

OPTN Kidney Transplantation

Descriptive Data Request

Eliminate Use of DSA and Region from Kidney Allocation One Year Post-Implementation Monitoring Report

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Executive Summary

This report presents data describing the US organ transplantation system before and after the removal of Donation Service Area (DSA) and OPTN region from deceased donor kidney allocation. The analyses include data on waiting list registrations, transplant recipients, and deceased donors submitted to the OPTN between March 15, 2020 and March 14, 2022. Data are current as of June 24, 2022 and are subject to change based on future submission or correction.

Equity in Access to Transplant

Transplant rates increased by 16% overall after the removal of DSA and OPTN Region from deceased donor kidney allocation. Several subpopulations saw a significant increase in transplant rate after policy implementation. The transplant rates increased by: 63% for pediatric candidates; 23% for Black candidates, 29% for Hispanic candidates, and 20% for Asian candidates; 78% for candidates with CPRA 80-97%; 36% for candidates with 3+ years of dialysis time at listing.

Geography

Median distance between the donor and transplant hospitals for deceased donor kidney transplants increased from 68 to 121 NM after policy implementation. The proportion of transplants at hospitals within 250 NM of the donor hospital increased from 80% to 85%. The proportion of transplant occurring at transplant hospitals outside the DSA of the recovering OPO doubled from 30% to 60%. The number of transplants increased for 31 DSAs and decreased for 26 DSAs.

Efficient Allocation and Utilization of Organs

Median cold ischemic time increased from 17 to 19 hours after policy implementation. The rate of delayed graft function increased from 29% to 31% under the new policy. The overall discard rate for deceased donor kidneys increased from 22% to 25%. Six month post-transplant patient and graft survival did not change.

Background

The OPTN implemented several policy changes on March 15, 2021 in order to remove DSA and region from kidney allocation. The primary policy replaced DSA and region with a 250 nautical mile (NM) fixed circle and added proximity points to a candidate's total allocation score. It also added increased priority for prior living donor and pediatric candidates within 250 NM of the donor hospital.

Three supplemental policies went into effect the same day. The first change provided a rationally determined and consistently applied definition for medical urgency. This definition, and the associated classification, ensures candidates who have exhausted dialysis access, as well as candidates with imminent failure of access to dialysis, can receive the appropriate priority in allocation in an expedient manner.

The second policy change replaced the donor hospital with Seattle-Tacoma (Sea-Tac) International Airport as the center of the 250 NM circle used in the allocation of kidneys recovered in Alaska. This policy change aimed to maximize the utilization of deceased donor organs procured in the state of Alaska and avoid unnecessary delays in placement.

The final policy change sought to provide consistency with the Board-approved changes to remove DSA and region from kidney and pancreas allocation policies. These changes were intended to promote efficiency and organ utilization by providing options for the host OPO when the kidney, pancreas, or kidney-pancreas is released by the originally accepting transplant program. Specific procedure is dependent on the organ in need of reallocation.

Strategic Plan Goal

Increase equity in access to transplant.

Committee Request

These policies will be formally evaluated approximately 3 months, 6 months, 1 year, and 2 years post-implementation. The following metrics, and any subsequently requested by the Committee, will be evaluated as data become available. Appropriate lags will be applied, per typical OPTN conventions, to account for time delay in institutions reporting data to the OPTN and compared to an appropriate pre-policy cohort to assess performance before and after implementation of this policy. To assess the policy's impact on pediatric populations as well as the geographic variation in pediatric populations, when feasible, metrics will be stratified by pediatric age groupings, DSA and OPTN Region.

Any metrics not presented in this report will be examined in a subsequent analysis as data accrue.

Waiting List

1. Total kidney registrations on the waiting list (snapshot by month)
2. Kidney registrations added to the list, overall and by age, gender, ethnicity, CPRA, blood type, diagnosis, time on dialysis, and insurance status at time of listing
3. % of candidates in active status
4. % of candidates multi-listed
5. Waiting list mortality per 100 patient years, overall and by candidate age, gender, ethnicity, CPRA, blood type, diagnosis, EPTS score, and time on dialysis.
6. Deceased donor transplants per 100 active patient years by recipient age, ethnicity, time on dialysis, ABO, CPRA, HLA-ABDR mismatch level, diagnosis, EPTS score, and DSA.

Transplant

1. Donor, recipient and transplant characteristics: number and percent of transplants by recipient age, ethnicity, waiting time (days on the waiting list), time on dialysis, ABO, CPRA, HLA-ABDR mismatch level, diagnosis, EPTS score, KDPI, DCD, inside/outside fixed circle, and cold ischemic time (CIT).
 - Distribution of kidney travel distance (NM), overall and by inside/outside fixed circle
 - Distribution of KDPI by inside/outside fixed circle and pediatric age group (pediatric recipients only)
 - Distribution of KDPI by inside/outside fixed circle and cPRA
 - Distribution of KDPI by inside/outside fixed circle and prior living donor status
 - Distribution of KDPI by inside/outside fixed circle and CIT
2. Change in access by location: N and % of transplants by
 - Share type (local/regional/national)
 - OPTN region
 - Donation Service Area (DSA)
 - Transplant center
 - State
3. Variance in deceased donor transplant rate across DSA
4. Rates of receiving kidney offers per 100 patient years by recipient age, time on dialysis, ethnicity, ABO, CPRA, HLA-ABDR mismatch level, diagnosis, and EPTS score.
5. Rates of delayed graft function (DGF)
6. Number and percent of multi-organ kidney transplants by type (KP, SLK, HR-KI, other), overall and by KDPI

Utilization and Efficiency of Allocation

1. Number kidney donors recovered for transplantation, overall and by KDPI
2. Number and percent of kidneys recovered but not utilized (discarded), overall and by KDPI
3. Number and percent of kidneys discarded by discard reason
4. Number and percent kidneys with a final acceptance
5. Offer acceptance per 100 patient years by recipient age, ethnicity, waiting time (days on the waiting list), time on dialysis, ABO, CPRA, diagnosis, EPTS score, DCD, and inside/outside fixed circle among organs with a final acceptance.
6. Distribution of sequence number of final acceptor
7. Distribution of time between electronic offer and cross-clamp
8. Number and percent by CPRA, of kidney offers refused due to a positive cross-match
9. Number of candidates transplanted with medically urgent classification, overall and sorted by KDPI

Outcomes

Post-transplant graft and patient survival rates, overall and stratified by recipient age, gender, ethnicity, CPRA, blood type, diagnosis, time on dialysis, HLA-ABDR mismatch, EPTS score, KDPI, and CIT. These data will be presented in a future report, once sufficient data have accrued.

Medical Urgency

Overall and by OPTN Region:

1. Number and percentage of candidates on the waiting list who received medically urgent allocation priority, overall and by candidate characteristics including:
 - Calculated panel reactive antibody score (%)
 - Expected post-transplant survival score (%)
 - Age group
 - Primary vs. repeat transplant
 - Time on dialysis
2. Distribution of time in medical urgency classification before WL removal (minimum, 25th percentile, mean, standard deviation, median, 75th percentile, maximum)
3. Waiting list outcomes for candidates placed in medical urgency status including:
 - Number and percentage of waiting list removals by removal reason
 - Median time to transplant calculated using the competing risks extension of Kaplan Meier survival
 - Number and percentage of deceased donor kidney transplants by kidney donor profile index sequence (0-20%, 21-34%, 35-85%, 86-100%)
4. National unadjusted post-transplant graft and patient survival for medically urgent transplant recipients (compared to non-medically urgent transplants)
5. National delayed graft function rates for medically urgent transplant recipients (compared to non-medically urgent transplants)

Donors Recovered in Alaska

1. N and % of kidney and pancreas donors recovered in Alaska
2. N and % of kidneys and pancreata recovered in Alaska
3. N and % of kidney and pancreas transplants performed from donors recovered in Alaska
4. N and % of kidneys and pancreata transplanted inside/outside fixed circle of Sea-Tac.
5. Distribution of kidney and pancreas travel distance (NM) for transplants performed from donors recovered in Alaska

Released Organs

For Kidney, Kidney-Pancreas, and Pancreas Donors/Organs:

1. Overall and by OPTN Region (and KDPI if KI or KP)
 - N/% of organs with a final acceptance
 - N/% of organs for which an acceptance came from an import match run
 - N/% of kidneys for which an acceptance came from a released match run (KI only)
2. For accepted organs (overall and stratified by OPTN region, donor KDPI, and accepting patient CPRA)
 - Transplanted with the accepting candidate
 - Transplanted with a different candidate at the accepting center
 - Transplanted at a different center
 - Discarded

Data and Methods

Data Sources

This analysis is based on OPTN data as of June 24, 2022. Candidate information was submitted through the OPTN Waiting List and on the Transplant Candidate Registration (TCR). Recipient and transplant data were submitted on the Transplant Recipient Registration (TRR). Donor data were submitted via the OPTN Donor Data and Matching System and on the Deceased Donor Registration (DDR). Match run data were submitted through the OPTN Donor Data and Matching System. Data are subject to change based on future submission or correction.

Cohort

All kidney alone registrations added to the waiting list, ever waiting, or transplanted between March 15, 2020 and March 14, 2022 were included in this analysis, as were all deceased kidney donors recovered during this time. We also looked at all deceased donor kidney offers sent over this period.

Policy eras were defined as:

- Pre-Policy: March 15, 2020 to March 14, 2021
- Post-Policy: March 15, 2021 to March 14, 2022

Methods

Waiting list mortality rates were defined as the number of deaths on the waiting list divided by the total amount of time on the waiting list (active or inactive) for registrations ever waiting between March 15, 2020 and March 14, 2022. These results are presented as deaths per 100 patient years. Deaths were defined as:

- Removals from the waiting list due to death
- Death within 14 days of waiting list removal as reported to the OPTN or identified via verified external sources.

Transplant rates were defined as the number of waiting list removals due to deceased donor kidney transplant divided by the total amount of time on the waiting list in active status for registrations ever waiting during the study period. These results are presented as transplants per 100 active patient years.

Post-transplant patient and death-censored graft survival were calculated using the Kaplan-Meier survival estimate. Due to insufficient follow-up and concerns about informative censoring, this report only looks at survival for deceased donor kidney transplants through September 30, 2021.

Discard rates were defined as the number of deceased donor kidneys recovered for the purpose of transplant, but not transplanted, divided by the total number of kidneys recovered for transplant.

Utilization rates were defined as the number of kidneys transplanted divided by the total number of available kidneys. All donors were assumed to have two transplantable kidneys.

To determine the disposition of kidneys with a final acceptance, we identified the first kidney or kidney-pancreas acceptance for each donor's left and right kidney (sometimes accepted together). The first acceptance was constrained to match runs submitted during the cohort. These acceptances were then cross-referenced against the reported transplants from the donor ID. Each accepted kidney was then classified as being transplanted with the accepting patient, a different patient at the accepting center, a patient at a different center, discarded, or not recovered.

Offer rates were defined as the number of offers from kidney match runs divided by the total amount of time in active status on the waiting list for kidney registrations ever waiting during the study period. These results are presented as offers per active patient year. This analysis only includes match runs with a final acceptance, and does not include offers after the final acceptance.

Acceptance rates were defined as the number of offers with a final acceptance divided by the total number of offers from kidney match runs. These results are presented as acceptances per 1000 offers.

Note on the COVID-19 Pandemic

The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020 and a national state of emergency was declared in the U.S. on March 13, 2020. All of the data cited in this report were reported to the OPTN after the declaration of this national emergency. Given the impact that has been seen on the U.S. (see data trends at unos.org/covid), the true impact of this policy change may be very challenging to determine.

Results

Equity in Access to Transplant

Figure 1 and **Table 1** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era. The overall deceased donor kidney transplant rate increased from 31 to 37 transplants per 100 active patient years after policy implementation.

Figure 1: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era

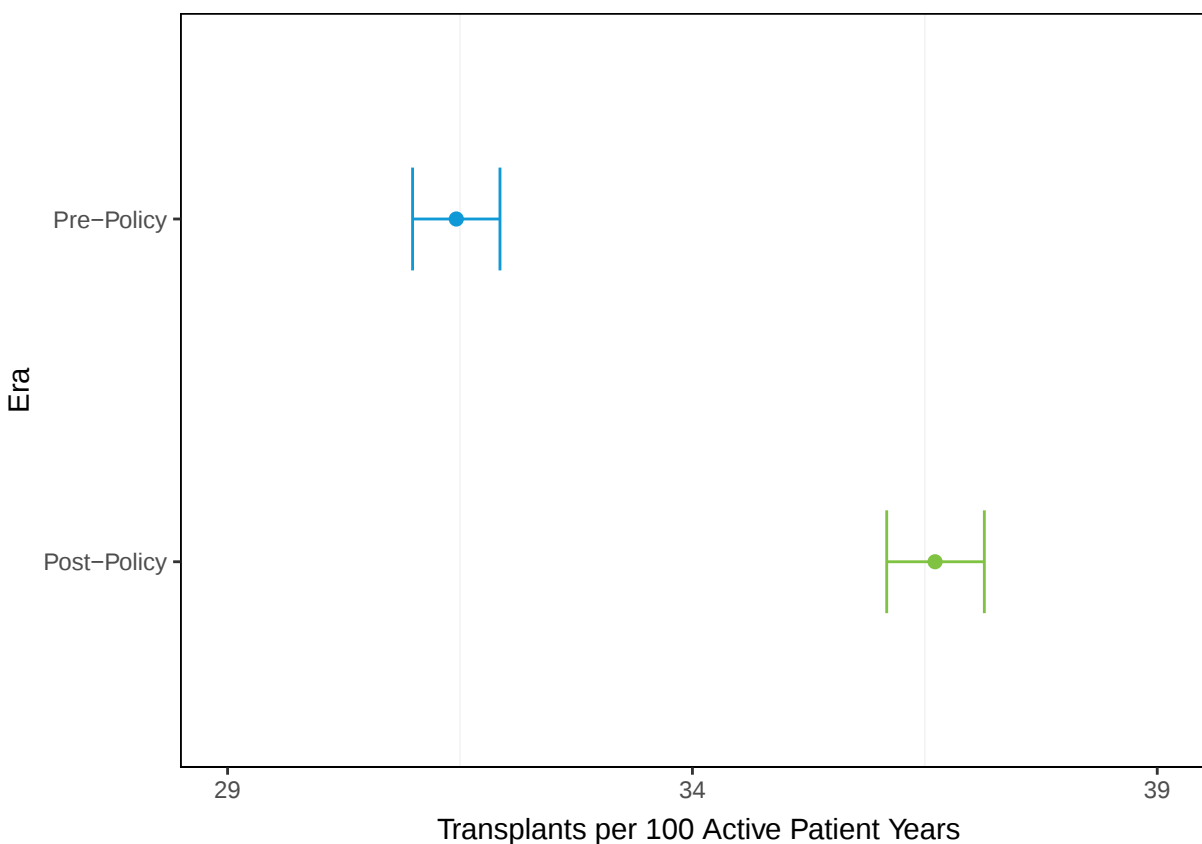


Table 1: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era

Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
Pre-Policy	91891	17374	31.46	(30.99, 31.93)
Post-Policy	91032	18880	36.61	(36.09, 37.14)

Figure 2 and **Table 2** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and age at listing. Transplant rates increased across all age groups after policy implementation.

Figure 2: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing For Adult Candidates

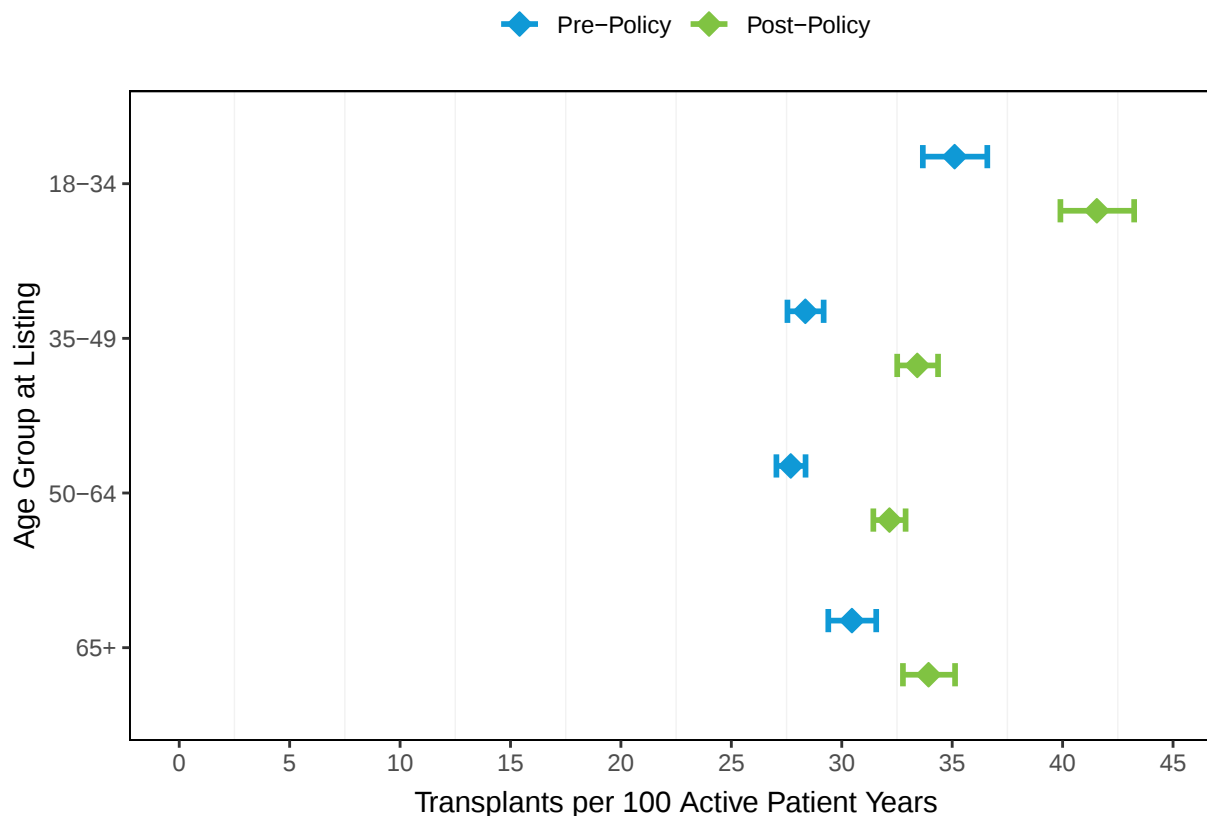


Table 2: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

Age at Listing	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
18-34	Pre-Policy	11006	2242	35.11	(33.67, 36.59)
	Post-Policy	10661	2409	41.55	(39.9, 43.24)
35-49	Pre-Policy	26807	4616	28.35	(27.54, 29.18)
	Post-Policy	26425	5051	33.42	(32.51, 34.36)
50-64	Pre-Policy	41505	6895	27.69	(27.04, 28.36)
	Post-Policy	40792	7491	32.16	(31.43, 32.89)
65+	Pre-Policy	17627	3057	30.46	(29.39, 31.56)
	Post-Policy	17733	3228	33.93	(32.77, 35.13)

Figure 3 and **Table 3** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and ethnicity. Transplant rates increased for Black, Hispanic, and Asian candidates after policy implementation. Transplant rates did not change for White candidates or candidates of other race/ethnicity.

