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Table S1: Candidate characteristics and 3-year waitlist outcomes of the post-KAS cohort (waitlisted in 2015), by OPTN region

Candidate Characteristics col%, mean (± SD), median (IQR)	OPTN Region											p-value
	1 (n = 1,436)	2 (n = 5,042)	3 (n = 5,016)	4 (n = 3,629)	5 (n = 5,992)	6 (n = 1,038)	7 (n = 2,777)	8 (n = 1,811)	9 (n = 2,191)	10 (n = 2,667)	11 (n = 3,129)	
Age at listing (years)	54 (± 13)	53 (± 13)	52 (± 13)	50 (± 13)	52 (± 13)	52 (± 14)	51 (± 13)	52 (± 13)	53 (± 13)	52 (± 13)	52 (± 13)	0.0001
Male gender	895 (62%)	3229 (64%)	3039 (61%)	2319 (64%)	3748 (63%)	645 (62%)	1720 (62%)	1171 (65%)	1426 (65%)	1623 (61%)	1911 (61%)	< 0.001
Race												< 0.001
Black	241 (17%)	2151 (43%)	2403 (48%)	870 (24%)	704 (12%)	78 (8%)	583 (21%)	363 (20%)	648 (30%)	795 (30%)	1419 (45%)	
Non-Black	1195 (83%)	2891 (57%)	2613 (52%)	2759 (76%)	5288 (88%)	960 (92%)	2194 (79%)	1448 (80%)	1543 (70%)	1872 (70%)	1710 (55%)	
History of Diabetes	559 (39%)	2148 (43%)	2040 (41%)	1637 (45%)	2785 (46%)	394 (38%)	1061 (38%)	738 (41%)	880 (40%)	1019 (42%)	1362 (44%)	< 0.001
BMI > 30 kg/m ²	520 (36%)	1954 (39%)	1872 (37%)	1346 (37%)	1817 (30%)	361 (35%)	1121 (40%)	689 (38%)	729 (33%)	1113 (42%)	1299 (42%)	< 0.001
Blood Type												< 0.001
AB	53 (4%)	201 (4%)	229 (5%)	102 (3%)	232 (4%)	47 (5%)	103 (4%)	59 (3%)	92 (4%)	109 (4%)	136 (4%)	
A	514 (36%)	1681 (33%)	1587 (32%)	1099 (30%)	1834 (31%)	363 (35%)	943 (34%)	658 (36%)	692 (32%)	978 (37%)	1043 (33%)	
B	183 (13%)	775 (15%)	824 (16%)	516 (14%)	870 (15%)	142 (14%)	418 (15%)	229 (13%)	377 (17%)	357 (13%)	487 (16%)	
O	686 (48%)	2385 (47%)	2376 (47%)	1912 (53%)	3056 (51%)	486 (47%)	1313 (47%)	865 (48%)	1030 (47%)	1223 (46%)	1463 (47%)	
PRA ≥ 98%	63 (4%)	477 (9%)	365 (7%)	295 (8%)	427 (7%)	46 (4%)	172 (6%)	128 (7%)	91 (4%)	180 (7%)	313 (10%)	< 0.001
Listed EPTS Top 20%	429 (30%)	1520 (30%)	1732 (35%)	1332 (37%)	1941 (32%)	371 (36%)	1048 (38%)	583 (32%)	739 (34%)	885 (33%)	1018 (33%)	< 0.001
Listed preemptively	631 (44%)	1819 (36%)	1262 (25%)	927 (26%)	1706 (28%)	419 (40%)	1155 (42%)	666 (37%)	1006 (46%)	1040 (39%)	854 (27%)	< 0.001
Median dialysis vintage at listing (years), non-preemptive	1.0 (0.4 - 2.3)	1.4 (0.6 - 3.3)	1.5 (0.8 - 3.2)	1.4 (0.7 - 2.8)	1.3 (0.6 - 2.8)	1.3 (0.7 - 2.9)	1.1 (0.5 - 2.6)	1.1 (0.5 - 2.4)	1.1 (0.5 - 2.6)	1.2 (0.6 - 2.6)	1.4 (0.8 - 2.8)	0.0001
Mean dialysis vintage at listing (years)	1.0 (± 2.0)	1.6 (± 2.5)	1.9 (± 2.7)	1.7 (± 2.5)	1.6 (± 2.5)	1.3 (± 2.2)	1.2 (± 2.1)	1.2 (± 2.0)	1.2 (± 2.4)	1.3 (± 2.2)	1.6 (± 2.3)	0.0001
Initially listed with inactive status	385 (27%)	1366 (27%)	1433 (29%)	612 (17%)	1514 (25%)	386 (37%)	733 (26%)	573 (32%)	604 (28%)	724 (27%)	422 (13%)	< 0.001
Always inactive (if initially inactive)	112 (8%)	536 (11%)	422 (8%)	220 (6%)	825 (14%)	116 (11%)	284 (10%)	111 (6%)	267 (12%)	267 (10%)	176 (6%)	< 0.001
Waitlist Outcomes at 3 years												< 0.001
Deceased Donor Transplant	238 (17%)	1002 (20%)	1081 (22%)	709 (20%)	1230 (21%)	279 (27%)	508 (18%)	571 (32%)	432 (20%)	606 (23%)	883 (28%)	
Living Donor Transplant	310 (22%)	674 (13%)	496 (10%)	478 (13%)	716 (12%)	159 (15%)	573 (21%)	267 (15%)	426 (19%)	489 (18%)	328 (10%)	
Died	101 (7%)	367 (7%)	417 (8%)	281 (8%)	456 (8%)	34 (3%)	152 (5%)	92 (5%)	147 (7%)	151 (6%)	213 (7%)	
Removed	194 (14%)	1118 (22%)	1141 (23%)	969 (27%)	816 (14%)	202 (19%)	586 (21%)	363 (20%)	293 (13%)	656 (25%)	673 (22%)	
Remaining Listed	593 (41%)	1881 (37%)	1881 (38%)	1192 (33%)	2774 (46%)	364 (35%)	958 (34%)	518 (29%)	893 (41%)	765 (29%)	1032 (33%)	

