.37 (7.62-9.20)
Sex, Male (Reference to Female)	1.13 (1.11-1.16)	1.06 (1.03-1.09)	1.16 (1.13-1.20)
Race	, <i>, , , , , , , , , , , , , , , , , , </i>	, , , , , , , , , , , , , , , , , , ,	· · · · · ·
White	Reference	Reference	Reference
Black	1.09 (1.07-1.12)	1.48 (1.43-1.53)	0.78 (0.75-0.80)
Other	0.73 (0.71-0.74)	0.90 (0.86-0.93)	0.66 (0.63-0.68)
$BMI - kg/m^2$			
<18	1.21 (1.11-1.31)	1.01 (0.90-1.14)	1.37 (1.22-1.53)
18 - 25	Reference	Reference	Reference
26 - 40	1.07 (1.05 - 1.10)	1.19 (1.15-1.23)	0.94 (0.91-0.97)
41+	1.20 (1.15-1.25)	1.24 (1.18-1.32)	1.07 (1.01-1.13)
KDPI			
0 - 20	Reference	Reference	Reference
21 - 50	1.10 (1.06-1.14)	1.16 (1.10-1.23)	1.02 (0.97-1.07)
51 - 84	1.41 (1.36-1.46)	1.61 (1.53-1.69)	1.11 (1.06-1.17)
85 +	1.75 (1.69-1.82)	2.29 (2.16-2.41)	1.11 (1.05-1.17)
History of Diabetes as Cause of	1.41 (1.38-1.44)	1.07 (1.04-1.10)	1.64 (1.59-1.68)
ESRD			
History of Vascular Disease	1.16 (1.10-1.22)	0.94 (0.87-1.03)	1.31 (1.22-1.40)
Peak cPRA (%)			
0-20	Reference	Reference	Reference
21 - 80	1.01 (0.98-1.05)	1.01 (0.96-1.05)	1.00 (0.96-1.05)
81-90	1.14 (1.08-1.21)	1.19 (1.09-1.29)	1.04 (0.95-1.13)
91+	1.19 (1.13-1.25)	1.19 (1.11-1.28)	1.08 (1.00-1.16)
Median HLA Mismatch (per	1.04 (1.03-1.04)	1.06 (1.05-1.07)	1.01 (1.00-1.02)
additional 1 mismatch / 6)			
Insurance Provider			
1 1 1 · · · · · · · · · · · · · · · · ·	Reference	Reference	Reference
Private		4 00 (4 0 - 1 1 -	4 8 6 (4 6 5 4 5 5 5
Medicare	1.21 (1.18-1.24)	1.08 (1.05-1.12)	1.26 (1.22-1.30)
		1.08 (1.05-1.12) 1.02 (0.88-1.17) 0.54 (0.31-0.95)	1.26 (1.22-1.30) 1.18 (1.05-1.33) 0.38 (0.17-0.85)

Highest Level of Education			
High School or less	Reference	Reference	Reference
Bachelor's Degree	0.94 (0.93-0.96)	0.98 (0.95-1.01)	0.91 (0.89-0.94)
Graduate Degree	0.90 (0.87-0.94)	0.91 (0.85-0.98)	0.89 (0.85-0.95)
Unknown	0.97 (0.93-1.00)	0.95 (0.91-1.00)	0.99 (0.94-1.03)
Year of Transplant			
2005 - 2008	Reference	Reference	Reference
2009 - 2013	0.83 (0.81-0.85)	0.81 (0.79-0.84)	0.91 (0.88-0.94)
2014 - 2017	0.66 (0.64-0.68)	0.59 (0.57-0.62)	0.83 (0.80-0.87)
Induction Therapy			
Depleting Antibody Therapy	Reference	Reference	Reference
Non-Depleting Antibody	1.01 (0.99-1.04)	1.05 (1.00-1.09)	0.98 (0.94-1.02)
Therapy			
No Induction	2.59 (2.45-2.74)	2.54 (2.37-2.73)	1.25 (1.14-1.37)

**Supplemental Table 2.** Characteristics of mate kidney transplants where one kidney was transplanted preemptively and one kidney was transplanted after treatment with maintenance dialysis.