Figure 3: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

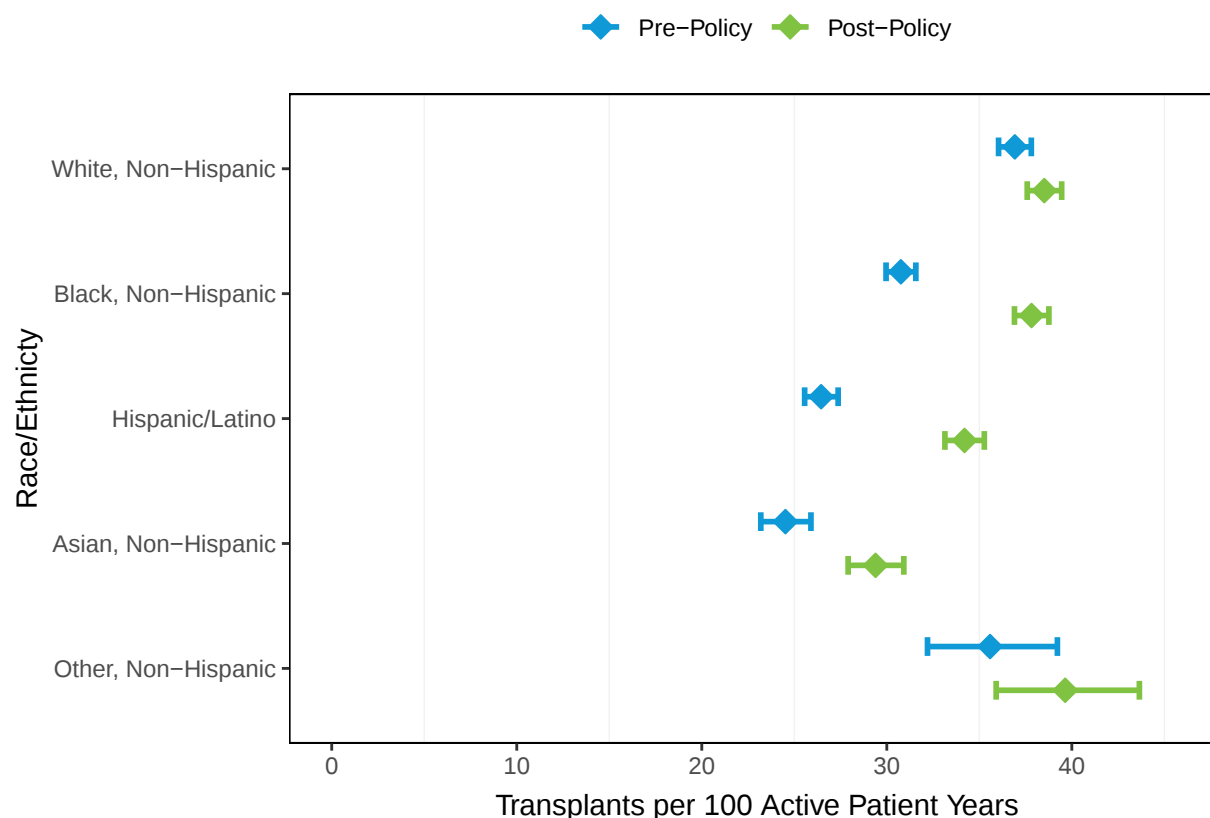
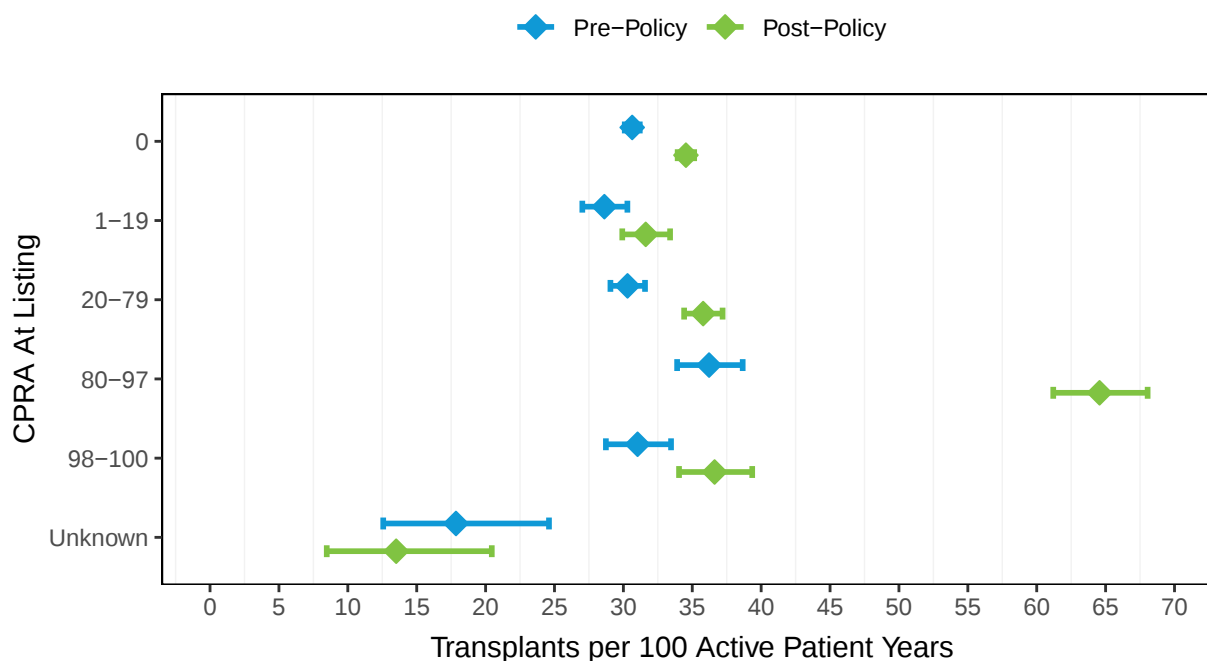


Table 3: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

Ethnicity	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
White, Non-Hispanic	Pre-Policy	33212	6736	36.92	(36.04, 37.81)
	Post-Policy	32846	6602	38.51	(37.59, 39.45)
Black, Non-Hispanic	Pre-Policy	29351	5639	30.76	(29.96, 31.57)
	Post-Policy	29033	6391	37.82	(36.9, 38.76)
Hispanic/Latino	Pre-Policy	19822	3315	26.45	(25.56, 27.37)
	Post-Policy	19622	3997	34.20	(33.14, 35.27)
Asian, Non-Hispanic	Pre-Policy	7990	1279	24.52	(23.19, 25.9)
	Post-Policy	8079	1477	29.39	(27.91, 30.92)
Other, Non-Hispanic	Pre-Policy	2033	405	35.58	(32.2, 39.22)
	Post-Policy	1941	413	39.64	(35.91, 43.65)

Figure 4 and **Table 4** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and CPRA at listing. The largest increase in transplant rate was seen for registrations with CPRA 80-97% at listing, going from 36 to 65 transplants per 100 active patient years. Transplant rates also increased for registrations with CPRA 0% and 20-79%.

Figure 4: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing



Candidates with unknown CPRA at listing were listed prior to October 1st, 2009, when CPRA was implemented in allocation

Table 4: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing

CPRA	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
0	Pre-Policy	66882	12299	30.64	(30.1, 31.19)
	Post-Policy	65393	12889	34.54	(33.94, 35.14)
1-19	Pre-Policy	7161	1193	28.62	(27.02, 30.29)
	Post-Policy	7423	1294	31.62	(29.92, 33.39)
20-79	Pre-Policy	12716	2267	30.30	(29.06, 31.57)
	Post-Policy	13005	2550	35.79	(34.41, 37.2)
80-97	Pre-Policy	4408	905	36.22	(33.9, 38.66)
	Post-Policy	4451	1383	64.56	(61.2, 68.05)
98-100	Pre-Policy	3576	676	31.03	(28.73, 33.46)
	Post-Policy	3598	746	36.62	(34.04, 39.35)
Unknown	Pre-Policy	274	37	17.85	(12.57, 24.6)
	Post-Policy	201	22	13.51	(8.47, 20.45)

Figure 5 and **Table 5** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and time on dialysis at listing. Groupings are based on the 25th, 50th, and 75th percentiles of dialysis time. Transplant rates increased for pre-emptively listed candidates, as well as candidates with at least 9 months of dialysis time at listing. The largest change was seen for candidates with 3 or more years of dialysis time at listing, for whom the transplant rate increased from 66 to 90 transplants per 100 active patient years.

Figure 5: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Time on Dialysis at Listing

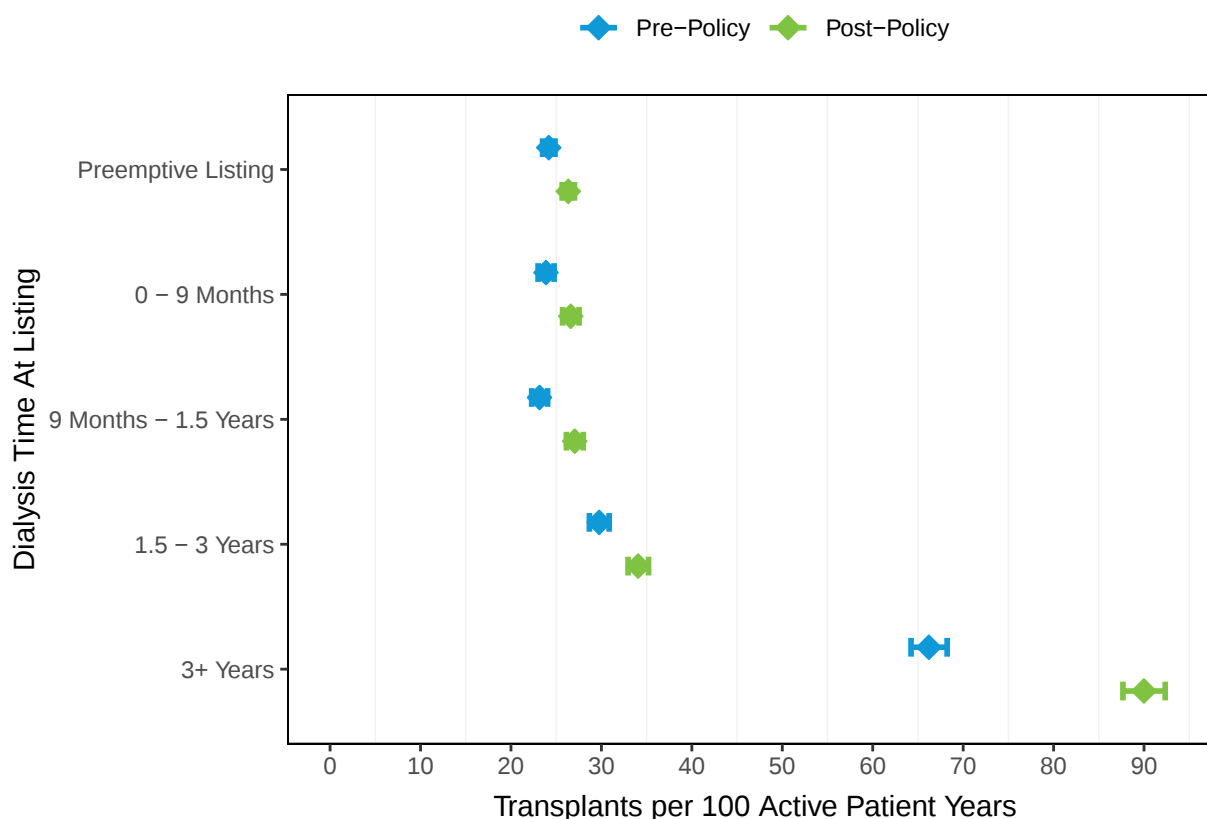


Table 5: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Time on Dialysis at Listing

Dialysis Time	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
Preemptive Listing	Pre-Policy	32497	4784	24.18	(23.5, 24.87)
	Post-Policy	33439	5810	26.34	(25.66, 27.02)
0 - 9 Months	Pre-Policy	19251	2829	23.87	(23, 24.77)
	Post-Policy	18681	3322	26.61	(25.71, 27.53)
9 Months - 1.5 Years	Pre-Policy	18553	2664	23.16	(22.29, 24.05)
	Post-Policy	18088	3297	27.05	(26.13, 27.99)
1.5 - 3 Years	Pre-Policy	16349	2854	29.75	(28.67, 30.86)
	Post-Policy	16478	3531	34.06	(32.95, 35.21)
3+ Years	Pre-Policy	13650	4253	66.21	(64.24, 68.23)
	Post-Policy	13819	5737	89.99	(87.67, 92.34)

Geography

Figure 6 and **Table 6** show the distribution of distance in NM between the transplant and donor hospitals for deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era. Median distance between the transplant and donor hospitals increased from 68 NM to 121 NM after policy implementation.

Figure 6: Distribution of Distance from Donor Hospital for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

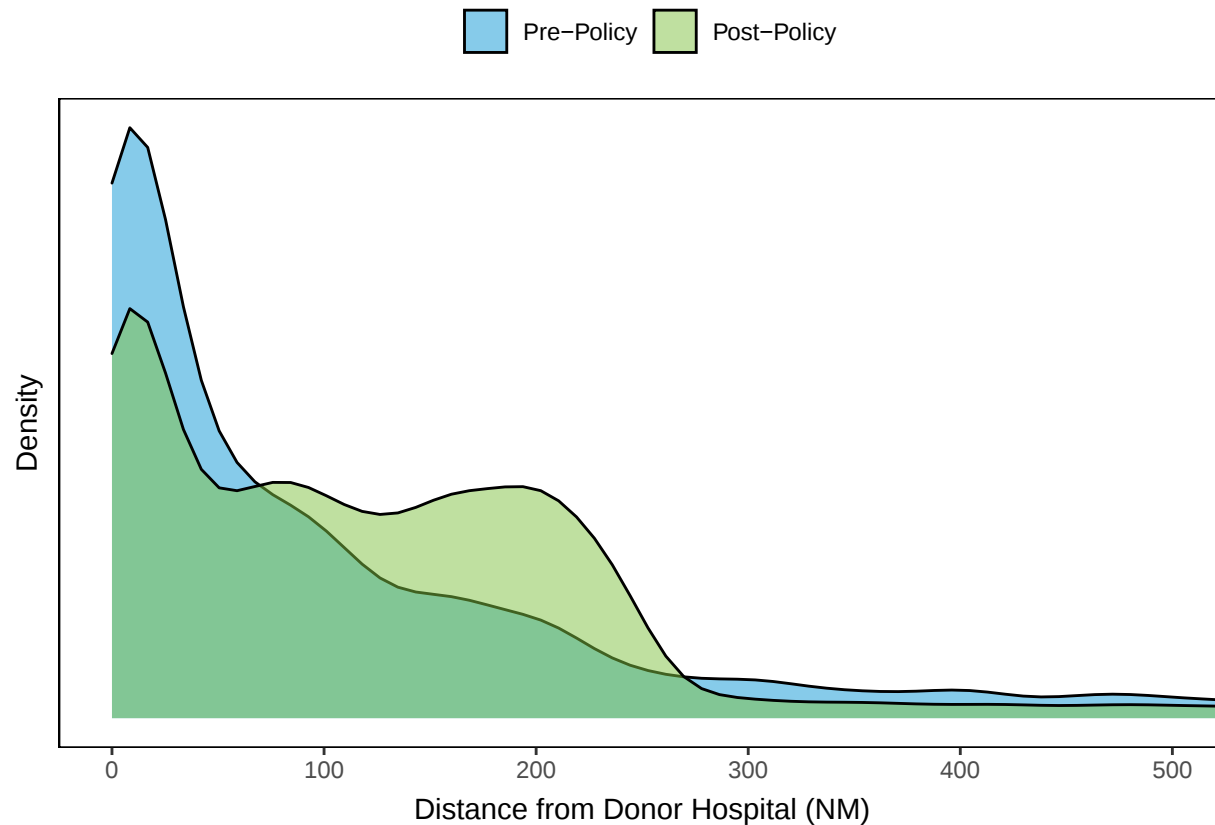


Table 6: Distribution of Distance from Donor Hospital for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	17398	0	0	10	68	201	200	4305
Post-Policy	18910	0	0	33	121	212	207	4241

Figure 7 and **Table 7** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and distance from the transplant hospital to the donor hospital. The proportion of transplants within 250 NM of the donor hospital increased from 80% to 85% after policy implementation.

Figure 7: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Distance from Donor Hospital

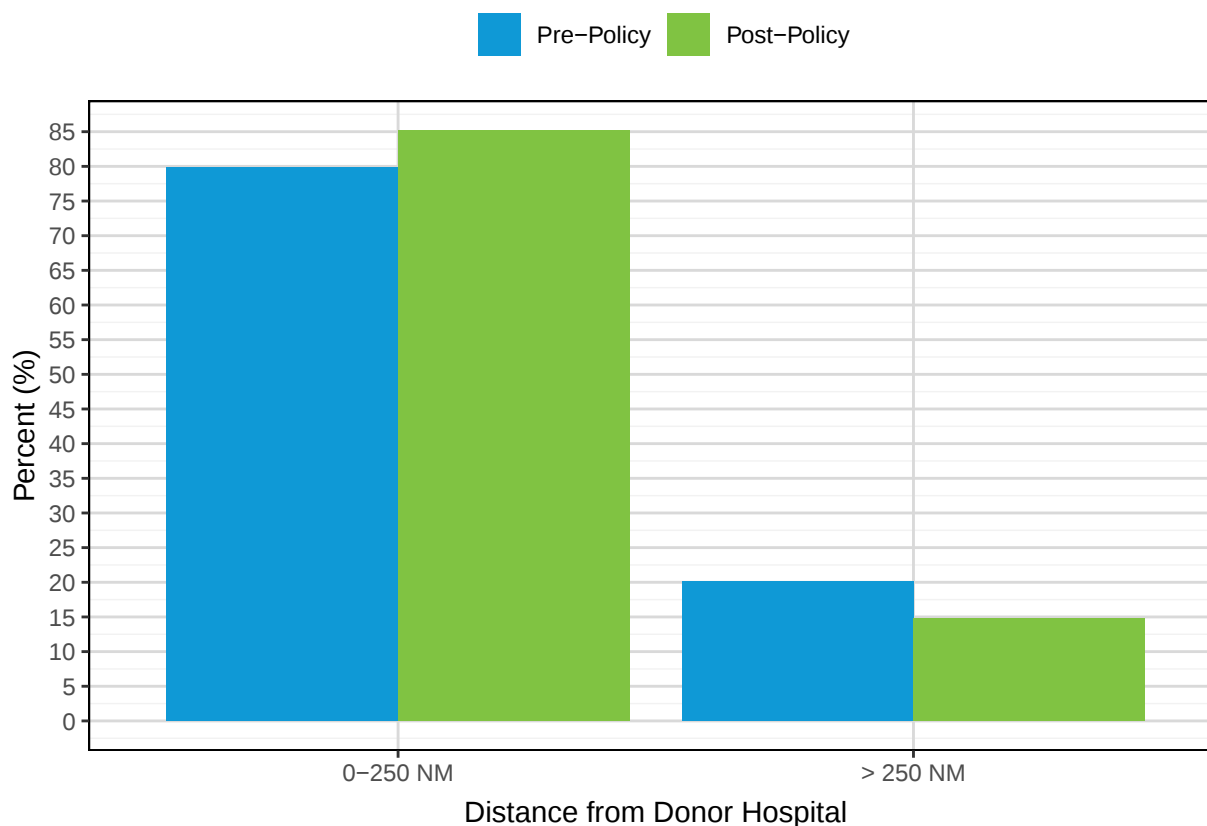


Table 7: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Distance from Donor Hospital

Distance	Pre-Policy		Post-Policy	
	N	%	N	%
0-250 NM	13889	79.83	16108	85.18
> 250 NM	3509	20.17	2802	14.82
Total	17398	100.00	18910	100.00

Figure 8 and **Table 8** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and share type. The proportion of transplants using kidneys recovered in the same DSA as the transplant hospital decreased from 71% to 40% after the policy change. The proportion of regional and national shares increased from 15% to 28% and 14% to 32% respectively.

Figure 8: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Share Type

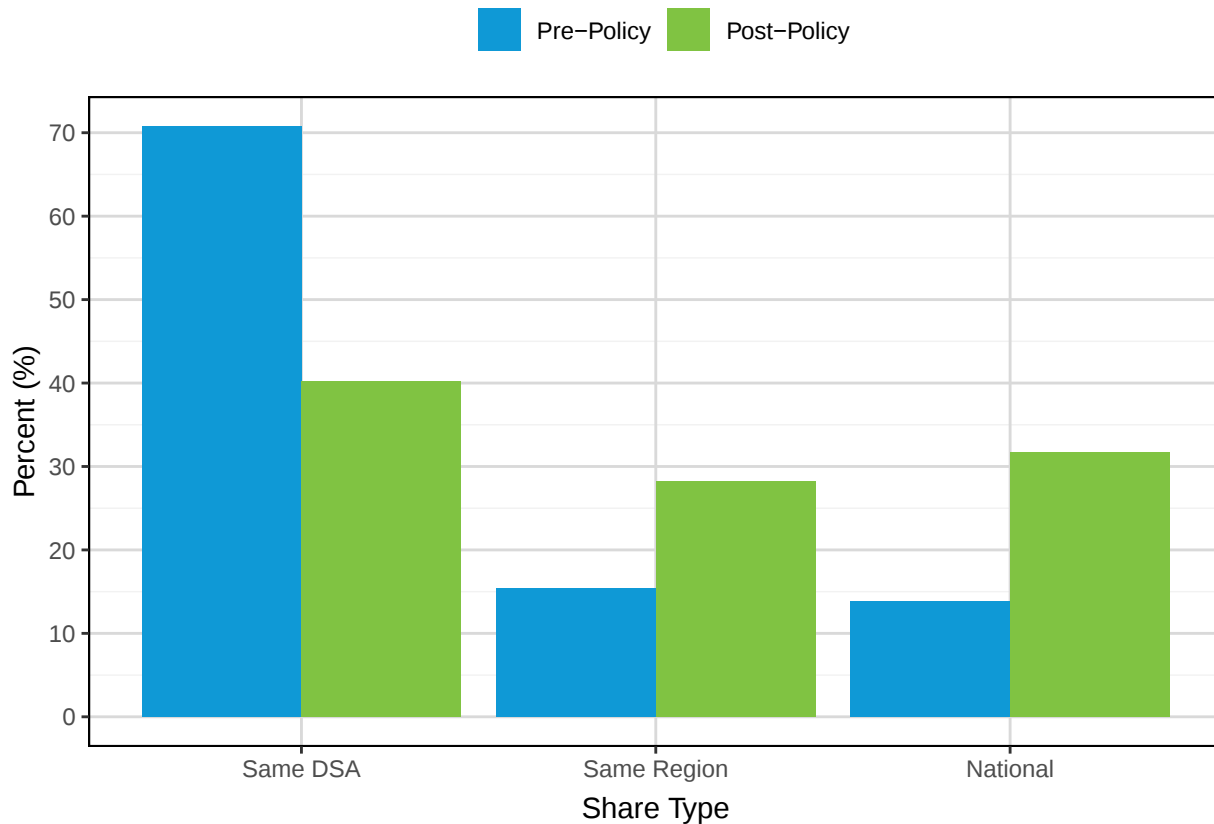


Table 8: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Share Type

Share Type	Pre-Policy		Post-Policy	
	N	%	N	%
Same DSA	12312	70.77	7593	40.15
Same Region	2671	15.35	5327	28.17
National	2415	13.88	5990	31.68
Total	17398	100.00	18910	100.00

Figure 9 and **Table 9** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and OPTN region. The total number of transplants decreased after policy implementation in Regions 2, 6, 8, and 11. Transplant increased in the remaining regions.