Abbreviations: OPTN, Organ Procurement and Transplantation Network; col, column; SD, standard deviation; IQR, interquartile ratio; BMI, body mass index; PRA, panel reactive antibodies; EPTS, estimated post-transplant survival

Table S2: Range in center-level adjusted probability of deceased donor kidney transplant within 3 years of waitlisting across all centers and within OPTN regions for groups of patients targeted in the Kidney Allocation System policy change

Range in Adjusted Probability of DDK Transplant Between Centers								
	Average Patient		High PRA \geq 98%		Black Race		75 th Pct Dialysis Vintage	
	2011 Cohort	2015 Cohort	2011 Cohort	2015 Cohort	2011 Cohort	2015 Cohort	2011 Cohort	2015 Cohort
Nationwide	0.01 - 0.74	0.04 - 0.64	0.00 - 0.48	0.03 - 0.68	0.01 - 0.80	0.04 - 0.73	0.01 - 0.75	0.05 - 0.76
Region								
1	0.07 - 0.29	0.06 - 0.20	0.05 - 0.21	0.08 - 0.26	0.08 - 0.31	0.07 - 0.22	0.08 - 0.31	0.10 - 0.32
2	0.03 - 0.49	0.05 - 0.33	0.01 - 0.26	0.06 - 0.38	0.03 - 0.55	0.06 - 0.36	0.03 - 0.52	0.07 - 0.39
3	0.04 - 0.74	0.04 - 0.55	0.02 - 0.48	0.03 - 0.50	0.04 - 0.80	0.04 - 0.57	0.04 - 0.75	0.05 - 0.61
4	0.01 - 0.49	0.04 - 0.64	0.00 - 0.23	0.04 - 0.58	0.01 - 0.43	0.05 - 0.69	0.01 - 0.52	0.05 - 0.70
5	0.02 - 0.59	0.05 - 0.53	0.01 - 0.30	0.08 - 0.68	0.01 - 0.49	0.06 - 0.57	0.02 - 0.65	0.06 - 0.60
6	0.05 - 0.35	0.09 - 0.33	0.01 - 0.11	0.05 - 0.18	0.06 - 0.40	0.13 - 0.42	0.06 - 0.36	0.13 - 0.43
7	0.04 - 0.32	0.07 - 0.26	0.02 - 0.16	0.06 - 0.24	0.04 - 0.31	0.08 - 0.28	0.04 - 0.34	0.09 - 0.32
8	0.07 - 0.67	0.09 - 0.64	0.04 - 0.42	0.05 - 0.45	0.08 - 0.71	0.12 - 0.73	0.07 - 0.69	0.13 - 0.76
9	0.01 - 0.23	0.06 - 0.62	0.00 - 0.12	0.04 - 0.49	0.01 - 0.21	0.07 - 0.73	0.01 - 0.25	0.07 - 0.74
10	0.06 - 0.35	0.06 - 0.35	0.02 - 0.13	0.05 - 0.30	0.07 - 0.41	0.07 - 0.39	0.07 - 0.39	0.08 - 0.44
11	0.06 - 0.45	0.06 - 0.42	0.02 - 0.17	0.05 - 0.33	0.06 - 0.47	0.07 - 0.46	0.06 - 0.46	0.08 - 0.50