dialysis.	Preemptive	Non-preemptive	P Value
	N (%)	N (%)	
	N = 7,232	N = 7,232	
Median Age at Transplant (Q1 -	59 (50 - 66)	55 (45 - 63)	< 0.001
Q3)			
Sex, male	3,891 (54)	4,445 (61)	< 0.001
D			< 0.001
Race	4.010 ((7)	2 170 (44)	< 0.001
White	4,812 (67)	3,178 (44)	
Black	1,352 (19)	2,399 (33)	
Other	1,068 (15)	1,655 (23)	
Duration of pretransplant dialysis	N/A	3 (2-5)	N/A
(Q1,Q3)	1 474 (20)	2 210 (21)	< 0.001
Diabetes as cause of ESRD	1,474 (20)	2,210 (31)	< 0.001
History of Vascular Disease	136 (2)	197 (3)	< 0.001
History of Angina	425 (6)	529 (7)	< 0.001
BMI at the time of waitlisting			0.3
$(kg/m^2)$	10((0))	101 (1)	
<18	106 (2)	101 (1)	
18-25	1,945 (27)	1,850 (26)	
26-40	4,764 (66)	4,846 (67)	
41+	417 (6)	435 (6)	< 0.001
Insurance Provider (%)	2 0 7 2 (5 4)	1.025 (25)	< 0.001
Private	3,873 (54)	1,835 (25)	
Medicare	3,257 (45)	5,311 (73)	
VA	91 (1)	84 (1)	
Other	11 (0)	2 (1)	
KDPI (%)			> 0.99
0 - 20	772 (11)	772 (11)	
21-50	2,472 (34)	2,472 (34)	
51-84	2,813 (39)	2,813 (39)	
85+	1,175 (16)	1,175 (16)	> 0.00
Transplant Year (%)	2 0 4 9 (29)	2 0 4 9 (29)	> 0.99
2005 - 2008	2,048 (28)	2,048 (28)	
2009 - 2013	2,628 (36)	2,628 (36)	
2014 – 2017 Modian HL A Mismatch (O1 O3)	2,556(35)	2,556 (35)	< 0.001
Median HLA Mismatch (Q1-Q3)	4 (3-5)	4 (4-5)	< 0.001
Cold Ischemic Time (hours)	2402(22)	2 122 (20)	< 0.001
0 - 12	2,403 (33)	2,133 (29)	
13-24 25 +	3,312 (46)	3,595 (50)	
25 + Missing	1,256 (17)	1,330 (18)	
Missing	261 (4)	174 (2)	

Induction Therapy			< 0.001
Depleting Antibody Induction	6,116 (85)	6,275 (87)	
Non-Depleting Induction	977 (14)	823 (11)	
No Induction	139 (2)	134 (2)	
Highest Level of Education (%)			< 0.001
High School or less	2,883 (40)	3,562 (49)	
Bachelor Degree	2,984 (41)	2,707 (37)	
Graduate Degree	745 (10)	410 (6)	
Unknown	620 (9)	553 (8)	
Peak cPRA			< 0.001
0 - 20	5,738 (79)	5,674 (77)	
21 - 80	888 (12)	988 (14)	
81 - 90	256 (4)	194 (3)	
91+	341(5)	374 (5)	
Missing	2 (0)	2 (0)	

**Supplemental Table 3.** Multivariable cox proportional hazards model of graft loss from all causes including death among mate kidney transplants in which one kidney was transplanted preemptively and one kidney was transplanted after treatment with maintenance dialysis. Separate models were used in each KDPI group.

Separate models we	ere used in each KE			
			GL	
			/	WDDY
	KDPI 0-20	KDPI 21-50	KDPI 50-84	$KDPI \ge 85$
	N= 1,544	N=4,944	N= 5,626	N=2,350
Preemptive				
Transplant				
Non-preemptive	Reference	Reference	Reference	Reference
Preemptive	0.66 (0.54-0.81)	0.75 (0.66-0.84)	0.77 (0.70-0.84)	0.79 (0.69-0.90)
Age at time of				
transplant				
18 – 30	Reference	Reference	Reference	Reference
31 - 45	1.02(0.72-1.48)	0.66 (0.55-0.81)	0.65 (0.53-0.80)	0.94 (0.61-1.46)
46 - 60	1.20 (0.84-1.72)	0.79 (0.65-0.95)	0.74 (0.61-0.89)	0.94 (0.62-1.42)
61+	1.73 (1.21-2.46)	1.15 (0.95-1.38)	1.07 (0.89-1.30)	1.18 (0.79-1.77)
Sex, Male	1.19 (0.97-1.47)	1.16 (1.03-1.31)	1.08 (0.98-1.19)	1.19 (1.04-1.35)
(Reference to				
Female)				
Race				
White	Reference	Reference	Reference	Reference
Black	1.46 (1.15-1.84)	1.17 (1.03-1.33)	1.24 (1.11-1.38)	1.00 (1.29-1.68)
Other	0.89 (0.67-1.18)	0.70 (0.59-0.83)	0.68 (0.59-0.79)	0.72 (0.60-0.87)
Diabetes as	1.70 (1.38-2.09)	1.50 (1.32-1.70)	1.50 (1.36-1.66)	1.47 (1.29-1.68)
cause of ESRD				
History of	0.79 (0.42-1.49)	1.37 (1.03-1.82)	1.26 (0.96-1.66)	1.05 (0.74-1.50)
Vascular Disease				
BMI (kg/m <sup>2</sup> )				
< 18	2.29 (1.18-4.42)	0.97 (0.59-1.58)	1.42 (0.99-2.05)	1.18 (0.66-2.12)
18 - 25	Reference	Reference	Reference	Reference
26 - 40	1.16 (0.91-1.47)	1.0 (0.88-1.14)	1.06 (0.95-1.18)	1.19 (1.03-1.38)
41 +	1.45 (0.98-2.15)	1.45 (1.16-1.80)	1.20 (1.00-1.45)	1.31 (1.00-1.70)
Median HLA	0.99 (0.94-1.04)	1.05 (1.01-1.08)	1.03 (1.01-1.06)	1.08 (1.03-1.12)
Mismatch (per				
additional 1				
mismatch/6)				
Peak cPRA (%)				
0 - 20	Reference	Reference	Reference	Reference
21 - 80	0.94 (0.68-1.31)	1.03(0.87-1.24)	0.98 (0.84-1.13)	0.96 (0.78-1.19)
81 - 90	0.72 (0.39-1.33)	1.19 (0.86-1.63)	0.92 (0.68-1.23)	0.92 (0.57-1.50)
91+	1.25 (0.73-2.14)	0.97 (0.73-1.31)	0.74 (0.56-0.98)	1.51 (1.03-2.22)
Induction				
	Reference	Reference	Reference	Reference