Figure 9: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and OPTN Region

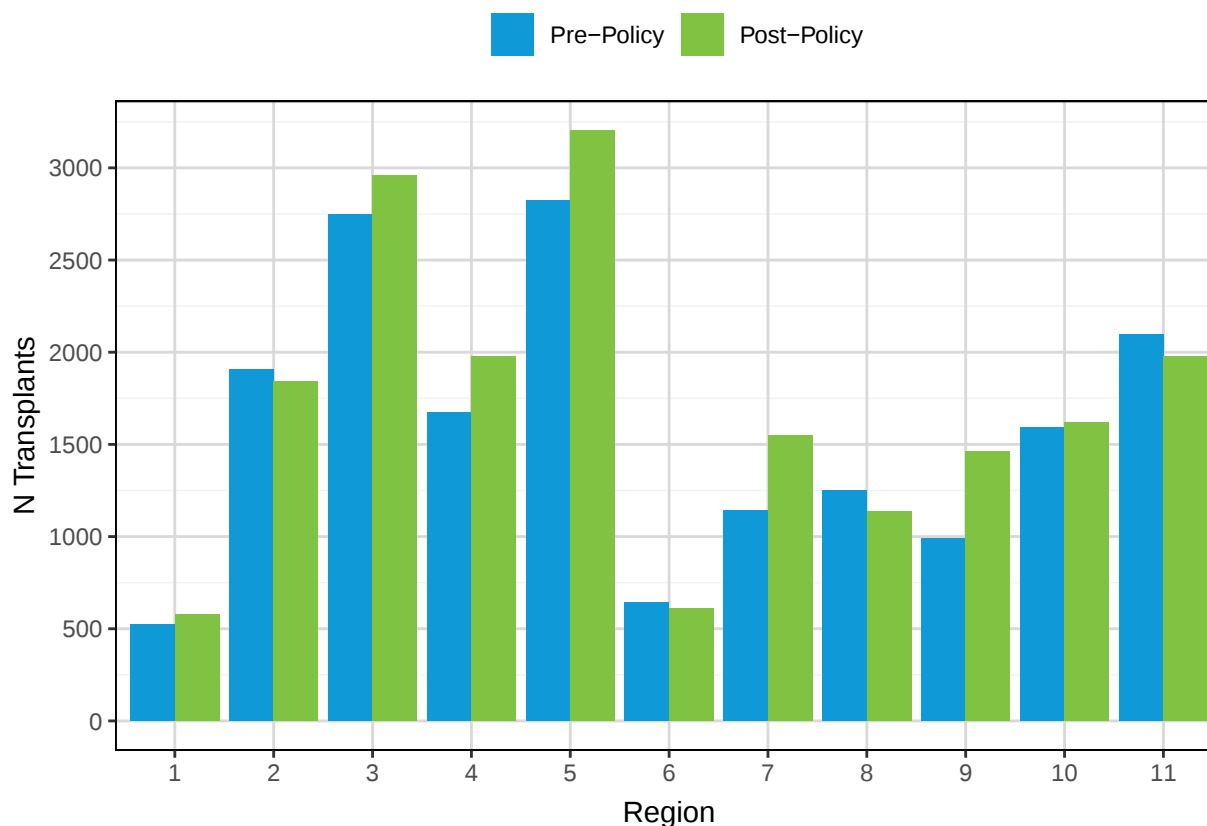


Table 9: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and OPTN Region

Region	Pre-Policy		Post-Policy	
	N	%	N	%
1	525	3.02	577	3.05
2	1909	10.97	1841	9.74
3	2749	15.80	2958	15.64
4	1676	9.63	1975	10.44
5	2823	16.23	3203	16.94
6	643	3.70	608	3.22
7	1142	6.56	1550	8.20
8	1252	7.20	1138	6.02
9	990	5.69	1464	7.74
10	1592	9.15	1618	8.56
11	2097	12.05	1978	10.46
Total	17398	100.00	18910	100.00

Figure 10 shows deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and DSA. The number of transplants increased in 31 DSAs after policy implementation, and the number of transplants decreased in 26 DSAs. A table showing transplants by policy era and DSA is provided in the **Appendix**.

Figure 10: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and DSA

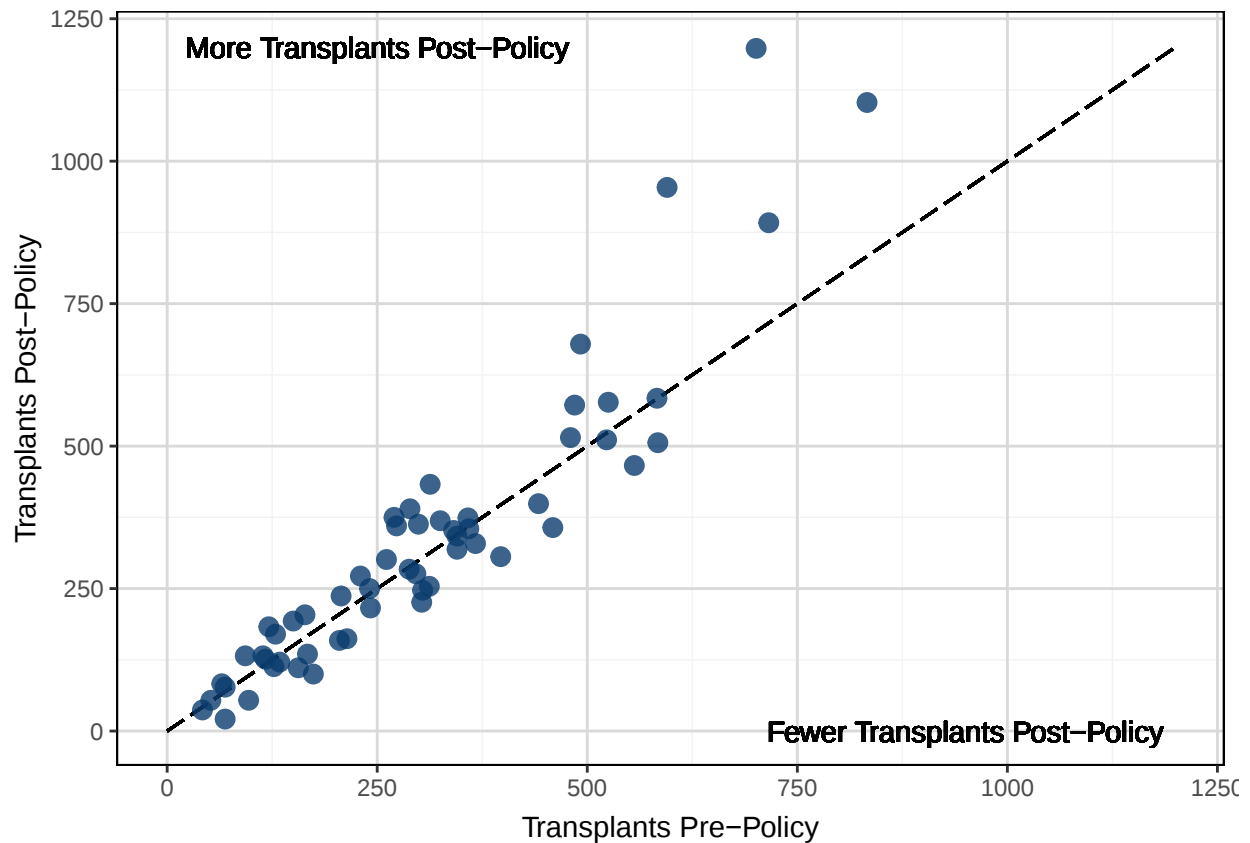


Figure 11 and **Table 10** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and listing DSA. Transplant rates ranged from 14.47 to 184.34 transplants per 100 active patient years pre-policy and 15.97 to 325.91 post-policy. A table showing transplant rates by policy era and DSA is provided in the **Appendix**.

Figure 11: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Listing DSA

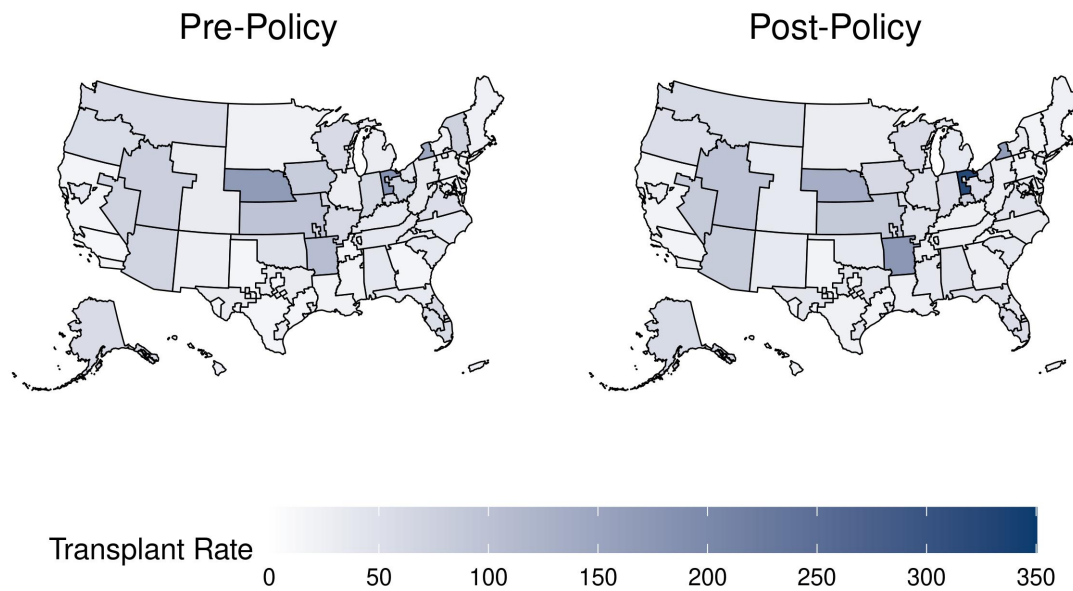


Figure 12 shows deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and transplant center. The number of transplants increased at 136 centers after policy implementation, and the number of transplants decreased at 93 centers. A table showing transplants by policy era and transplant center is provided in the **Appendix**.

Figure 12: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Transplant Center

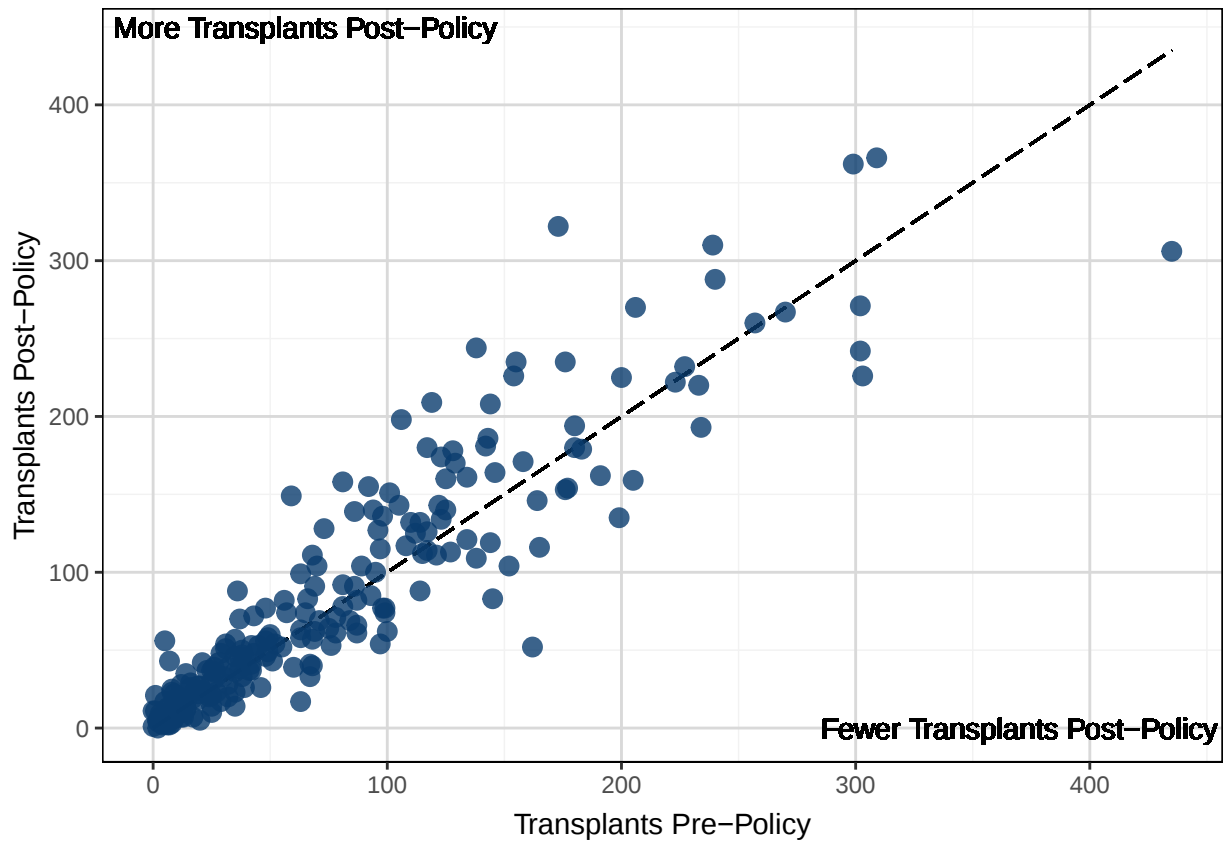
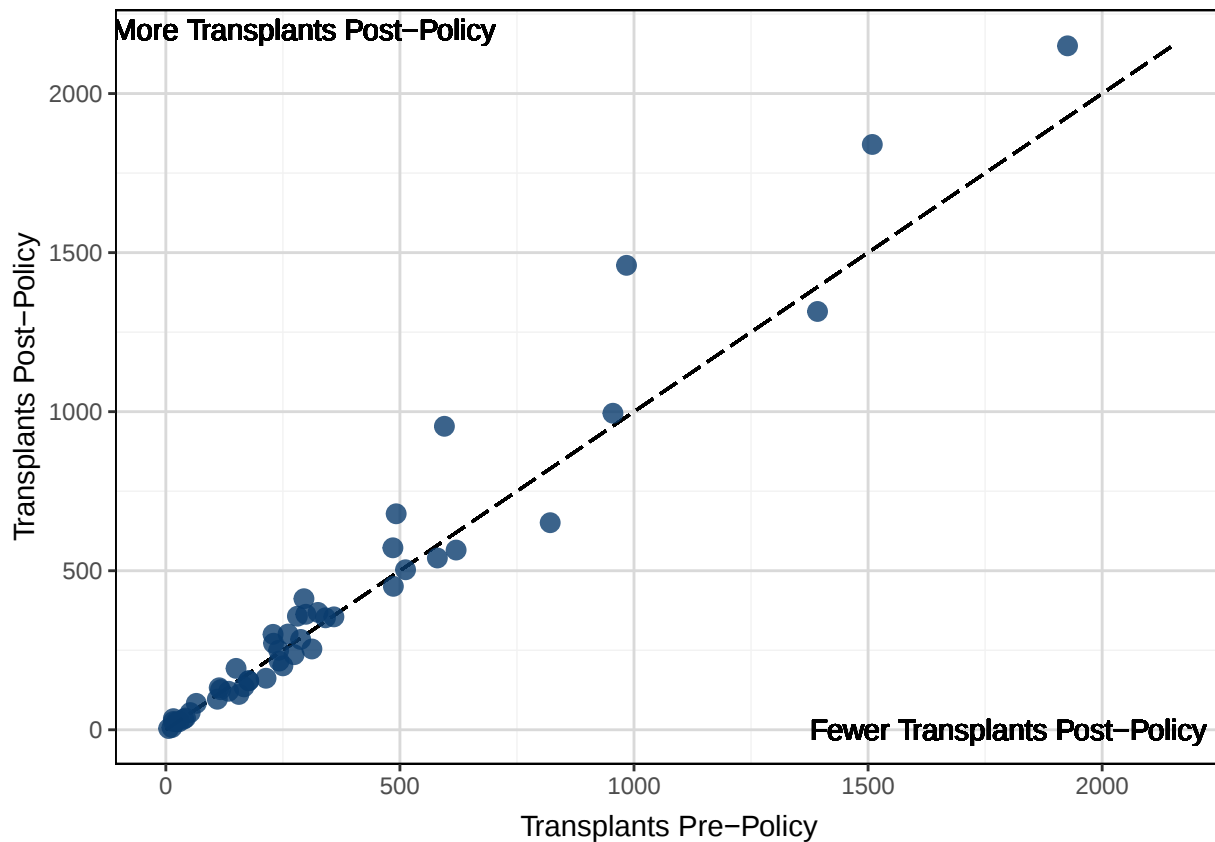


Figure 13 shows deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and state including the District of Columbia and Puerto Rico. The number of transplants increased in 24 states after policy implementation, and the number of transplants decreased in 24 states. There are no active kidney transplant programs in Alaska, Idaho, Montana, or Wyoming. A table showing transplants by policy era and state is provided in the **Appendix**.

Figure 13: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and State



Efficient Allocation and Utilization of Organs

Figure 14 and **Table 10** show the distribution of cold ischemic time in hours for deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era. Median cold ischemic time increased from 17 to 19 hours after policy implementation. Cold ischemic time was missing for less than 1% of transplants pre-policy and 1.3% of transplants post-policy.

Figure 14: Distribution of Cold Ischemic Time (Hours) for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

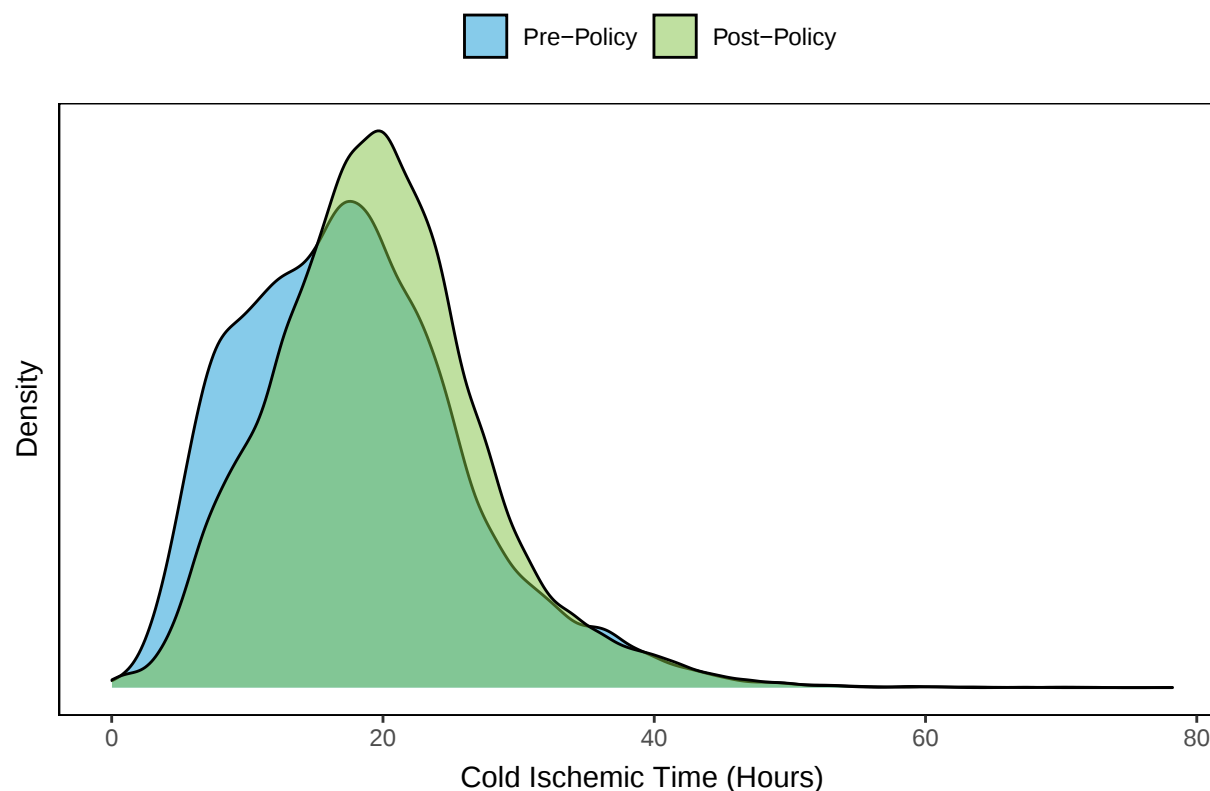


Table 10: Distribution of Cold Ischemic Time (Hours) for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	17398	112	0	11.5	17.1	17.8	22.6	67.65
Post-Policy	18910	214	0	14.4	19.3	19.7	24.0	78.20

Figure 15 and **Table 11** show rate of delayed graft function for deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era. The rate of delayed graft function was 29% pre-policy and 31% post-policy.