Abbreviations: OPTN, Organ Procurement and Transplantation Network; DDK, deceased donor kidney; PRA, panel reactive antibodies; Pct, percentile.

Table S3: Correlations between center-level or donation service area-level characteristics and the adjusted probability of deceased donor kidney transplant within 3 years of waitlisting in 2015, by OPTN region

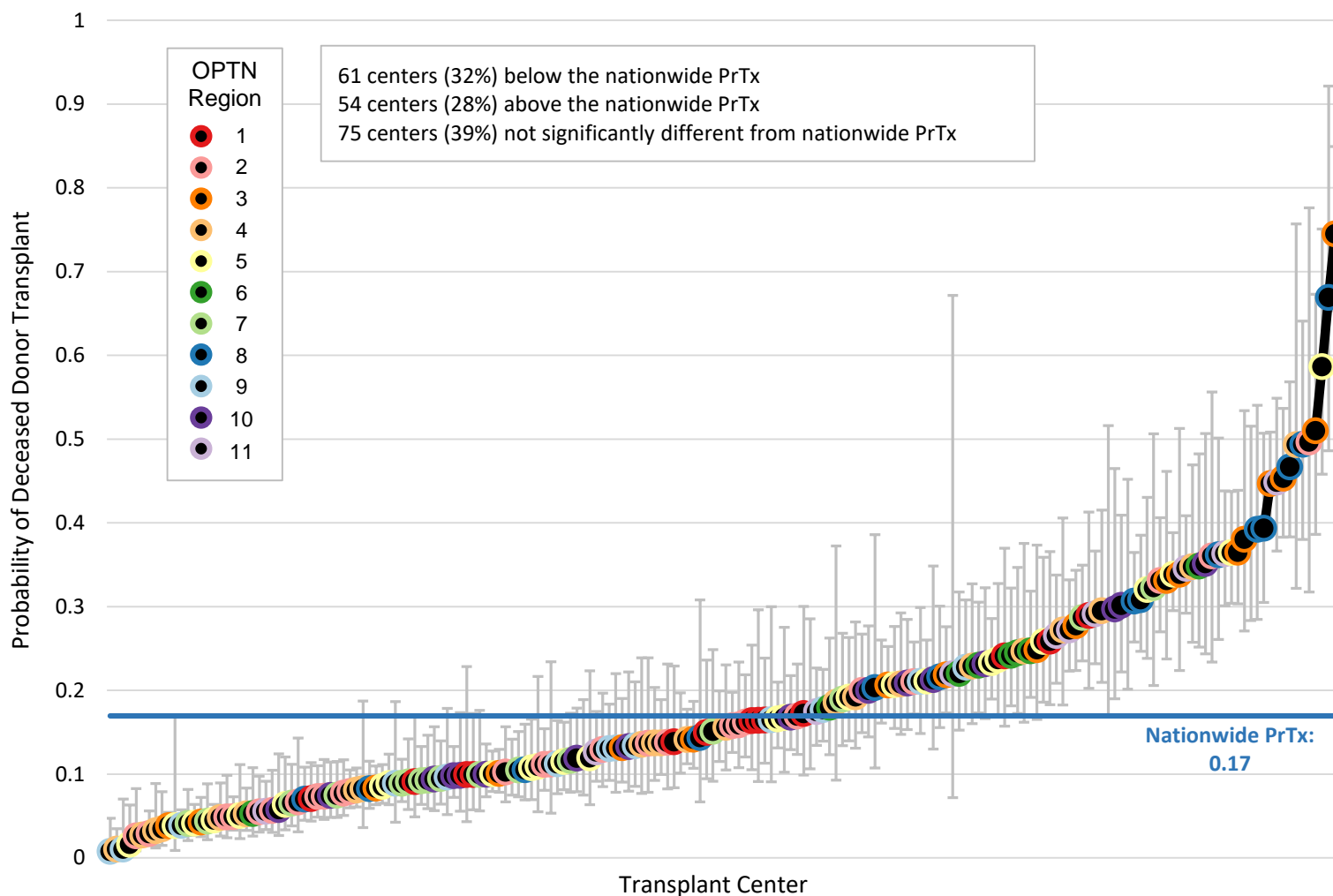
Region	Range in Probability of DDK Tx	Overall OAR		High-KDRI OAR		Hard-to-Place OAR		Center Waitlist Size		% Living Donor Transplants		% of Waitlist Initially Inactive		Local Organ Supply	
		Range	R	Range	R	Range	R	Range	R	Range	R	Range	R	Range	R
1	0.06 - 0.20	0.53 - 2.07	0.40	0.45 - 3.75	-0.01	0.41 - 1.76	0.18	305 - 1,927	-0.12	22 - 63%	-0.50	2 - 73%	0.11	0.25 - 0.31	-0.17
2	0.05 - 0.33	0.26 - 2.33	0.62 ^a	0.18 - 2.56	0.40 ^a	0.16 - 2.94	0.59 ^a	354 - 3,795	-0.08	4 - 49%	-0.09	0 - 88%	-0.25	0.18 - 0.33	-0.16
3	0.04 - 0.55	0.52 - 2.27	0.87 ^a	0.20 - 5.01	0.81 ^a	0.10 - 6.48	0.76 ^a	140 - 5,134	-0.39	0 - 38%	-0.61 ^a	0 - 94%	-0.09	0.17 - 0.75	0.64 ^a
4	0.04 - 0.64	0.29 - 5.14	0.67 ^a	0.20 - 4.44	0.63 ^a	0.12 - 11.29	0.68 ^a	241 - 5,147	-0.44 ^a	6 - 56%	-0.45 ^a	0 - 56%	-0.13	0.14 - 0.71	0.53 ^a