Depleting	1.08 (0.82-1.42)	1.04 (0.89-1.23)	0.96 (0.84-1.10)	1.16 (0.97-1.38)
Antibody				
Induction	3.25 (1.85-5.71)	3.40 (2.48-4.68)	2.18 (1.67-2.85)	2.97 (2.27-3.89)
Non-Depleting				
Antibody				
Induction				
No Induction				

**Supplemental Table 4.** Results of sensitivity analyses where patients who were waitlisted prior to the initiation of dialysis were included in the preemptive cohort (as defined by Ulf Meier-Kriesche): Outcomes of this multivariable survival analysis include all-cause graft loss (ACGL) and death censored graft loss (DCGL) in patients who received preemptive and non-preemptive deceased donor kidney transplants from January 1<sup>st</sup>, 2005 and December 31<sup>st</sup>, 2020.

and December 31 <sup>st</sup> , 2020.		
	ACGL DCGL	
	HR (95%)	HR (95%)
Preemptive Transplant		
Non-preemptive	Reference	Reference
Preemptive	0.80 (0.78-0.82)	0.81 (0.78-0.84)
Age at Time of Transplant		
18-30	Reference	Reference
31-45	0.84 (0.80-0.87)	0.63 (0.61-0.65)
46 - 60	0.97 (0.93-1.00)	0.48 (0.46-0.50)
61+	1.34 (1.30-1.39)	0.42 (0.40-0.44)
Sex, Male (Reference to Female)	1.13 (1.11-1.16)	1.05 (1.02-1.09)
Race		
White	Reference	Reference
Black	1.08 (1.06-1.10)	1.47 (1.42-1.52)
Other	0.72 (0.70-0.74)	0.89 (0.86-0.93)
$BMI - kg/m^2$	· · · · · · · · · · · · · · · · · · ·	, , , , , , , , , , , , , , , , , , ,
<18	1.20 (1.11-1.30)	1.01 (0.90-1.13)
18 – 25	Reference	Reference
26 - 40	1.08 (1.05 -	1.19 (1.15-1.23)
	1.10)	
41+	1.19 (1.15-1.24)	1.24 (1.17-1.31)
KDPI	· · · · · · · · · · · · · · · · · · ·	, , , , , , , , , , , , , , , , , , ,
0 - 20	Reference	Reference
21 - 50	1.10 (1.06-1.14)	1.16 (1.10-1.13)
51 - 84	1.41 (1.36-1.46)	1.61 (1.53-1.23)
85 +	1.75 (1.69-1.82)	2.29 (2.17-2.42)
History of Diabetes as Cause of	1.41 (1.38-1.44)	1.07 (1.03-1.10)
ESRD		
History of Vascular Disease	1.16 (1.10-1.22)	0.94 (0.86-1.03)
Peak cPRA (%)		, , , , , , , , , , , , , , , , , , ,
0-20	Reference	Reference
21 - 80	1.02 (0.99-1.05)	1.01 (0.97-1.06)
81-90	1.14 (1.08-1.21)	1.19 (1.09-1.29)
91+	1.19 (1.13-1.26)	1.20 (1.11-1.29)
Median HLA Mismatch (per	1.04 (1.03-1.04)	1.06 (1.05-1.07)
additional 1 mismatch / 6)		, , , , , , , , , , , , , , , , , , ,