Figure 15: Rate of Delayed Graft Function for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

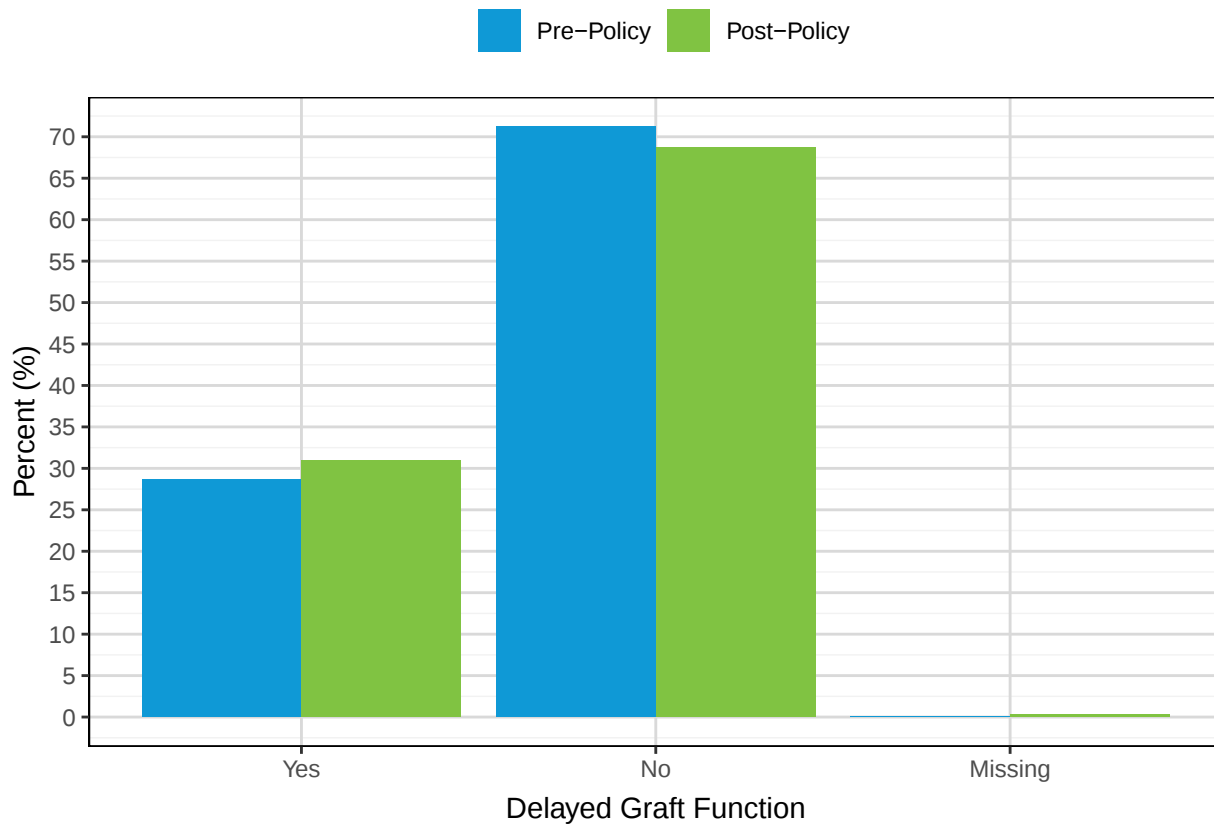


Table 11: Rate of Delayed Graft Function for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Delayed Graft Function	Pre-Policy		Post-Policy	
	N	%	N	%
Yes	4989	28.68	5853	30.95
No	12393	71.23	12998	68.74
Missing	16	0.09	59	0.31
Total	17398	100.00	18910	100.00

Figure 16 and **Table 12** show discard rates for deceased donor kidney recovered from March 15, 2020 to March 14, 2022 by policy era and KDPI. Overall the kidney discard rate increased from 22% to 25% post-policy.

Figure 16: Discard Rates for Deceased Donor Kidneys Recovered March 15, 2020 - March 14, 2022 by Policy Era and KDPI

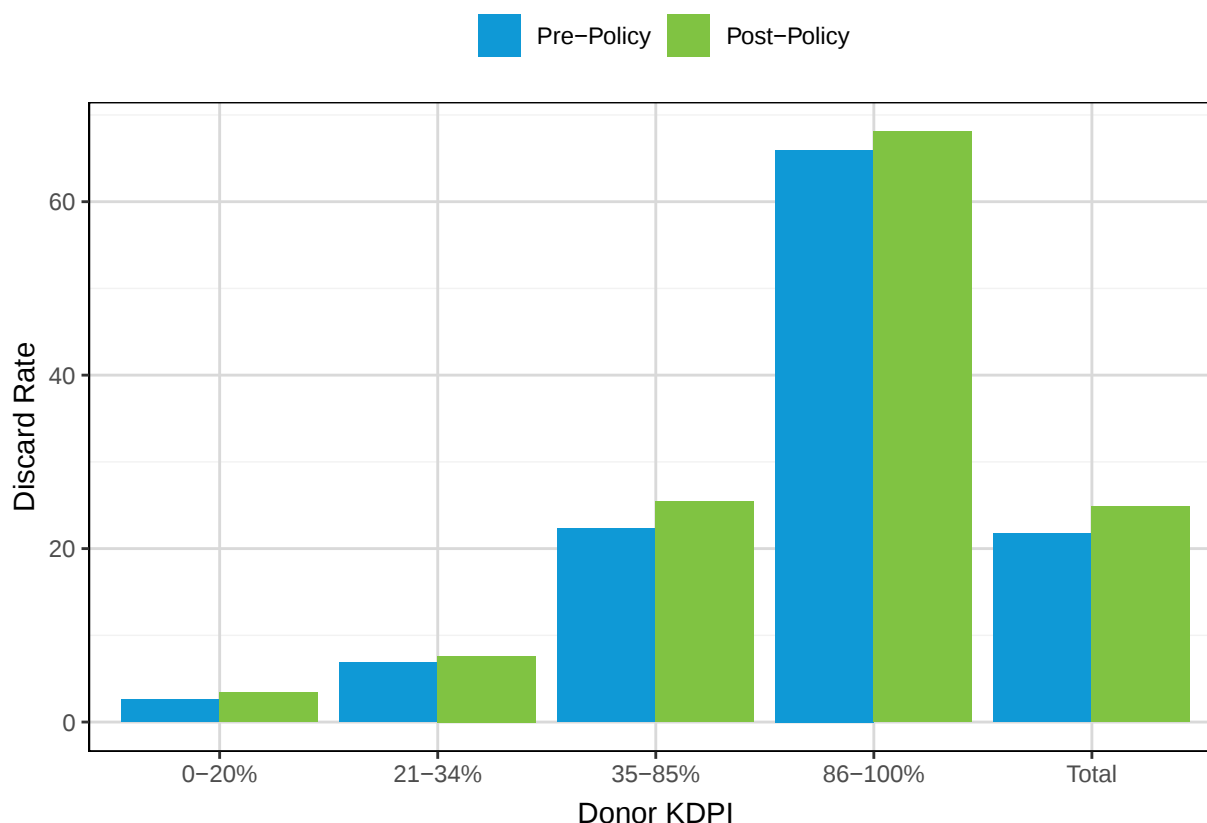


Table 12: Discard Rates for Deceased Donor Kidneys Recovered March 15, 2020 - March 14, 2022 by Policy Era and KDPI

KDPI	Pre-Policy			Post-Policy		
	Kidneys Recovered	Kidneys Not TXed	Discard Rate	Kidneys Recovered	Kidneys Not TXed	Discard Rate
0-20%	5009	130	2.60	5361	181	3.38
21-34%	3528	241	6.83	3677	280	7.61
35-85%	11891	2654	22.32	13711	3485	25.42
86-100%	3223	2126	65.96	3942	2684	68.09
Total	23651	5151	21.78	26691	6630	24.84

Figure 17 and **Table 13** show the distribution of the sequence number of the final acceptor for kidney matches from March 15, 2020 to March 14, 2022 by policy era. View is restricted to the 90th percentile. Median sequence number increased from 9 to 18 after the policy change.

Figure 17: Distribution of Sequence Number of Final Acceptor for Kidney Match Runs March 15, 2020-March 14, 2022 by Policy Era

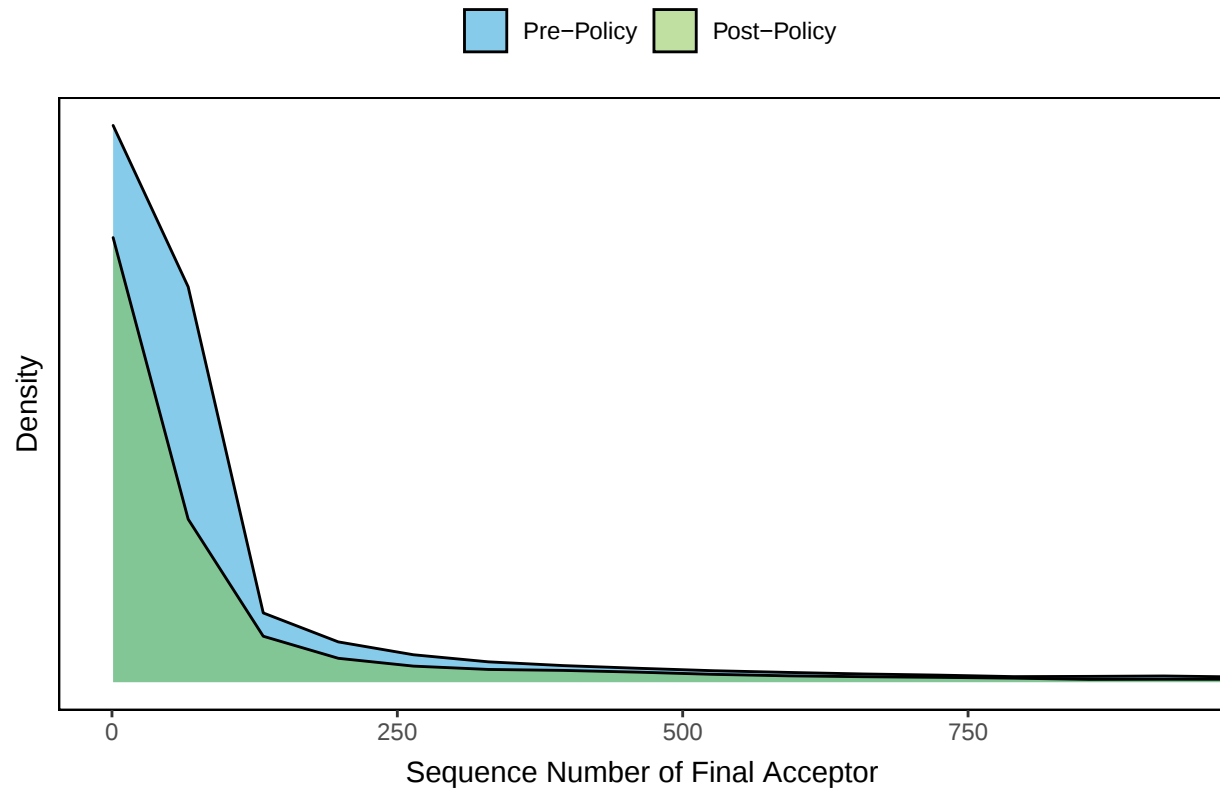


Table 13: Distribution of Sequence Number of Final Acceptor for Kidney Match Runs March 15, 2020-March 14, 2022 by Policy Era

Era	N	Min	25th %-tile	Med	Mean	75th %-tile	Max
Pre-Policy	11019	1	4	9	474.2	83	31425
Post-Policy	10741	1	6	18	665.4	141	33603

Figure 18 and **Table 14** show the distribution of hours from first offer to cross-clamp for kidney match runs from March 15, 2020 to March 14, 2022 by policy era. Time of first offer was defined as the time when the first electronic offer was sent for the match. There were 1617 matches where cross-clamp occurred before the first electronic offer was sent pre-policy, and another 673 post-policy. Median time from first offer to cross-clamp was 24 hours pre-policy and 25 hours post-policy.

Figure 18: Distribution of Hours from First Offer to Cross-Clamp for Kidney Match Runs March 15, 2020-March 14, 2022 by Policy Era

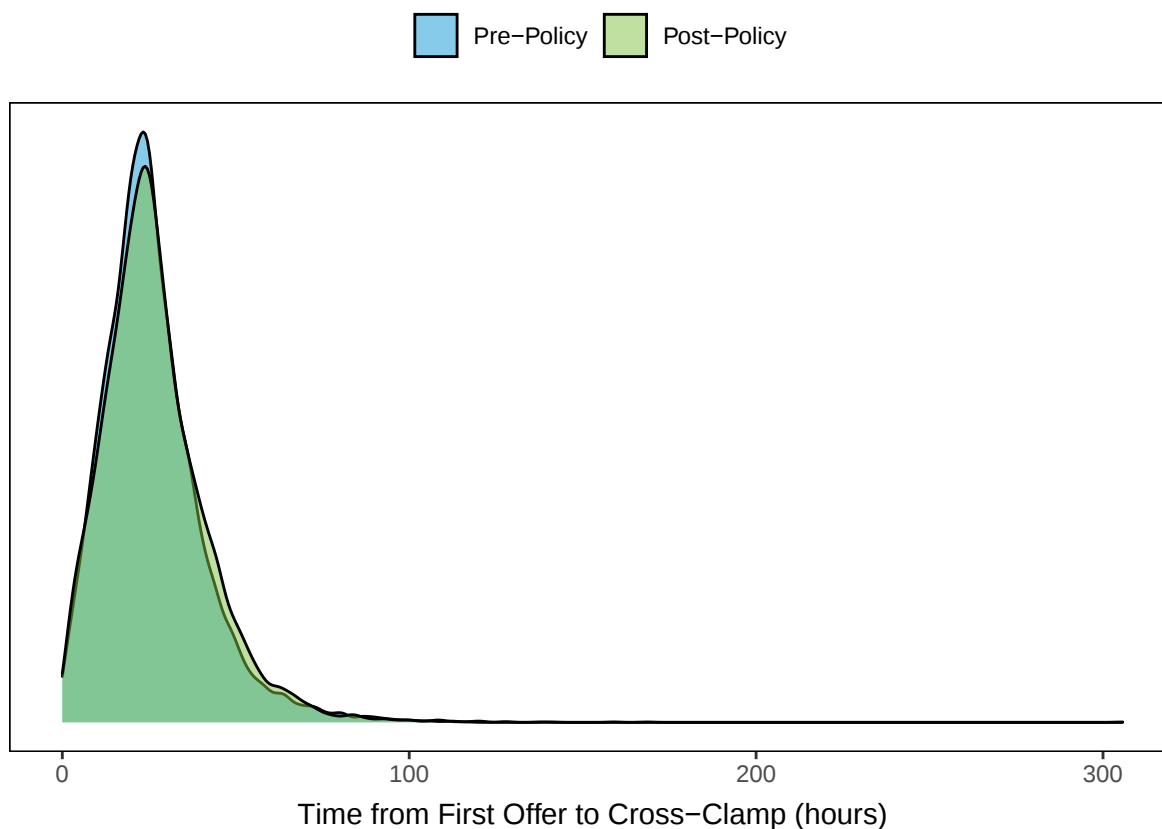


Table 14: Distribution of Hours from First Offer to Cross-Clamp for Kidney Match Runs March 15, 2020-March 14, 2022 by Policy Era

Era	N	Cross-Clamp Before Offer	Min	25th %-tile	Med	Mean	75th %-tile	Max
Pre-Policy	11019	1617	0	16.58	24.03	26.14	32.83	158.90
Post-Policy	10741	673	0	16.97	24.87	26.99	34.55	305.68

Figure 19 and **Table 15** show offers per active patient year for kidney matches from March 15, 2020 to March 14, 2022 by policy era. The overall offer rate increased from 95 to 139 offers per active patient year after implementation.

Figure 19: Offers per Active Patient Year for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era

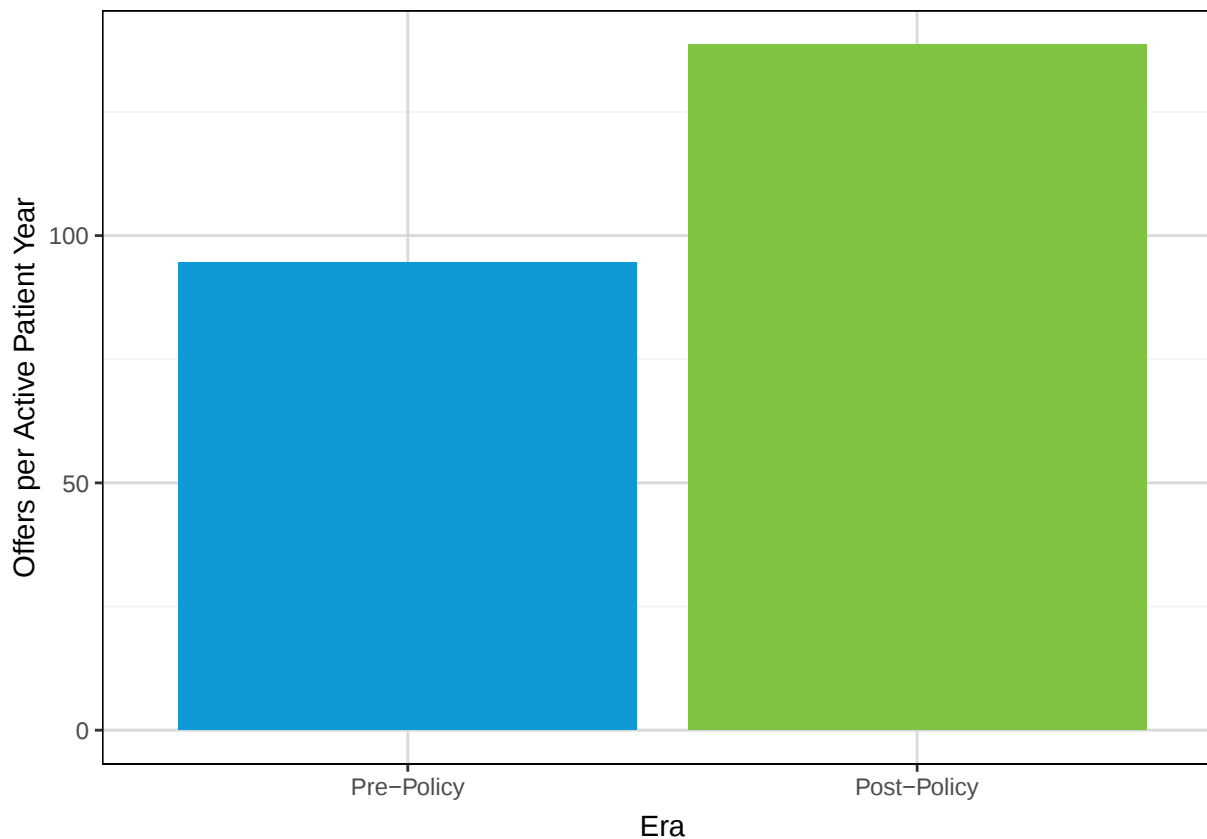


Table 15: Offer and Acceptance Rates for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era

Era	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	55226.84	5225544	18374	94.62	3.52
Post-Policy	51565.88	7147107	18218	138.60	2.55

Figure 20 shows acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era. The overall acceptance rate decreased from 4 to 3 acceptances per 1000 offers after policy implementation.