5	0.05 - 0.53	0.37 - 6.92	0.52 ^a	0.24 - 8.35	0.39	0.15 - 21.41	0.68 ^a	345 - 8,888	-0.17	7 - 53%	-0.39	0 - 99%	-0.13	0.14 - 1.46	0.68 ^a
6	0.09 - 0.33	0.50 - 1.22	0.64	0.43 - 1.21	0.48	0.38 - 1.17	0.62	485 - 1,424	0.12	8 - 46%	-0.14	20 - 70%	0.07	0.38 - 0.45	0.55
7	0.07 - 0.26	0.50 - 2.72	0.65 ^a	0.37 - 2.59	0.60 ^a	0.29 - 3.64	0.73 ^a	207 - 2,868	-0.24	23 - 74%	-0.33	1 - 82%	0.52 ^a	0.19 - 0.34	0.03
8	0.09 - 0.64	0.49 - 8.48	0.82 ^a	0.29 - 8.91	0.67 ^a	0.13 - 13.13	0.71 ^a	289 - 2,411	-0.15	6 - 44%	-0.49	0 - 77%	-0.29	0.25 - 0.63	0.14
9	0.06 - 0.62	0.30 - 4.61	0.71 ^a	0.09 - 5.25	0.75 ^a	0.06 - 19.06	0.87 ^a	211 - 3,439	-0.49	10 - 66%	-0.81 ^a	0 - 77%	0.04	0.11 - 0.51	0.48
10	0.06 - 0.35	0.59 - 1.59	0.29	0.38 - 4.08	0.35	0.20 - 2.25	0.48	357 - 2,448	-0.05	9 - 60%	-0.52 ^a	1 - 66%	-0.51	0.31 - 0.73	0.17
11	0.06 - 0.42	0.47 - 2.53	0.62 ^a	0.28 - 2.92	0.50 ^a	0.14 - 4.54	0.42	343 - 2,543	0.14	5 - 43%	-0.54 ^a	0 - 88%	-0.06	0.22 - 0.53	-0.00
All	0.04 - 0.64	0.26 - 8.48	0.54 ^a	0.09 - 8.91	0.48 ^a	0.06 - 21.41	0.55 ^a	140 - 8,888	-0.17 ^a	0 - 74%	-0.50 ^a	0 - 99%	-0.17 ^a	0.11 - 1.46	0.44 ^a

Abbreviations: DDK Tx, Deceased Donor Kidney Transplant; OAR, Offer Acceptance Ratio; KDRI, Kidney Donor Risk Index.