Insurance Provider		
Private	Reference	Reference
Medicare	1.19 (1.16-1.22)	1.07 (1.04-1.11)
VA	1.12 (1.02-1.23)	1.01 (0.87-1.16)
Other	0.41 (0.26-0.65)	0.43 (0.30-0.94)
Highest Level of Education		
High School or less	Reference	Reference
Bachelor's Degree	0.95 (0.93-0.97)	0.98 (0.94-1.01)
Graduate Degree	0.91 (0.87-0.95)	0.92 (0.86-0.98)
Unknown	0.97 (0.93-1.00)	0.95 (0.91-1.00)
Year of Transplant		
2005 - 2008	Reference	Reference
2009 - 2013	0.83 (0.82-0.85)	0.82 (0.79-0.84)
2014 - 2017	0.67 (0.65-0.69)	0.60 (0.57-0.62)
Induction Therapy		
Depleting Antibody Therapy	Reference	Reference
Non-Depleting Antibody Therapy	1.01 (0.98-1.04)	1.04 (1.00-1.09)
No Induction	2.59 (2.43-2.72)	2.52 (2.35-2.71)

**Supplemental Table 5.** Results of sensitivity analyses where patients who were waitlisted prior to the initiation of dialysis were included in the preemptive cohort (as defined by Ulf Meier-Kriesche): Outcomes of this multivariable survival analysis include all-cause graft loss (ACGL) and death censored graft loss (DCGL) in patients who received preemptive and non-preemptive deceased donor kidney transplants from donors with a KDPI > 85 from January 1<sup>st</sup>, 2005 and December 31<sup>st</sup>, 2020.

$KDPI \ge 85$ from January 1 <sup>st</sup> , 2005 a		
	ACGL	DCGL
	HR (95%)	HR (95%)
Preemptive Transplant		
Non-preemptive	Reference	Reference
Preemptive	0.79 (0.74-0.86)	0.75 (0.51-0.71)
Age at Time of Transplant		
18-30	Reference	Reference
31-45	1.01 (0.90-1.15)	0.79 (0.69-0.90)
46 - 60	1.13 (1.01-1.27)	0.67 (0.62-0.76)
61+	1.50 (1.34-1.68)	0.58 (0.59-0.66)
Sex, Male (Reference to Female)	1.20 (1.15-1.25)	1.17 (1.10-1.24)
Race		
White	Reference	Reference
Black	1.06 (1.01-1.11)	1.40 (1.32-1.49)
Other	0.74 (0.70-0.78)	0.87 (0.80-0.94)
$BMI - kg/m^2$		
<18	1.18 (0.98-1.42)	0.81 (0.61-1.08)
18 - 25	Reference	Reference
26 - 40	1.14 (1.09 - 1.19)	1.30 (1.22-1.39)
41+	1.24 (1.14-1.35)	1.24 (1.10-1.40)
History of Diabetes as Cause of	1.34 (1.29-1.40)	1.10 (1.04-1.17)
ESRD		
History of Vascular Disease	1.13 (1.02 1.25)	0.87 (0.74-1.02)
Peak cPRA (%)	, , , , , , , , , , , , , , , , , , , ,	, , , , , , , , , , , , , , , , , , ,
0-20	Reference	Reference
21 - 80	1.02 (0.95-1.09)	1.03 (0.94-1.13)
81 - 90	1.16 (1.00-1.36)	1.47 (1.12-1.67)
91+	1.29 (1.14-1.46)	1.23 (1.04-1.46)
Median HLA Mismatch (per	1.02 (1.01-1.04)	1.04 (1.02-1.06)
additional 1 mismatch / 6)	. ,	
Insurance Provider		
Private	Reference	Reference
Medicare	1.18 (1.12-1.24)	1.05 (0.98-1.12)
VA	1.18 (0.94-1.49)	0.83 (0.57-1.19)
Other	0.60 (0.22-1.00)	0.50 (0.12-1.99)
	× ,	· · · · ·

Highest Level of Education		
High School or less	Reference	Reference
Bachelor's Degree	0.96 (0.92-1.01)	1.02 (0.96-1.09)
Graduate Degree	0.97 (0.90-1.06)	1.00 (0.89-1.12)
Unknown	0.93 (0.97-1.00)	0.99 (0.90-1.09)
Year of Transplant		
2005 - 2008	Reference	Reference
2009 - 2013	0.79 (0.75-0.83)	0.77 (0.72-0.82)
2014 - 2017	0.63 (0.59-0.67)	0.57 (0.53-0.62)
Induction Therapy		
Depleting Antibody Therapy	Reference	Reference
Non-Depleting Antibody	1.02 (0.96-1.08)	1.10 (1.01-1.19)
Therapy		
No Induction	2.38 (2.16-2.63)	2.36 (2.09-2.67)