Figure 20: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era

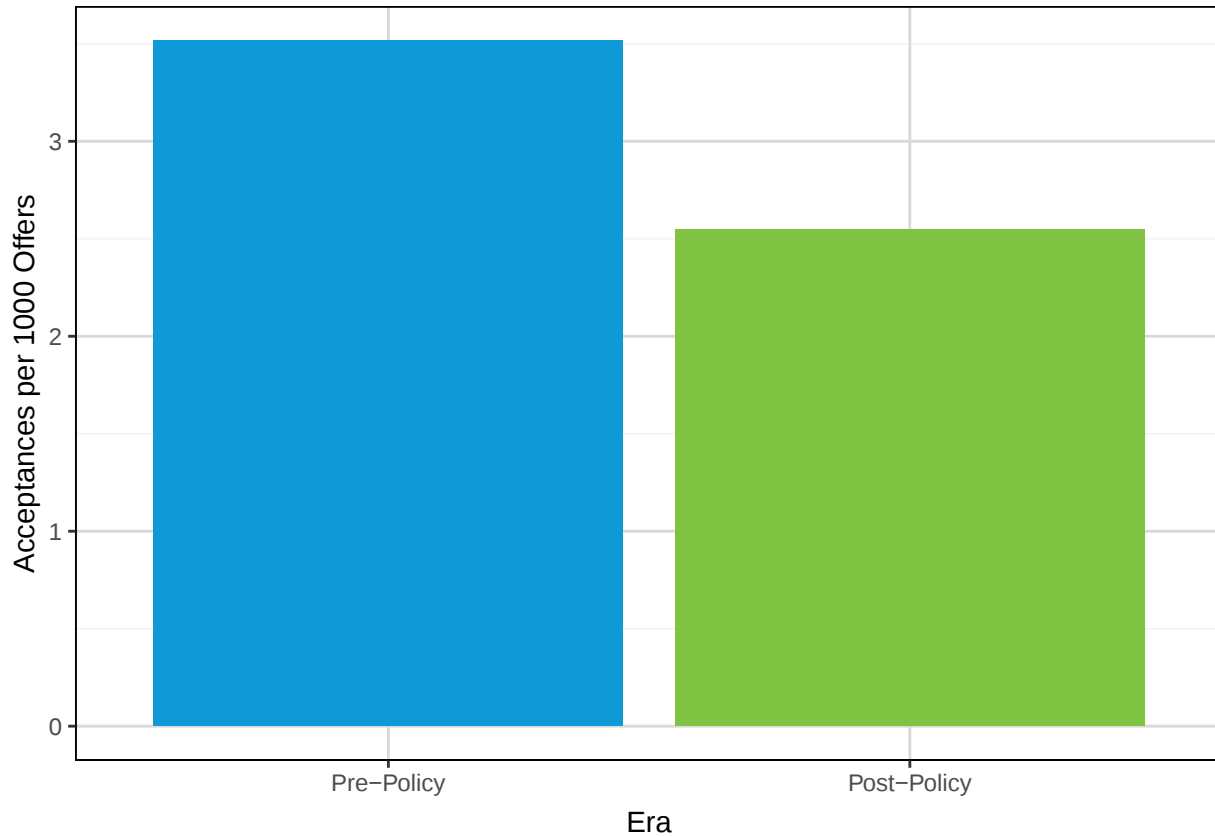


Figure 21 and **Table 16** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by policy era. Patient survival did not change after policy implementation.

Figure 21: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Policy Era

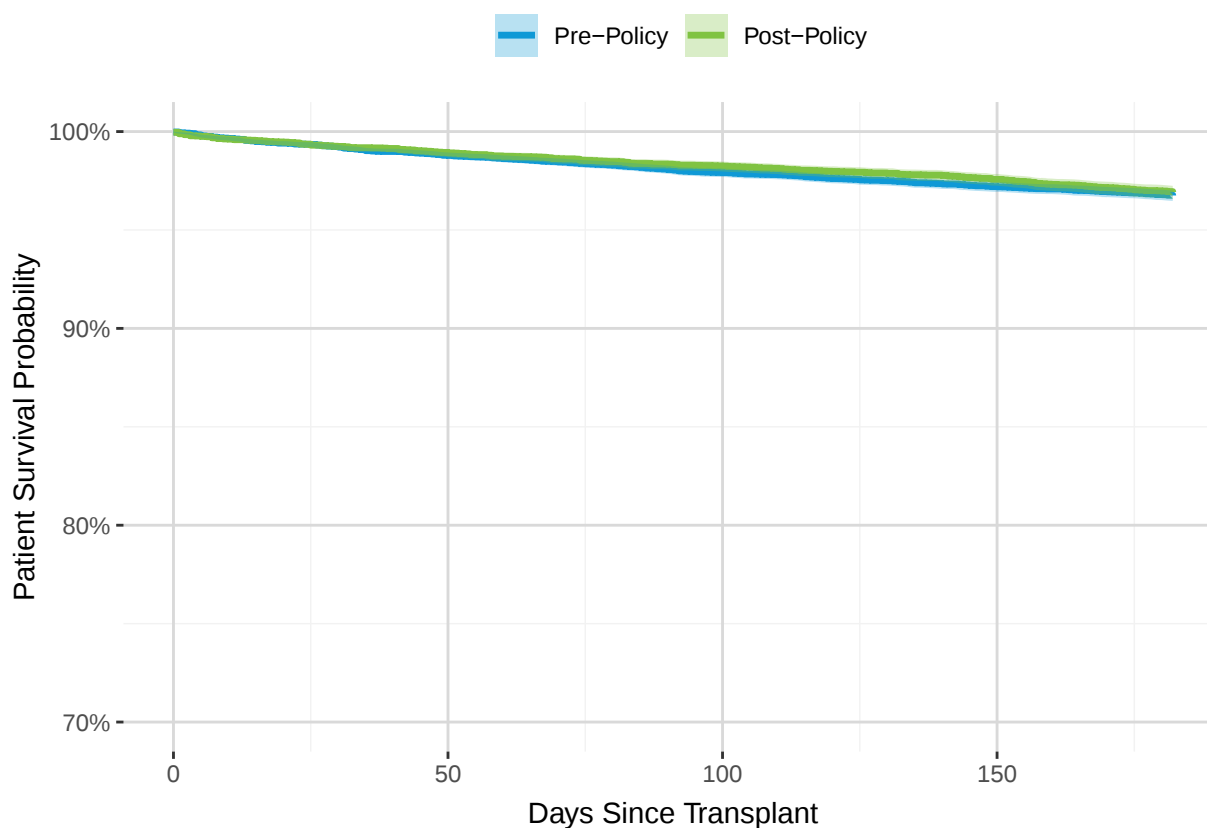


Table 22: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Policy Era

Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Pre-Policy	17398	559	16462	96.8	(96.5, 97)
Post-Policy	10682	314	7201	96.9	(96.6, 97.2)

Figure 22 and **Table 17** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by policy era. Graft survival did not change after policy implementation.

Figure 22: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Policy Era

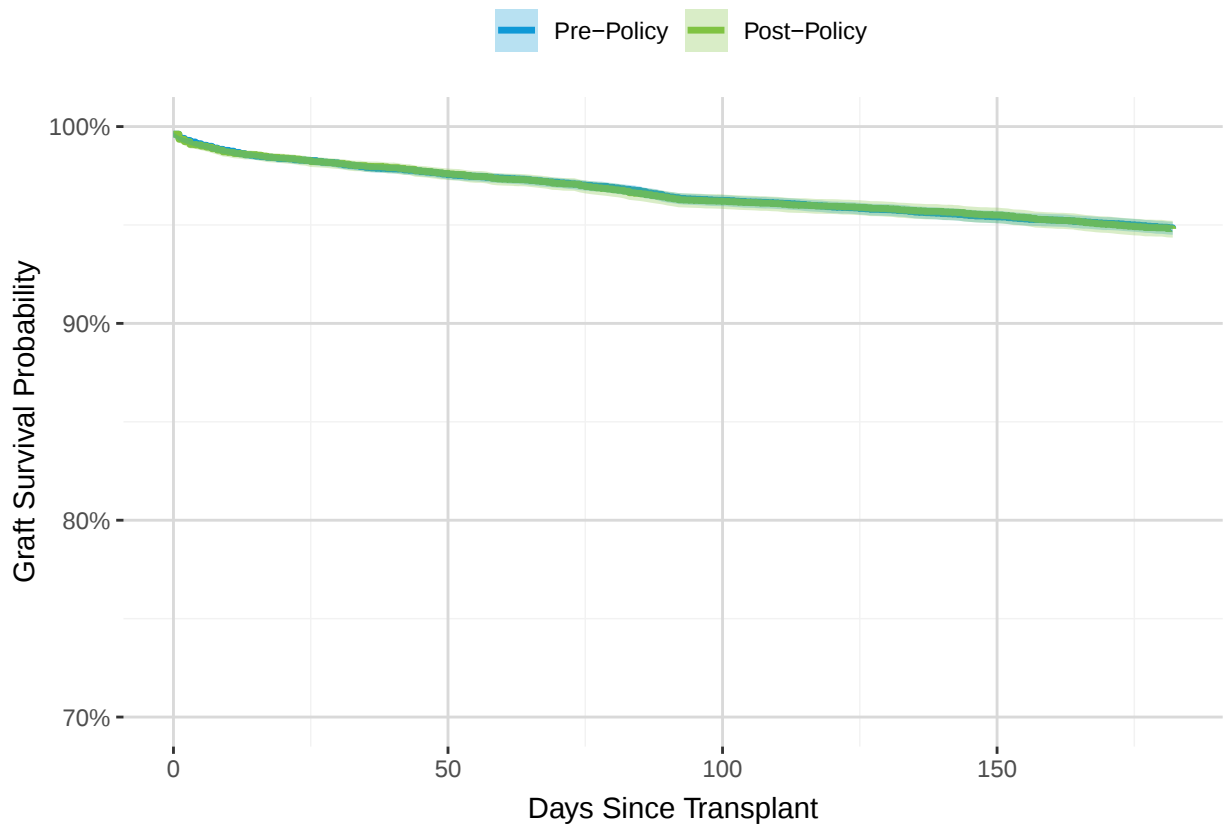


Table 1: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Policy Era

Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Pre-Policy	17398	894	16324	94.8	(94.5, 95.2)
Post-Policy	10682	542	7143	94.8	(94.4, 95.2)

Medical Urgency

Transplant centers were able to place registrations in medical urgency status on March 8, 2021 in advance of the policy change. Through March 14, 2022, 28 registrations were ever waiting in medical urgency status and 13 received a deceased donor transplant.

Released Organs

Table 18 shows deceased donor kidney utilization from March 15, 2020 to March 14, 2022 by policy era and match run type. The majority of kidney matches were not import or released organ match runs. The policy change eliminated the import match run, and OPOs were only able to run released organ matches after implementation. The discard rate for standard match runs increased from 19% to 25% after policy implementation. The discard rate for import matches pre-policy was 55%, and the discard rate for released organ matches post-policy was 44%.

Table 18: Deceased Donor Kidney Utilization from March 15, 2020 - March 14, 2022 by Policy Era Match Run Type

Era	Match Type	N Donors	N Matches	Utilization Rate	Discard Rate
Pre-Policy	Import	2274	1503	683	54.56%
	Standard	19241	22093	17787	19.49%
Post-Policy	Released	206	186	105	43.55%
	Standard	21579	26489	19972	24.6%

Donors Recovered in Alaska

Table 19 shows kidneys recovered and transplanted for deceased donors recovered in Alaska from March 15, 2020 to March 14, 2022 by policy era. Pre-policy, 28 donors had 56 kidneys recovered in Alaska, of which 51 were transplanted. Post-policy, 34 donors in Alaska had 68 kidneys recovered and 51 transplanted.

Table 19: Kidneys Recovered and Transplanted for Deceased Donors Recovered in Alaska March 15, 2020 - March 14, 2022 by Policy Era

	Pre-Policy	Post-Policy
Kidney Donors Recovered	28	34
Kidneys Recovered	56	68
Kidneys Transplanted	51	51

Table 20 shows the distribution of distance from the donor hospital in NM for deceased donor kidney transplants utilizing donors recovered in Alaska from March 15, 2020 to March 14, 2022 by policy era. While 51 deceased donor kidneys were recovered in Alaska and transplanted, 6 were allocated as dual kidney transplants and thus resulted in 3 transplants rather than 6. The median distance from the donor hospital remained 1243 NM across policy eras.

Table 20: Distribution of Distance from Donor Hospital for Deceased Donor Kidney Transplants Utilizing Donors Recovered in Alaska March 15, 2020 - March 14, 2022 by Policy Era

era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	51	0	1237	1241	1243.0	1618.88	1736.50	3126
Post-Policy	48	0	1239	1241	1242.5	1455.56	1382.25	2997

Table 21 shows the distance in NM from Sea-Tac to the transplant hospital for deceased donor kidneys recovered in Alaska and transplanted from March 15, 2020 to March 14, 2022 by policy era. Nearly 50% of kidneys recovered in Alaska were transplanted within 250 NM of Sea-Tac, increasing to 63% post-policy.

Table 21: Distance from Seat-Tac to Transplant Hospital for Deceased Donor Kidneys Recovered in Alaska and Transplanted March 15, 2020 - March 14, 2022 by Policy Era

Distance	Pre-Policy		Post-Policy	
	N	%	N	%
0-250 NM	25	49.02	32	62.75
> 250 NM	26	50.98	19	37.25
Total	51	100.00	51	100.00

Conclusion

Transplant rates increased significantly for all candidates on the waiting list. Several subpopulations of candidates saw larger-than-average increases in transplant rate, including: pediatric candidates; Black, Hispanic, and Asian candidates; candidates with CPRA 80-97%; and candidates with 3 or more years of dialysis time at listing. Changes in transplant rate varied across the country. The majority of DSAs seeing a increase in volume, though some DSAs did see a decrease.

Deceased donor kidneys are traveling farther under the new allocation system, but the majority are transplanted at hospitals within 250 NM of the donor hospital. Kidneys are more often transplanted at hospitals outside the DSA of the recovering OPO.

Deceased donor kidney discard rates increased overall and across all values of KDPI. Average cold ischemic time increased after policy implementation, as did the national rate of delayed graft function. Six month post-transplant patient and graft survival did not change.

Appendix

Table A1: Deceased Donor Kidney Transplants and Transplant Rates from March 15, 2020 - March 14, 2022 by Policy Era and DSA

DSA	Transplants			Transplant Rate (95% CI)	
	Pre-Policy	Post-Policy	% Change	Pre-Policy	Post-Policy
ALOB	288	284	-1.39	38.27 (33.97, 42.96)	47.66 (42.28, 53.54)
AROR	150	193	28.67	107.49 (90.98, 126.14)	174.96 (151.15, 201.46)
AZOB	485	572	17.94	69.02 (63.01, 75.44)	83.21 (76.52, 90.33)
CADN	583	584	0.17	17.14 (15.78, 18.59)	18.86 (17.36, 20.45)
CAGS	303	226	-25.41	36.55 (32.54, 40.91)	32.02 (27.98, 36.48)
CAOP	833	1103	32.41	14.47 (13.5, 15.48)	19.99 (18.82, 21.2)
CASD	207	237	14.49	19.12 (16.6, 21.91)	22.51 (19.74, 25.57)
CORS	241	250	3.73	33.13 (29.04, 37.62)	36.3 (31.87, 41.17)
DCTC	345	342	-0.87	31.68 (28.42, 35.21)	36.86 (33.04, 41.01)
FLFH	174	100	-42.53	58.3 (49.96, 67.64)	37.12 (30.2, 45.15)
FLMP	584	506	-13.36	59.02 (54.33, 64)	54.84 (50.17, 59.84)
FLUF	289	390	34.95	33.41 (29.66, 37.5)	46.44 (41.94, 51.28)
FLWC	345	319	-7.54	52.9 (47.47, 58.79)	55.1 (49.22, 61.49)
GALL	492	679	38.01	16.17 (14.77, 17.66)	27.5 (25.47, 29.65)
HIOP	42	37	-11.90	26.11 (18.82, 35.3)	22.51 (15.85, 31.03)
IAOP	214	162	-24.30	81.45 (70.88, 93.15)	60.11 (51.18, 70.14)
ILIP	595	954	60.34	28.55 (26.3, 30.94)	49.3 (46.22, 52.53)
INOP	312	254	-18.59	63.75 (56.87, 71.23)	55.29 (48.7, 62.53)
KYDA	156	111	-28.85	37.8 (32.1, 44.21)	26.54 (21.83, 31.96)
LAOP	261	301	15.33	21.15 (18.65, 23.88)	25.29 (22.52, 28.32)
MAOB	525	577	9.90	23.55 (21.58, 25.66)	24.13 (22.2, 26.18)
MDPC	270	375	38.89	17.95 (15.87, 20.23)	34.56 (31.15, 38.25)
MIOP	325	369	13.54	30.46 (27.24, 33.96)	36.83 (33.17, 40.78)
MNOP	273	360	31.87	22.1 (19.55, 24.89)	29.1 (26.17, 32.27)
MOMA	296	276	-6.76	59.66 (53.06, 66.86)	48.73 (43.15, 54.83)
MSOP	114	132	15.79	20.96 (17.28, 25.2)	38.42 (32.12, 45.59)
MWOB	367	329	-10.35	96.79 (87.13, 107.23)	87.28 (78.1, 97.24)
NCCM	97	54	-44.33	34.66 (28.11, 42.29)	15.97 (12, 20.84)
NCNC	523	511	-2.29	33.35 (30.56, 36.34)	34.19 (31.29, 37.29)
NEOR	134	121	-9.70	167.71 (140.51, 198.63)	134.59 (111.68, 160.82)
NJTO	341	352	3.23	20.83 (18.68, 23.17)	23.93 (21.5, 26.57)
NMOP	65	83	27.69	28.13 (21.71, 35.85)	34.85 (27.75, 43.2)
NVLV	117	126	7.69	70.58 (58.37, 84.59)	85.6 (71.31, 101.92)
NYAP	69	21	-69.57	73.3 (57.03, 92.76)	19.77 (12.24, 30.22)
NYFL	93	132	41.94	21.91 (17.68, 26.84)	33.05 (27.66, 39.2)
NYRT	701	1198	70.90	18.16 (16.84, 19.56)	34.47 (32.54, 36.47)
NYWN	127	113	-11.02	144.39 (120.37, 171.8)	165.18 (136.13, 198.59)
OHLB	358	374	4.47	44.39 (39.91, 49.24)	55.29 (49.83, 61.19)
OHLC	129	170	31.78	184.34 (153.79, 219.18)	325.91 (278.76, 378.75)
OHLP	304	247	-18.75	74.27 (66.12, 83.16)	51.94 (45.65, 58.85)
OHOV	164	204	24.39	56.16 (47.9, 65.45)	73.41 (63.68, 84.2)
OKOP	167	135	-19.16	49 (41.76, 57.12)	37.44 (31.26, 44.49)
ORUO	242	216	-10.74	55.81 (49, 63.3)	53.07 (46.23, 60.64)
PADV	556	466	-16.19	23.26 (21.36, 25.27)	21.5 (19.59, 23.55)
PATF	397	306	-22.92	36.22 (32.75, 39.97)	29.19 (26.01, 32.65)
PRLL	52	54	3.85	23.83 (17.8, 31.25)	26.6 (19.98, 34.7)

(continued)

DSA	Transplants			Transplant Rate (95% CI)	
	Pre-Policy	Post-Policy	% Change	Pre-Policy	Post-Policy
SCOP	299	363	21.40	37.33 (33.21, 41.82)	38.76 (34.88, 42.96)
TNDS	459	357	-22.22	38.13 (34.72, 41.78)	28.07 (25.23, 31.13)
TNMS	121	183	51.24	15.75 (13.07, 18.82)	28.4 (24.44, 32.83)
TXGC	480	515	7.29	16.29 (14.86, 17.81)	18.86 (17.26, 20.56)
TXSA	313	433	38.34	15.91 (14.2, 17.77)	23.26 (21.12, 25.56)
TXSB	716	892	24.58	31.66 (29.38, 34.07)	41.4 (38.73, 44.21)
UTOP	230	272	18.26	76.2 (66.67, 86.71)	96.84 (85.67, 109.06)
VATB	442	399	-9.73	51.88 (47.16, 56.95)	44.71 (40.43, 49.33)
WALC	359	355	-1.11	57.13 (51.37, 63.36)	59.4 (53.38, 65.91)
WIDN	69	77	11.59	18.21 (14.17, 23.05)	22.44 (17.71, 28.04)
WIUW	205	159	-22.44	58.2 (50.51, 66.74)	56.99 (48.48, 66.57)

