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(N=56,860).

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Supplemental Table 1. Detailed HLA Mismatches by Participation in the National Kidney Registry

(N=56,860). Among the 7% (N=3,899) control living donor controls who had a 0% HLA mismatch, 83% (N=3,217) were full siblings of the recipient, 7% (N=267) were children of the recipient, and 4% (N=158) were parents of the recipient.

N	Control Living Donor KT 54,497 (96%)	National Kidney Registry 2363 (4%)	p-value
HLA A Mismatch			<0.001
% 0	21	10	
% 1	52	44	
% 2	27	46	
HLA B Mismatch			<0.001
% 0	14	4	
% 1	48	29	
% 2	39	66	
HLA DR Mismatch			<0.001
% 0	19	13	
% 1	52	45	
% 2	29	42	

Supplemental Table 2. Association between Receiving an National Kidney Registry-Facilitated Transplant and Post-Transplant Outcomes using Unweighted Cox Regression (N=56,860). For models 1-4, we estimate the adjusted Hazard Ratio (aHR) of graft failure and mortality comparing National Kidney Registry recipients to living donor KT recipients using standard unweighted Cox regression adjusting for cofounders. The base model is unadjusted. Model 0 accounts for center level effects by stratification but is otherwise unadjusted.

	Graft Failure aHR (95% CI)	p-value	Mortality aHR (95% CI)	p-value
Base Model	0.88 (0.74-1.05)	0.2	0.93 (0.79-1.10)	0.4
Model 0: Center-level	0.97 (0.81-1.17)	0.8	0.99 (0.83-1.18)	0.9
Model 1: Recipient ²	1.02 (0.85-1.23)	0.8	0.95 (0.79-1.13)	0.5
Model 2: Recipient, Donor ³	1.01 (0.83-1.21)	>0.9	0.94 (0.79-1.12)	0.5
Model 3, Recipient, Donor, Transplant ⁴	0.97 (0.81-1.17)	0.8	0.93 (0.78-1.11)	0.4
Model 4: Parsimonious ⁵	0.95 (0.79-1.15)	0.6	0.92 (0.78-1.10)	0.4

¹ Model is unadjusted but employs center-level stratification.

² Model adjusted for recipient age, sex, black race, Hispanic ethnicity, body mass index (BMI)≥30, diabetes, hypertension, college education, public insurance, Hepatitis C infection, preemptive transplant, history of previous transplant, estimated Glomerular Filtration Rate (eGFR) prior to transplant (CKD-EPI 2009 equation), antibody non-depleting induction therapy, antibody depleting induction therapy, and year of transplant.

³ Model adjusted for model 1 factors in addition to donor age, sex, black race, Hispanic ethnicity, BMI≥30, and eGFR prior to transplant.

⁴ Model adjusted for model 2 factors in addition to ABO incompatible transplant and zero HLA mismatches.

⁵ Model adjusted for recipient factors (age, sex, black race, BMI≥30, diabetes, previous transplant, preemptive transplant, public insurance, hepatitis C, eGFR, antibody depleting induction therapy, year of transplant), donor factors (age, sex, Hispanic ethnicity, BMI≥30), and transplant factors (zero HLA mismatch).

Supplemental Table 3. Association between Receiving a National Kidney Registry-Facilitated

Transplant and Delayed Graft Function (N=56,860). We estimate the adjusted Odds Ratio (aOR) of

delayed graft function comparing National Kidney Registry recipients to living donor KT recipients using

IPTW weighted logistic regression.

	DGF aOR (95% CI)	p-value
Model 1: Recipient ¹	1.29 (1.03-1.62)	0.03
Model 2: Recipient, Donor ²	1.33 (1.01-1.75)	0.04
Model 3: Recipient, Donor, Transplant ³	1.36 (1.03-1.81)	0.03
Model 4: Parsimonious ⁴	1.36 (1.05-1.75)	0.02

¹ Model adjusted for recipient age, sex, black race, Hispanic ethnicity, body mass index (BMI)≥30, diabetes, hypertension, college education, public insurance, Hepatitis C infection, preemptive transplant, history of previous transplant, estimated Glomerular Filtration Rate (eGFR) prior to transplant (CKD-EPI 2009 equation), antibody non-depleting induction therapy, antibody depleting induction therapy, and year of transplant.

² Model adjusted for model 1 factors in addition to donor age, sex, black race, Hispanic ethnicity, BMI≥30, and eGFR prior to transplant.

³ Model adjusted for model 2 factors in addition to ABO incompatible transplant and zero HLA mismatches.

⁴ Model adjusted for recipient factors (age, sex, black race, BMI≥30, diabetes, previous transplant, preemptive transplant, public insurance, hepatitis C, eGFR, antibody depleting induction therapy, year of transplant), donor factors (age, sex, Hispanic ethnicity, BMI≥30), and transplant factors (zero HLA mismatch).