R is the Spearman correlation coefficient between the adjusted probability of transplant and the center practice or organ availability variable.

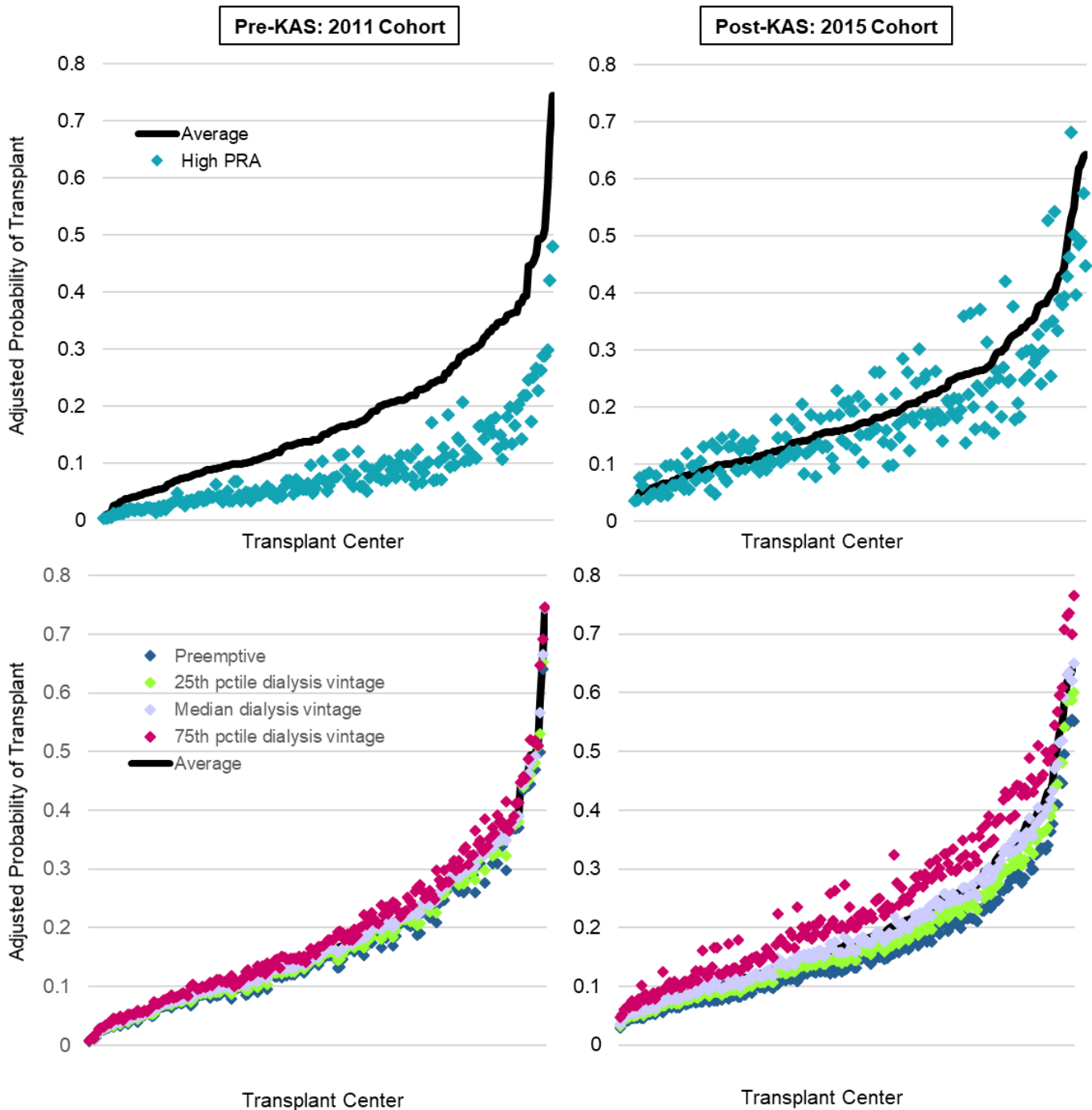
^a p < 0.05

Figure S1: Nationwide distribution of adjusted center-level probability of deceased donor kidney transplant within 3 years of waitlisting in 2011



Probabilities are for the “average patient” (male, non-Black, PRA<98%, no diabetes, non-obese, mean age and dialysis vintage in the region at listing) and ranged from 0.8% to 74.5%. Each dot represents one center, and each color outline represents one OPTN region. Nationwide PrTx is the probability of deceased donor transplant within 3 years for all kidney transplant candidates in the United States added to the waitlist in 2011 in a national model.