Table A2: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Transplant Center

Transplant Hospital	Pre-Policy	Post-Policy	% Change
ALCH-TX1	9	11	22.22
ALUA-TX1	270	267	-1.11
ALVA-TX1	9	6	-33.33
ARCH-TX1	7	7	0.00
ARUA-TX1	143	186	30.07
AZCH-TX1	9	14	55.56
AZGS-TX1	76	53	-30.26
AZMC-TX1	309	366	18.45
AZSJ-TX1	35	57	62.86
AZUA-TX1	56	82	46.43
CACH-TX1	9	8	-11.11
CACL-TX1	24	20	-16.67
CACS-TX1	200	225	12.50
CAGH-TX1	55	52	-5.45
CAIM-TX1	68	111	63.24
CALA-TX1	16	29	81.25
CALL-TX1	142	181	27.46
CAMB-TX1	8	10	25.00
CAPC-TX1	19	27	42.11
CAPM-TX1	176	153	-13.07
CARC-TX1	0	11	*
CASD-TX1	95	100	5.26
CASF-TX1	257	260	1.17
CASH-TX1	48	77	60.42
CASJ-TX1	21	42	100.00
CASM-TX1	303	226	-25.41
CASU-TX1	123	134	8.94
CAUC-TX1	239	310	29.71
CAUH-TX1	123	174	41.46
COCH-TX1	12	10	-16.67
COPM-TX1	8	23	187.50
COSL-TX1	41	37	-9.76
COUC-TX1	180	180	0.00
CTHH-TX1	84	69	-17.86
CTYN-TX1	93	85	-8.60
DCCH-TX1	6	13	116.67
DCGU-TX1	199	135	-32.16
DCGW-TX1	45	53	17.78
DCWR-TX1	25	37	48.00
DEAI-TX1	3	7	133.33
DECC-TX1	19	18	-5.26
FLBC-TX1	1	21	2000.00
FLCC-TX1	110	132	20.00
FLFH-TX1	145	83	-42.76
FLHM-TX1	29	17	-41.38
FLJM-TX1	435	306	-29.66
FLLM-TX1	43	48	11.63
FLMR-TX1	38	47	23.68
FLSH-TX1	25	21	-16.00

(continued)

Transplant Hospital	Pre-Policy	Post-Policy	% Change
FLSL-TX1	158	171	8.23
FLTG-TX1	302	271	-10.26
FLUF-TX1	106	198	86.79
GAEH-TX1	11	12	9.09
GAEM-TX1	240	288	20.00
GAMC-TX1	68	57	-16.18
GAPH-TX1	173	322	86.13
HIQM-TX1	42	37	-11.90
IAIM-TX1	114	88	-22.81
IAIV-TX1	75	64	-14.67
IAVA-TX1	25	10	-60.00
ILCH-TX1	8	25	212.50
ILCM-TX1	19	22	15.79
ILLU-TX1	81	158	95.06
ILMM-TX1	25	21	-16.00
ILNM-TX1	119	209	75.63
ILPL-TX1	69	91	31.88
ILSF-TX1	37	38	2.70
ILUC-TX1	86	139	61.63
ILUI-TX1	144	208	44.44
ILVA-TX1	7	43	514.29
INIM-TX1	234	193	-17.52
INSV-TX1	78	61	-21.79
KSUK-TX1	177	154	-12.99
KYJH-TX1	67	41	-38.81
KYKC-TX1	2	4	100.00
KYUK-TX1	87	66	-24.14
LACH-TX1	10	14	40.00
LAOF-TX1	134	161	20.15
LATU-TX1	66	83	25.76
LAWK-TX1	51	43	-15.69
MABI-TX1	37	45	21.62
MABS-TX1	35	36	2.86
MABU-TX1	32	20	-37.50
MACH-TX1	13	14	7.69
MALC-TX1	23	37	60.87
MAMG-TX1	63	99	57.14
MANM-TX1	17	19	11.76
MAPB-TX1	32	39	21.88
MAUM-TX1	29	48	65.52
MDJH-TX1	176	235	33.52
MDUM-TX1	94	140	48.94
MEMC-TX1	16	26	62.50
MIBH-TX1	63	63	0.00
MICH-TX1	6	2	-66.67
MIDV-TX1	3	5	66.67
MIHF-TX1	48	56	16.67
MIHH-TX1	20	5	-75.00
MISJ-TX1	11	20	81.82
MISM-TX1	49	58	18.37
MIUM-TX1	125	160	28.00

(continued)

Transplant Hospital	Pre-Policy	Post-Policy	% Change
MNAN-TX1	13	18	38.46
MNHC-TX1	31	51	64.52
MNMC-TX1	96	127	32.29
MNUM-TX1	89	104	16.85
MOBH-TX1	223	222	-0.45
MOCG-TX1	4	8	100.00
MOCH-TX1	9	7	-22.22
MOCM-TX1	3	7	133.33
MOLH-TX1	144	119	-17.36
MORH-TX1	35	46	31.43
MOSL-TX1	60	39	-35.00
MOUM-TX1	8	3	-62.50
MSUM-TX1	114	132	15.79
NCBG-TX1	191	162	-15.18
NCCM-TX1	97	54	-44.33
NCDU-TX1	146	164	12.33
NCEC-TX1	65	74	13.85
NCMH-TX1	121	111	-8.26
NDMC-TX1	7	13	85.71
NDSL-TX1	9	22	144.44
NEUN-TX1	134	121	-9.70
NHDH-TX1	13	7	-46.15
NJBI-TX1	2	0	-100.00
NJHK-TX1	100	62	-38.00
NJLL-TX1	31	54	74.19
NJRW-TX1	28	42	50.00
NJSB-TX1	180	194	7.78
NMAQ-TX1	38	50	31.58
NMPH-TX1	27	33	22.22
NVUM-TX1	117	126	7.69
NYAM-TX1	63	17	-73.02
NYCC-TX1	4	6	50.00
NYCP-TX1	97	115	18.56
NYDS-TX1	5	56	1020.00
NYEC-TX1	127	113	-11.02
NYFL-TX1	50	60	20.00
NYMA-TX1	59	149	152.54
NYMS-TX1	138	244	76.81
NYNS-TX1	36	88	144.44
NYNY-TX1	92	155	68.48
NYSB-TX1	69	62	-10.14
NYUC-TX1	155	235	51.61
NYUM-TX1	43	72	67.44
NYVA-TX1	9	18	100.00
NYWC-TX1	37	70	89.19
OHCC-TX1	206	270	31.07
OHCH-TX1	2	5	150.00
OHCM-TX1	12	28	133.33
OHCO-TX1	129	170	31.78
OHOU-TX1	302	242	-19.87
OHTC-TX1	30	33	10.00

(continued)

Transplant Hospital	Pre-Policy	Post-Policy	% Change
OHUC-TX1	122	143	17.21
OHUH-TX1	152	104	-31.58
OKBC-TX1	87	61	-29.89
OKMD-TX1	32	28	-12.50
OKSJ-TX1	48	46	-4.17
ORGS-TX1	63	58	-7.94
ORUO-TX1	112	125	11.61
ORVA-TX1	67	33	-50.75
PAAE-TX1	42	53	26.19
PAAG-TX1	99	77	-22.22
PACC-TX1	17	7	-58.82
PACH-TX1	8	8	0.00
PACP-TX1	9	13	44.44
PAGM-TX1	46	26	-43.48
PAHE-TX1	14	17	21.43
PAHH-TX1	35	23	-34.29
PALH-TX1	9	8	-11.11
PALV-TX1	99	74	-25.25
PAPH-TX1	7	2	-71.43
PAPT-TX1	138	109	-21.01
PARH-TX1	4	2	-50.00
PASC-TX1	3	6	100.00
PATJ-TX1	71	69	-2.82
PATU-TX1	20	27	35.00
PAUP-TX1	165	116	-29.70
PAVA-TX1	35	14	-60.00
PRSJ-TX1	52	54	3.85
RIRH-TX1	38	33	-13.16
SCMU-TX1	299	362	21.07
SCPG-TX1	0	1	*
SDMK-TX1	14	13	-7.14
SDSV-TX1	14	12	-14.29
TNEM-TX1	21	24	14.29
TNLB-TX1	4	3	-25.00
TNMH-TX1	117	180	53.85
TNST-TX1	162	52	-67.90
TNUK-TX1	49	49	0.00
TNVU-TX1	227	232	2.20
TXAS-TX1	78	71	-8.97
TXBC-TX1	98	136	38.78
TXCF-TX1	13	16	23.08
TXCM-TX1	5	17	240.00
TXDC-TX1	6	5	-16.67
TXDM-TX1	39	26	-33.33
TXDR-TX1	14	35	150.00
TXFW-TX1	25	30	20.00
TXHD-TX1	108	117	8.33
TXHH-TX1	42	41	-2.38
TXHI-TX1	81	92	13.58
TXHS-TX1	154	226	46.75
TXJS-TX1	81	78	-3.70

(continued)

Transplant Hospital	Pre-Policy	Post-Policy	% Change
TXLP-TX1	26	36	38.46
TXMC-TX1	73	128	75.34
TXMH-TX1	125	140	12.00
TXPL-TX1	86	91	5.81
TXPM-TX1	1	11	1000.00
TXSP-TX1	183	179	-2.19
TXSW-TX1	105	143	36.19
TXTC-TX1	18	24	33.33
TXTX-TX1	128	178	39.06
TXUC-TX1	8	10	25.00
TXVA-TX1	12	10	-16.67
UTLD-TX1	117	114	-2.56
UTMC-TX1	101	151	49.50
UTPC-TX1	12	7	-41.67
VACH-TX1	5	3	-40.00
VAFH-TX1	70	104	48.57
VAHD-TX1	21	24	14.29
VAMC-TX1	233	220	-5.58
VANG-TX1	68	40	-41.18
VAUV-TX1	115	112	-2.61
VTMC-TX1	6	4	-33.33
WACH-TX1	25	14	-44.00
WASH-TX1	26	39	50.00
WASM-TX1	87	82	-5.75
WAUW-TX1	164	146	-10.98
WAVM-TX1	57	74	29.82
WICH-TX1	3	9	200.00
WISE-TX1	39	45	15.38
WISL-TX1	27	23	-14.81
WIUW-TX1	205	159	-22.44
WVCA-TX1	98	77	-21.43
WVWU-TX1	12	19	58.33
Total	17398	18910	8.69

Table A3: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and State

State	Pre-Policy	Post-Policy	% Change
Alabama	288	284	-1.39
Arizona	485	572	17.94
Arkansas	150	193	28.67
California	1926	2150	11.63
Colorado	241	250	3.73
Connecticut	177	154	-12.99
Delaware	22	25	13.64
Dist. Of Columbia	250	201	-19.60
Florida	1392	1315	-5.53
Georgia	492	679	38.01
Hawaii	42	37	-11.90
Illinois	595	954	60.34
Indiana	312	254	-18.59
Iowa	214	162	-24.30
Kansas	177	154	-12.99
Kentucky	156	111	-28.85
Louisiana	261	301	15.33
Maine	16	26	62.50
Maryland	295	412	39.66
Massachusetts	281	357	27.05
Michigan	325	369	13.54
Minnesota	229	300	31.00
Mississippi	114	132	15.79
Missouri	486	451	-7.20
Nebraska	134	121	-9.70
Nevada	117	126	7.69
New Hampshire	13	7	-46.15
New Jersey	341	352	3.23
New Mexico	65	83	27.69
New York	984	1460	48.37
North Carolina	620	565	-8.87
North Dakota	16	35	118.75
Ohio	955	995	4.19
Oklahoma	167	135	-19.16
Oregon	242	216	-10.74
Pennsylvania	821	651	-20.71
Puerto Rico	52	54	3.85
Rhode Island	38	33	-13.16
South Carolina	299	363	21.40
South Dakota	28	25	-10.71
Tennessee	580	540	-6.90
Texas	1509	1840	21.94
Utah	230	272	18.26
Vermont	6	4	-33.33
Virginia	512	503	-1.76
Washington	359	355	-1.11
West Virginia	110	96	-12.73
Wisconsin	274	236	-13.87
Total	17398	18910	8.69

Waiting List

Figure A1 and **Table A4** show the number of registrations waiting for a kidney on the last day of each month from March 31, 2020 to February 28, 2022. Waiting list volume decreased by 5% after policy implementation.

Figure A1: Kidney Registrations Waiting on the Last Day of Each Month, December 31, 2020 - June 30, 2021

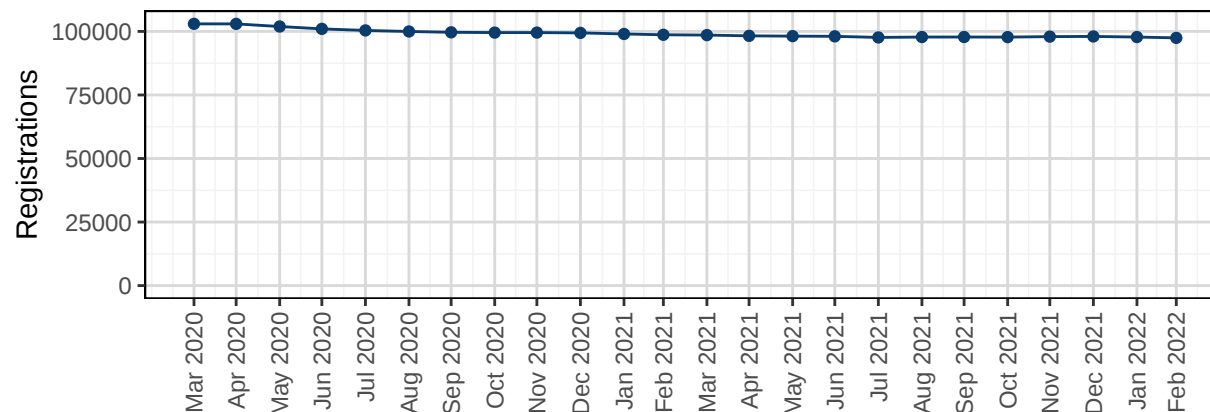


Table A4: Kidney Registrations Waiting on the Last Day of Each Month, December 31, 2020 - June 30, 2021

Date	Registrations
March 2020	102986
April 2020	102964
May 2020	101934
June 2020	101005
July 2020	100396
August 2020	99982
September 2020	99656
October 2020	99540
November 2020	99545
December 2020	99424
January 2021	99003
February 2021	98679
March 2021	98563
April 2021	98261
May 2021	98147
June 2021	98068
July 2021	97637
August 2021	97793
September 2021	97800
October 2021	97763
November 2021	97961
December 2021	98026
January 2022	97794
February 2022	97464

Figure A2 and **Table A5** show the number of registrations waiting for a kidney on the last day of each month from March 31, 2020 to February 28, 2022 by status. Roughly 60% of registrations were in active status pre-policy compared to roughly 56% post-policy.

Figure A2: Kidney Registrations Waiting on the Last Day of Each Month by Status, December 31, 2020 - June 30, 2021

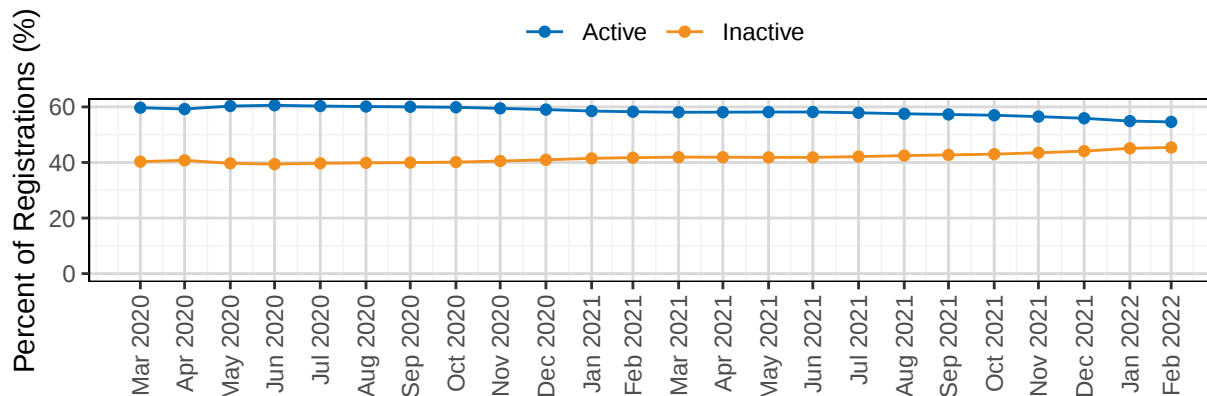


Table A5: Kidney Registrations Waiting on the Last Day of Each Month by Status, December 31, 2020 - June 30, 2021

Date	Active		Inactive		Total	
	N	%	N	%	N	%
March 2020	61484	59.70	41502	40.30	102986	100.00
April 2020	60990	59.23	41974	40.77	102964	100.00
May 2020	61477	60.31	40457	39.69	101934	100.00
June 2020	61195	60.59	39810	39.41	101005	100.00
July 2020	60540	60.30	39856	39.70	100396	100.00
August 2020	60117	60.13	39865	39.87	99982	100.00
September 2020	59826	60.03	39830	39.97	99656	100.00
October 2020	59587	59.86	39953	40.14	99540	100.00
November 2020	59208	59.48	40337	40.52	99545	100.00
December 2020	58699	59.04	40725	40.96	99424	100.00
January 2021	57927	58.51	41076	41.49	99003	100.00
February 2021	57494	58.26	41185	41.74	98679	100.00
March 2021	57246	58.08	41317	41.92	98563	100.00
April 2021	57092	58.10	41169	41.90	98261	100.00
May 2021	57092	58.17	41055	41.83	98147	100.00
June 2021	57045	58.17	41023	41.83	98068	100.00
July 2021	56516	57.88	41121	42.12	97637	100.00
August 2021	56251	57.52	41542	42.48	97793	100.00
September 2021	56027	57.29	41773	42.71	97800	100.00
October 2021	55728	57.00	42035	43.00	97763	100.00
November 2021	55350	56.50	42611	43.50	97961	100.00
December 2021	54803	55.91	43223	44.09	98026	100.00
January 2022	53686	54.90	44108	45.10	97794	100.00
February 2022	53216	54.60	44248	45.40	97464	100.00

Figure A3 and **Table A6** show the percentage of candidates waiting for a kidney on the last day of each month from March 31, 2020 to February 28, 2022 registered at more than one transplant hospital. Roughly 7% of candidates were multi-listed both before and after policy implementation.

Figure A3: Multi-Listed Kidney Candidates Waiting on the Last Day of Each Month, December 31, 2020 - June 30, 2021

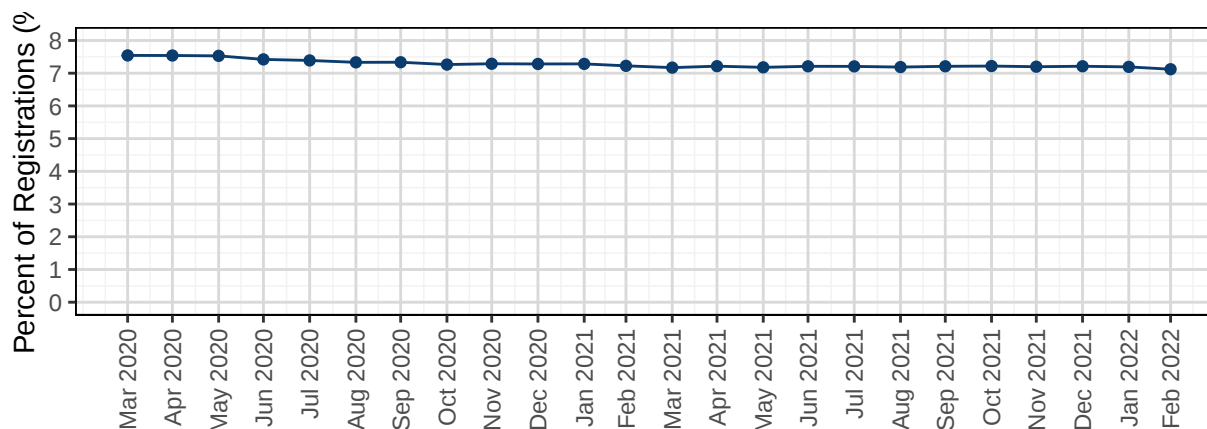


Table A6: Multi-Listed Kidney Candidates Waiting on the Last Day of Each Month, December 31, 2020 - June 30, 2021

Date	Multi-listing		Single Listing		Total	
	N	%	N	%	N	%
March 2020	7149	7.54	87632	92.46	94781	100.00
April 2020	7145	7.54	87608	92.46	94753	100.00
May 2020	7063	7.53	86747	92.47	93810	100.00
June 2020	6906	7.42	86153	92.58	93059	100.00
July 2020	6839	7.39	85710	92.61	92549	100.00
August 2020	6761	7.33	85458	92.67	92219	100.00
September 2020	6741	7.33	85169	92.67	91910	100.00
October 2020	6674	7.26	85211	92.74	91885	100.00
November 2020	6696	7.29	85181	92.71	91877	100.00
December 2020	6682	7.28	85078	92.72	91760	100.00
January 2021	6654	7.28	84699	92.72	91353	100.00
February 2021	6583	7.22	84536	92.78	91119	100.00
March 2021	6530	7.17	84546	92.83	91076	100.00
April 2021	6548	7.21	84221	92.79	90769	100.00
May 2021	6511	7.18	84191	92.82	90702	100.00
June 2021	6532	7.21	84065	92.79	90597	100.00
July 2021	6501	7.21	83692	92.79	90193	100.00
August 2021	6491	7.19	83833	92.81	90324	100.00
September 2021	6512	7.21	83805	92.79	90317	100.00
October 2021	6514	7.22	83739	92.78	90253	100.00
November 2021	6510	7.20	83934	92.80	90444	100.00
December 2021	6525	7.21	83958	92.79	90483	100.00
January 2022	6494	7.19	83796	92.81	90290	100.00
February 2022	6412	7.12	83632	92.88	90044	100.00

Figure A4 and **Table A7** show total kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era. There were 40160 registrations added to the waiting list pre-policy implementation, and another 46957 added post-policy.

Figure A4: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era

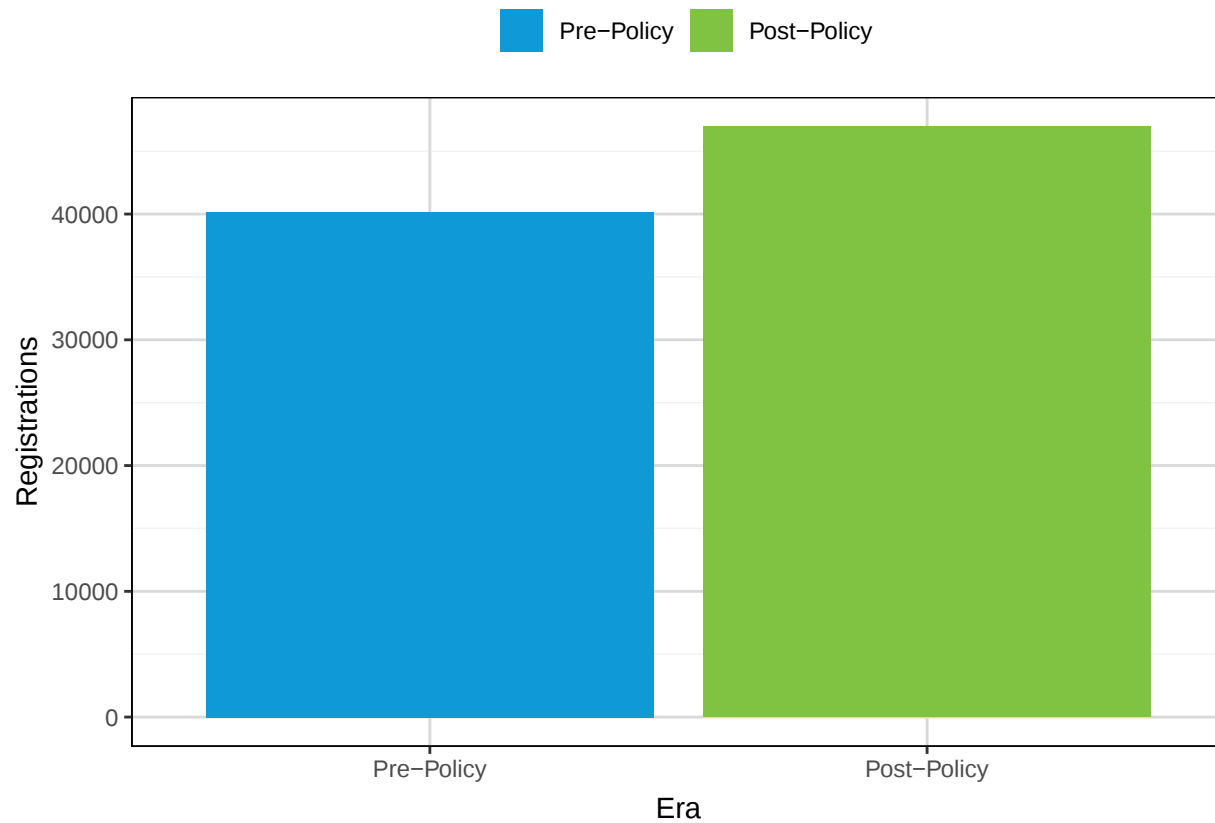


Table A7: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era

Era	Registrations
Pre-Policy	40160
Post-Policy	46957

Figure A5 and **Table A8** show kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era and age at listing. For adult candidates, the volume of waiting list additions increased for each age group, and the distribution of age at listing remained stable pre- to post-policy implementation. Candidates aged 50-64 years accounted for the majority of waiting list additions overall both pre- and post-policy at 40%.

The volume of pediatric additions aged 0-5 years increased after policy implementation from 311 to 322 registrations, and additions aged 12-17 increased from 799 to 867. Pediatric additions for candidates aged 6-11 decreased from 277 to 276 after the policy change.

Figure A5: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

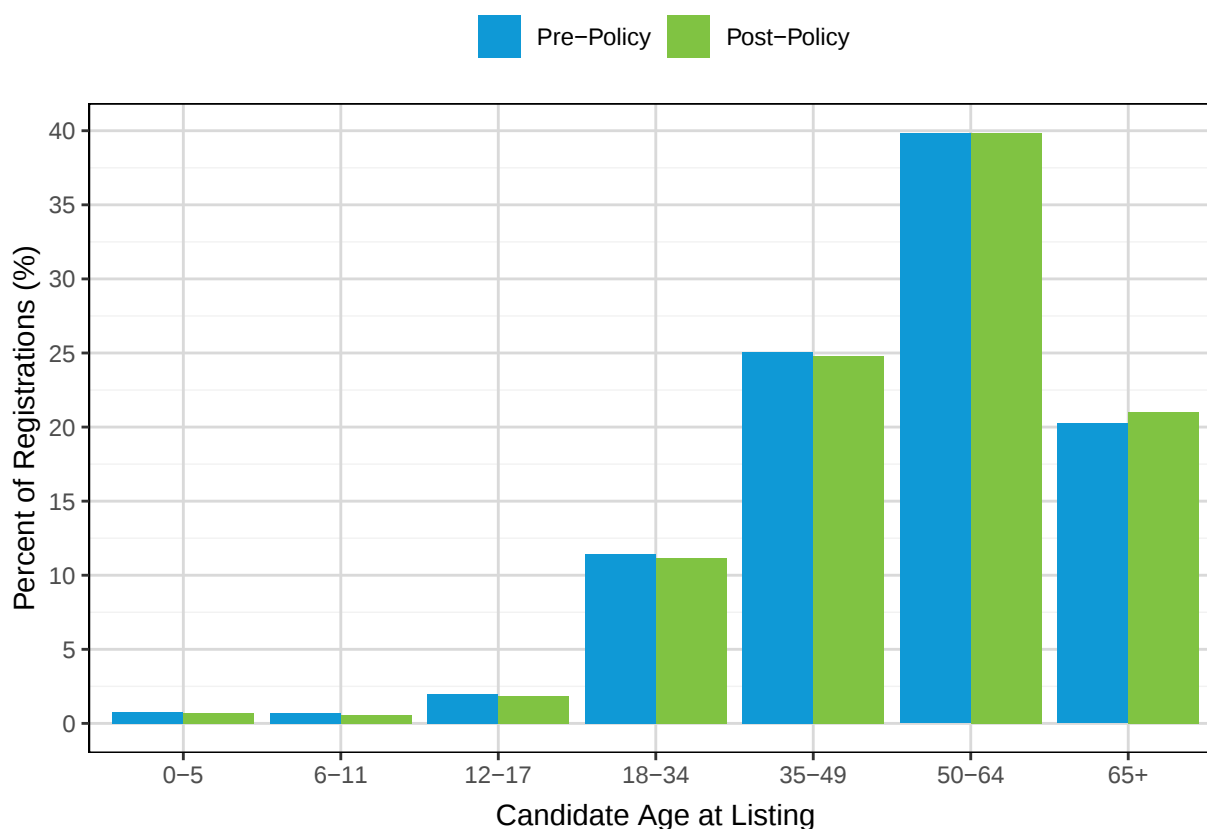


Table A8: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

Age at Listing	Pre-Policy		Post-Policy	
	N	%	N	%
0-5	311	0.77	322	0.69
6-11	277	0.69	276	0.59
12-17	799	1.99	867	1.85
18-34	4586	11.42	5248	11.18
35-49	10071	25.08	11654	24.82
50-64	15988	39.81	18714	39.85
65+	8128	20.24	9876	21.03
Total	40160	100.00	46957	100.00

Figure A6 and **Table A9** show kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era and gender. Male candidates accounted for the majority of additions both pre- and post-policy at roughly 62%.

Figure A6: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Gender

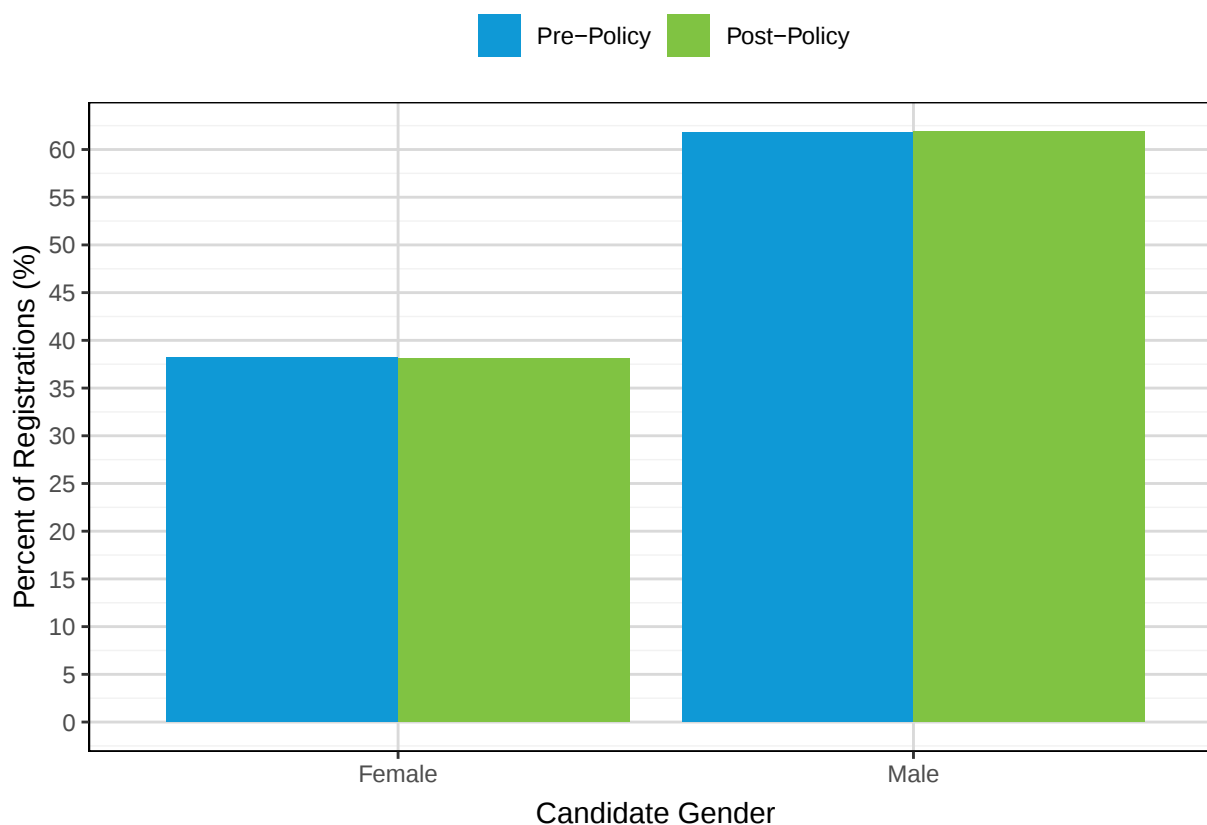


Table A9: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Gender

Gender	Pre-Policy		Post-Policy	
	N	%	N	%
Female	15332	38.18	17900	38.12
Male	24828	61.82	29057	61.88
Total	40160	100.00	46957	100.00

Figure A7 and **Table A10** show kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era and ethnicity. The number of additions increased for all ethnicities post-policy.

Figure A7: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

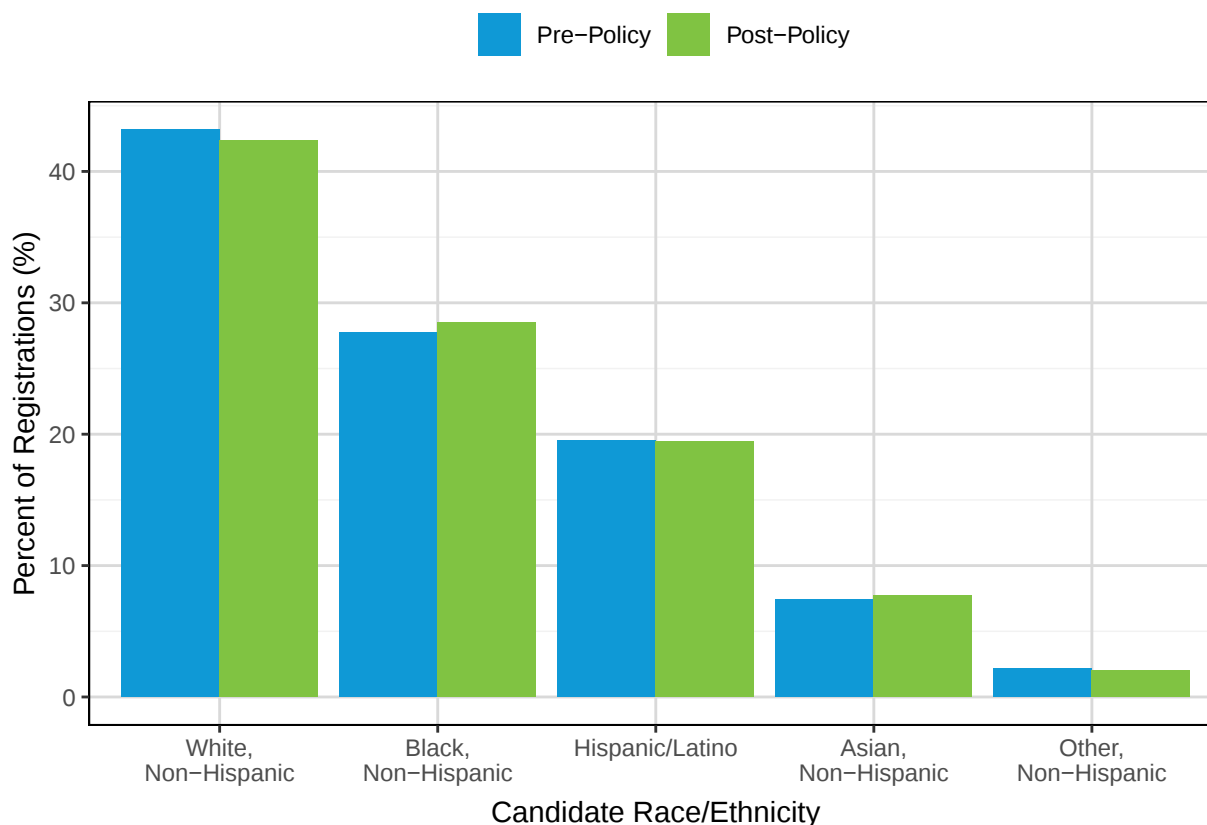


Table A10: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

Ethnicity	Pre-Policy		Post-Policy	
	N	%	N	%
White, Non-Hispanic	17345	43.19	19881	42.34
Black, Non-Hispanic	11132	27.72	13394	28.52
Hispanic/Latino	7833	19.50	9131	19.45
Asian, Non-Hispanic	2972	7.40	3614	7.70
Other, Non-Hispanic	878	2.19	937	2.00
Total	40160	100.00	46957	100.00

Figure A8 and **Table A11** show kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era and blood type. There was an increase in the number of additions of each blood type after policy implementation, though the distribution of blood type across additions did not change.

Figure A8: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

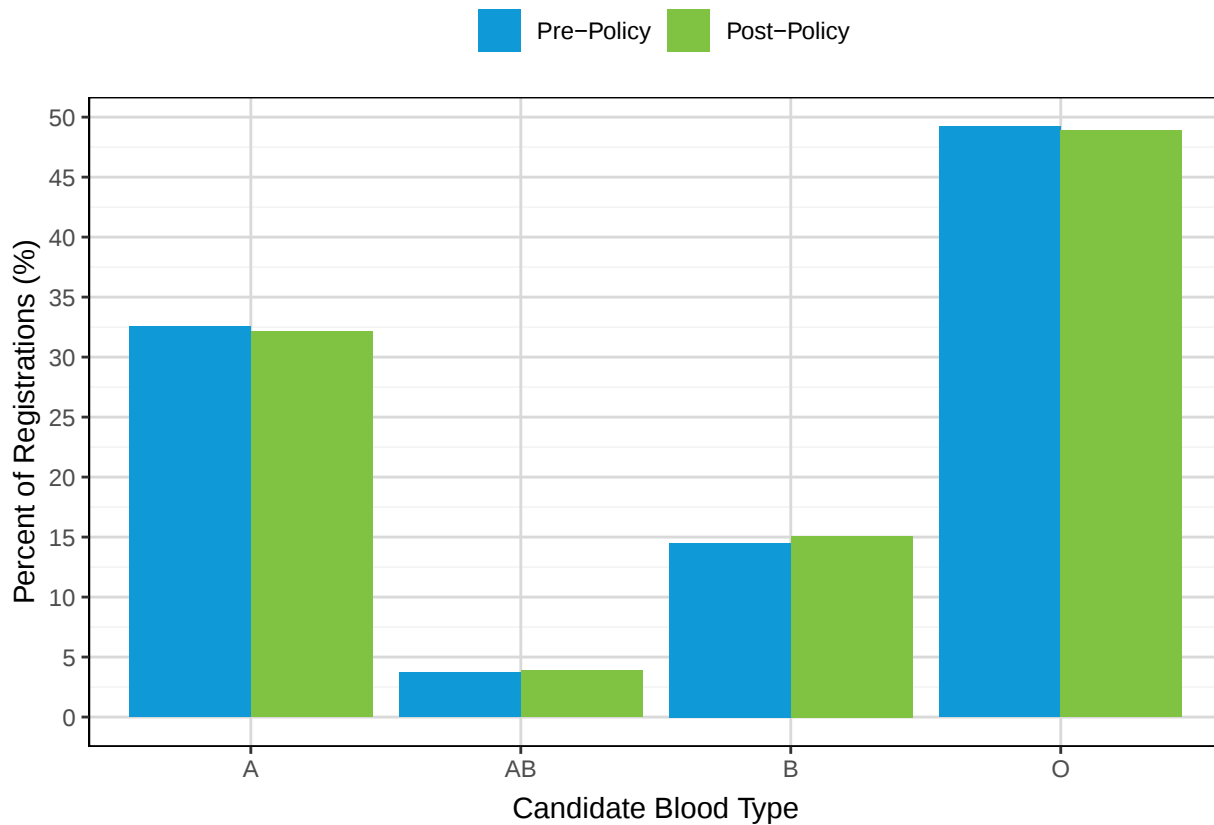


Table A11: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

Blood Type	Pre-Policy		Post-Policy	
	N	%	N	%
A	13066	32.53	15100	32.16
AB	1505	3.75	1818	3.87
B	5825	14.50	7086	15.09
O	19764	49.21	22953	48.88
Total	40160	100.00	46957	100.00

Figure A9 and **Table A12** show kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era and CPRA at listing. The distribution of CPRA at listing did not change after policy implementation, with roughly 70% of additions having a CPRA of 0%. The number of additions increased post-policy across all CPRA categories.