Figure S2: Nationwide distribution of adjusted center-level probability of deceased donor kidney transplant within 3 years of waitlisting for highly sensitized candidates (PRA \geq 98%) in the pre-KAS and post-KAS eras, and by dialysis vintage



The “average patient” is male, non-black, non-obese, has PRA<98%, no diabetes, and mean age and dialysis vintage in the region at listing. The High PRA patient has the same characteristics as the average patient except with PRA \geq 98%; the dialysis vintage subgroups of patients differ from the average patient only in the reported amount of time on dialysis at listing (quartiles calculated from national cohorts).

Abbreviations: PRA, Panel Reactive Antibodies; KAS, Kidney Allocation System; Pctile, percentile.

Figure S3: Distribution of unadjusted center-level probability of deceased donor kidney transplant within 3 years of waitlisting in 2011 or 2015 by OPTN region

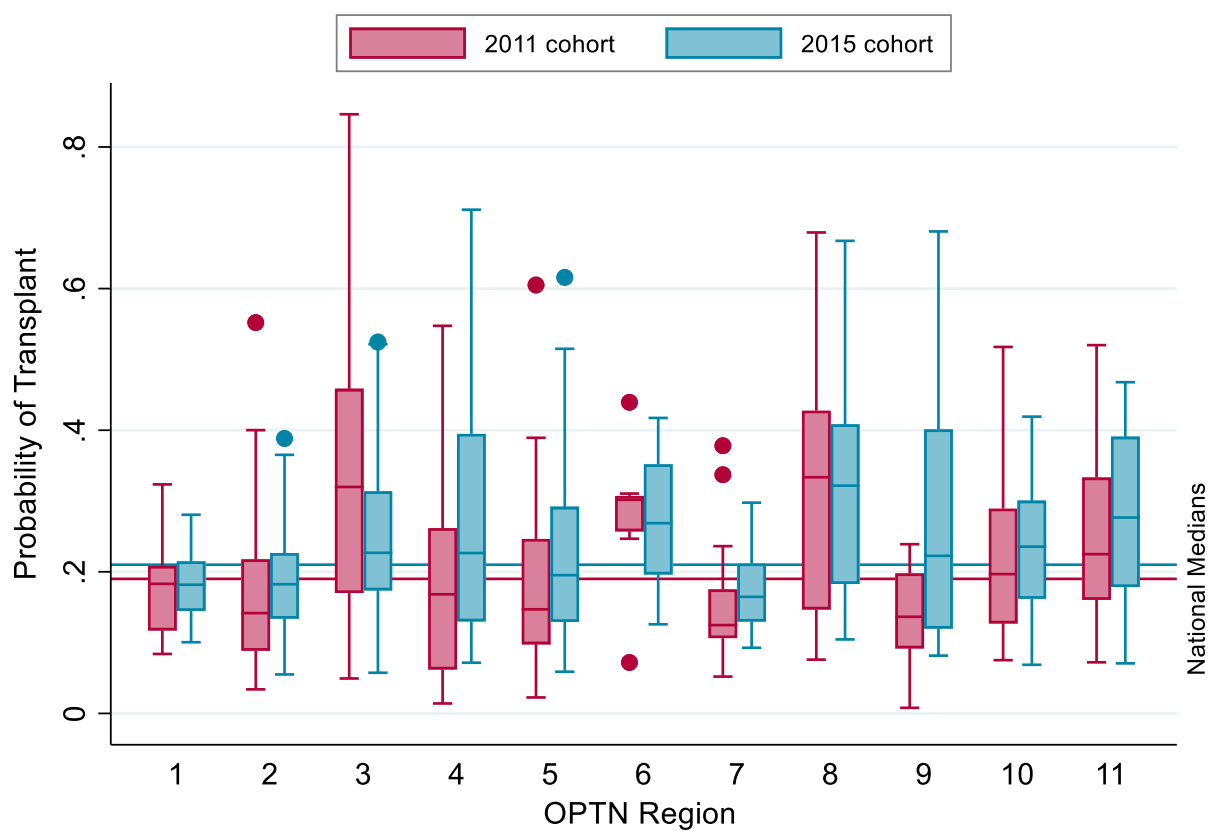


Figure S4: Differences across centers in adjusted probability of deceased donor kidney transplant within 3 years of waitlisting in 2015 for subgroups of candidates, by OPTN region

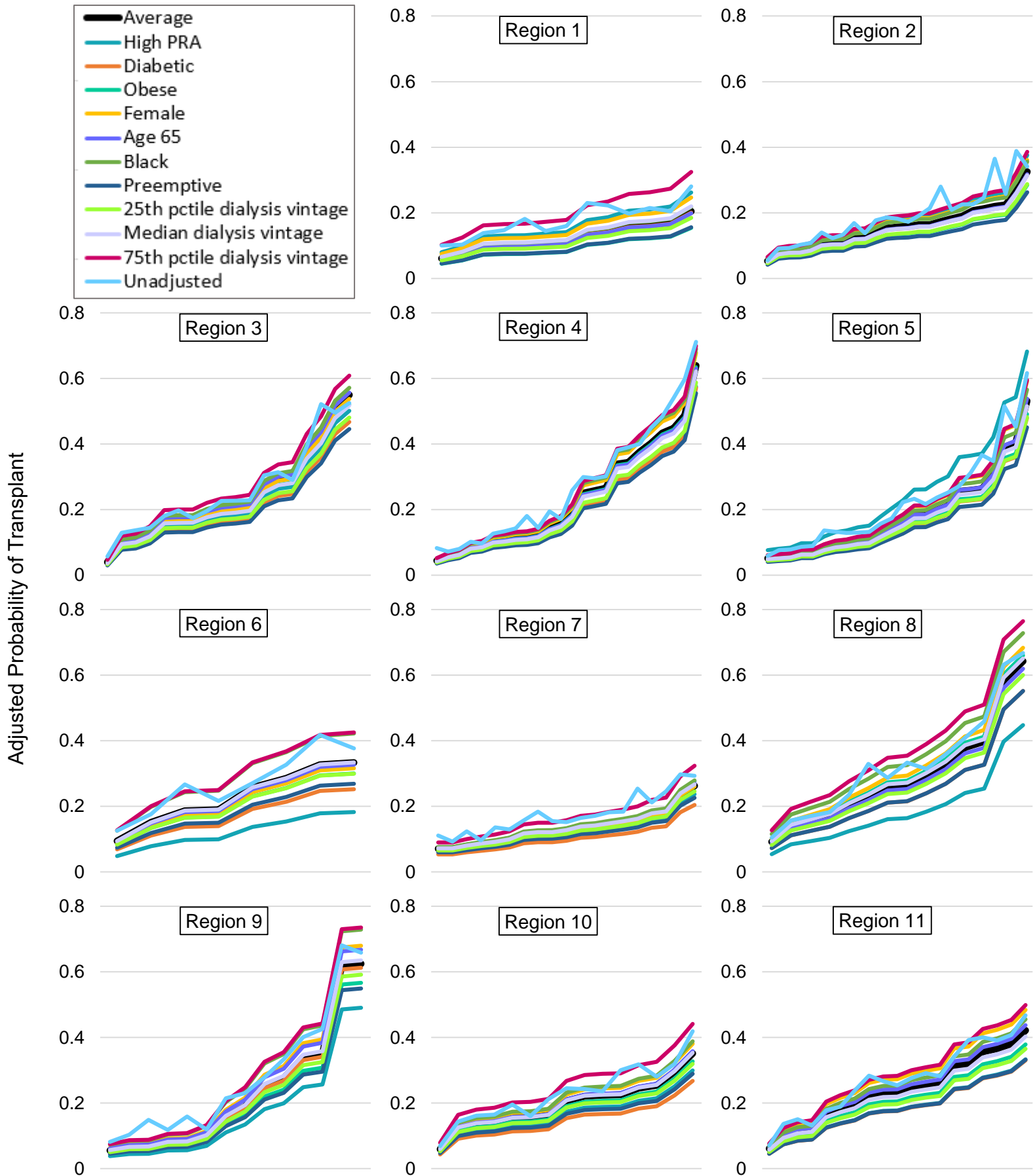


Figure S5: Additional correlation scatterplots between center-level or donation service area-level characteristics and the adjusted probability of deceased donor kidney transplant within 3 years of waitlisting in 2015