Figure A9: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing

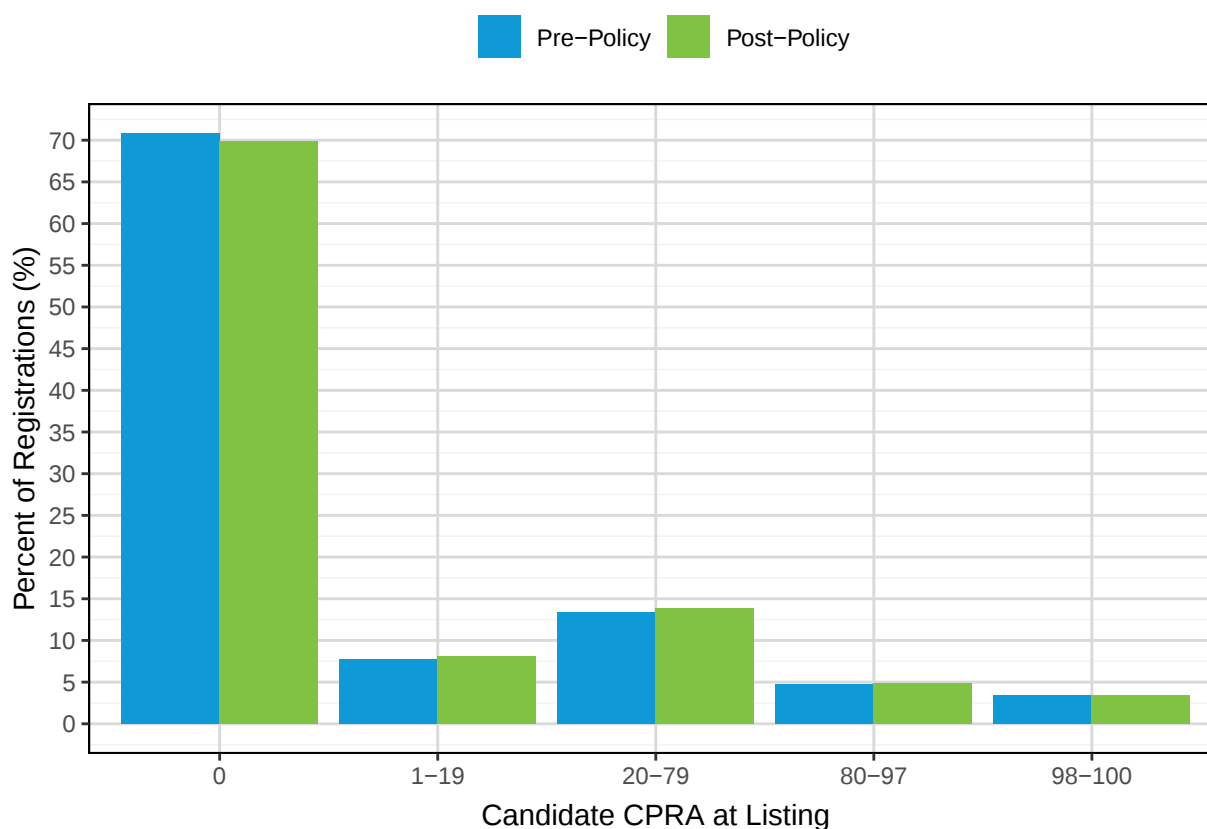


Table A12: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing

CPRA	Pre-Policy		Post-Policy	
	N	%	N	%
0	28444	70.83	32782	69.81
1-19	3101	7.72	3785	8.06
20-79	5349	13.32	6485	13.81
80-97	1883	4.69	2274	4.84
98-100	1383	3.44	1628	3.47
Total	40160	100.00	46957	100.00

Figure A10 and **Table A13** show kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era and primary diagnosis at listing. The majority of candidates listed were diagnosed with diabetes. There was an increase in the number of additions for all diagnosis groups.

Figure A10: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis at Listing

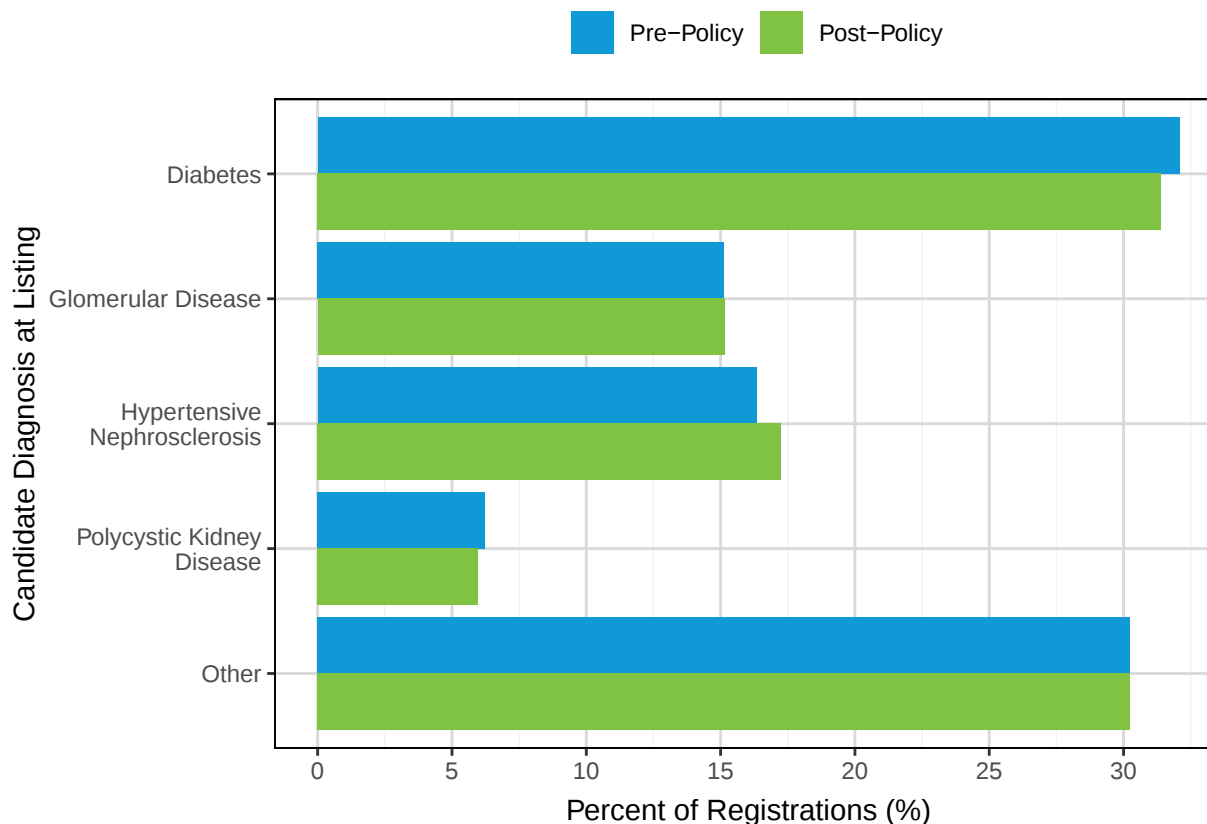


Table A13: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis at Listing

Diagnosis	Pre-Policy		Post-Policy	
	N	%	N	%
Diabetes	12886	32.09	14740	31.39
Glomerular Disease	6074	15.12	7113	15.15
Hypertensive Nephrosclerosis	6558	16.33	8105	17.26
Polycystic Kidney Disease	2502	6.23	2799	5.96
Other	12140	30.23	14200	30.24
Total	40160	100.00	46957	100.00

Figure A11 and **Table A14** show kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era and dialysis status at listing as reported to the OPTN. Close to two thirds of candidates were on dialysis at listing both pre- and post-policy.

Figure A11: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Status at Listing

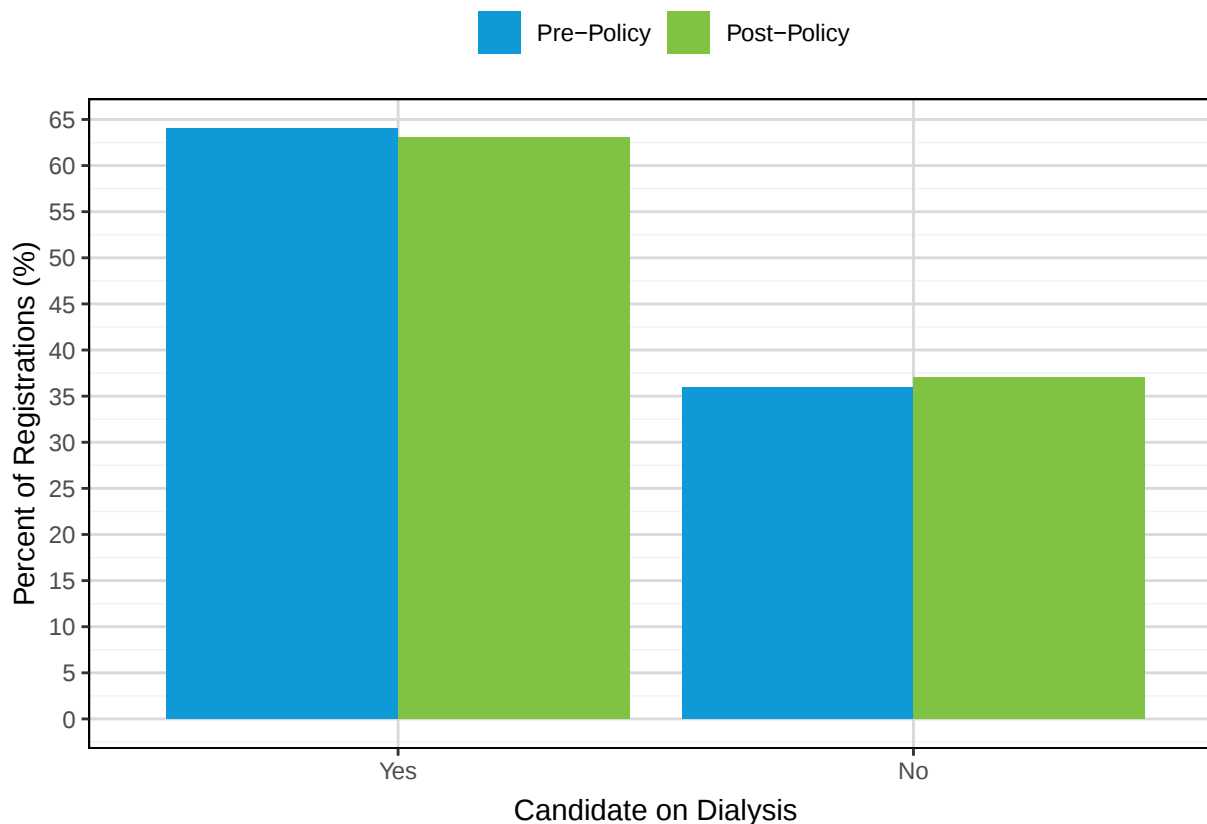


Table A14: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Status at Listing

Dialysis	Pre-Policy		Post-Policy	
	N	%	N	%
Yes	25713	64.03	29590	63.02
No	14447	35.97	17367	36.98
Total	40160	100.00	46957	100.00

Figure A12 and **Table A15** show the distribution of time on dialysis at listing as reported to the OPTN for kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era. The view is restricted to the 99th percentile of dialysis time. Median dialysis time was roughly one and a half years both pre- and post-policy.

Figure A12: Distribution of Time on Dialysis (Years) at Listing for Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era

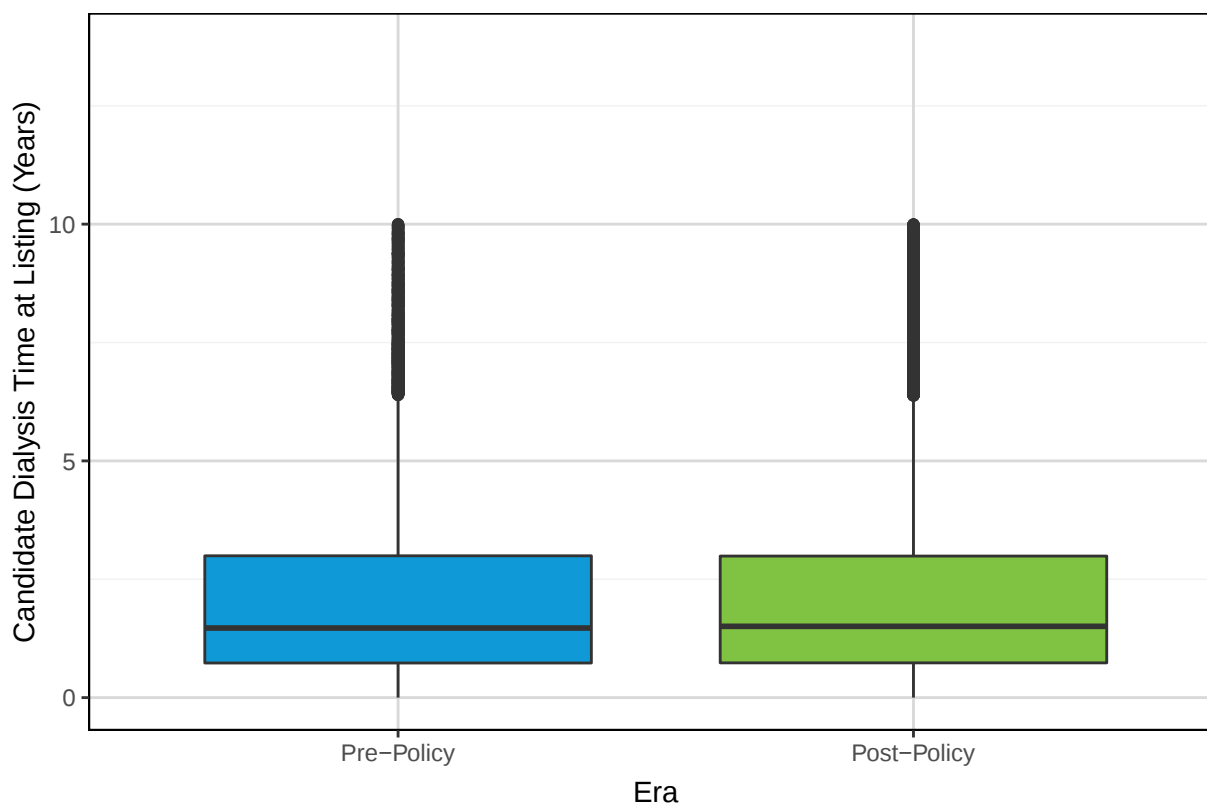


Table A15: Distribution of Time on Dialysis (Years) at Listing for Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era

Era	N	Min	25th %-tile	Med	Mean	75th %-tile	Max
Pre-Policy	25713	0	0.75	1.52	2.49	3.22	27.52
Post-Policy	29590	0	0.75	1.57	2.53	3.22	31.81

Figure A13 and **Table A16** show kidney registrations added to the waiting list from March 15, 2020 to March 14, 2022 by policy era and insurance status at listing. The majority of candidates listed both pre- and post-policy were using public insurance.

Figure A13: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Insurance Status at Listing

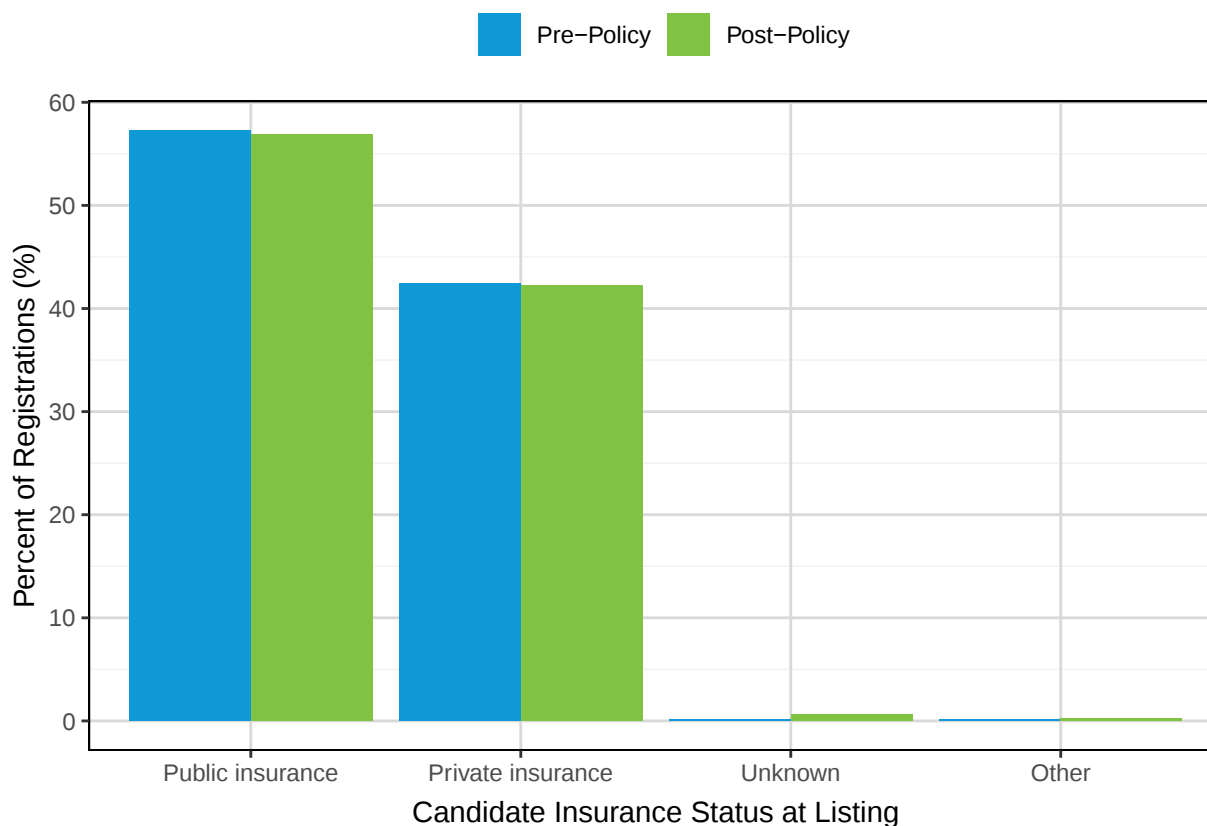


Table A16: Kidney Registrations Added March 15, 2020 - March 14, 2022 by Policy Era and Insurance Status at Listing

Insurance at Listing	Pre-Policy		Post-Policy	
	N	%	N	%
Public insurance	23000	57.27	26716	56.89
Private insurance	17056	42.47	19824	42.22
Other	61	0.15	105	0.22
Unknown	43	0.11	312	0.66
Total	40160	100.00	46957	100.00

Figure A14 and **Table A17** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era. Overall waiting list mortality decreased from approximately 6 to 5 deaths per 100 patient years after policy implementation.

Figure A14: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era

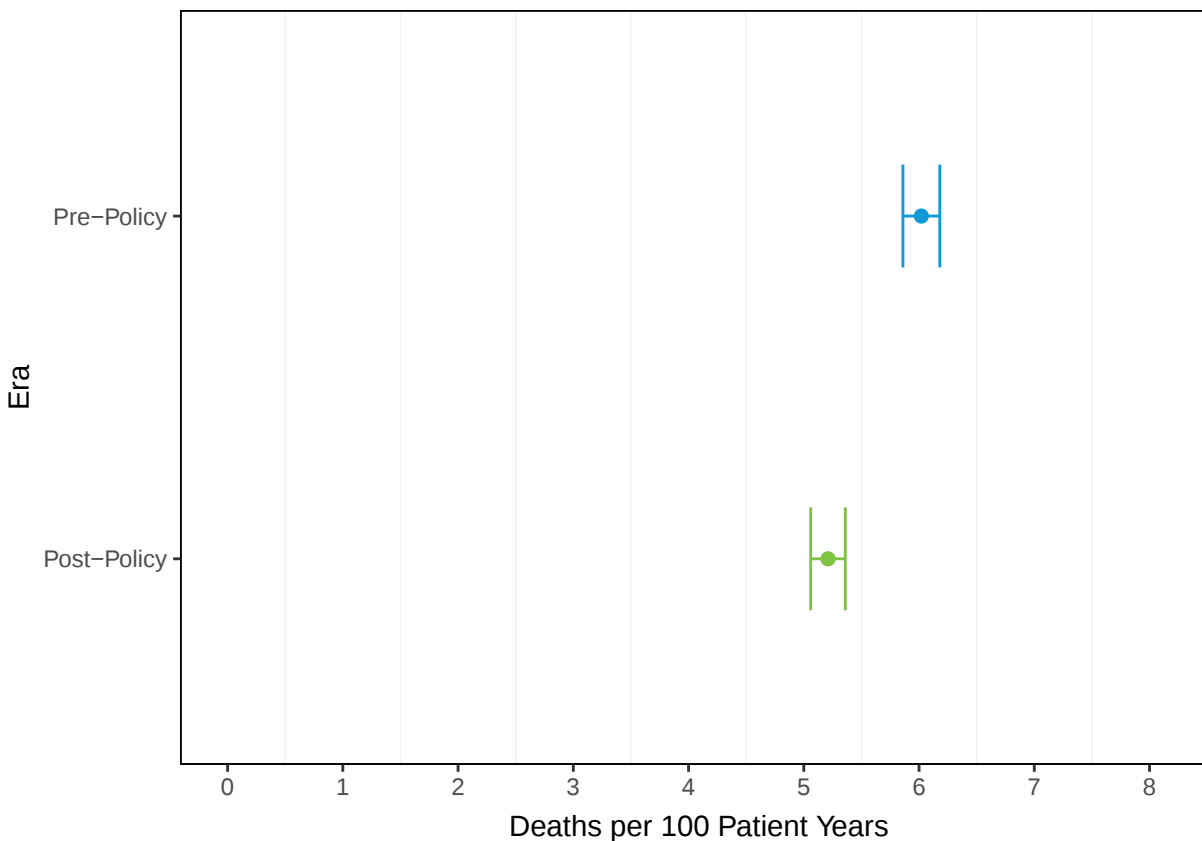


Table A17: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era

Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
Pre-Policy	124890	5527	6.02	(5.86, 6.18)
Post-Policy	126851	4682	5.21	(5.06, 5.36)

Figure A15 and **Table A18** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and age at listing. Waiting list mortality decreased for candidates listed at 50 years or older after policy implementation. Waiting list mortality for candidates 49 years old and younger at listing did not change.

Figure A15: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

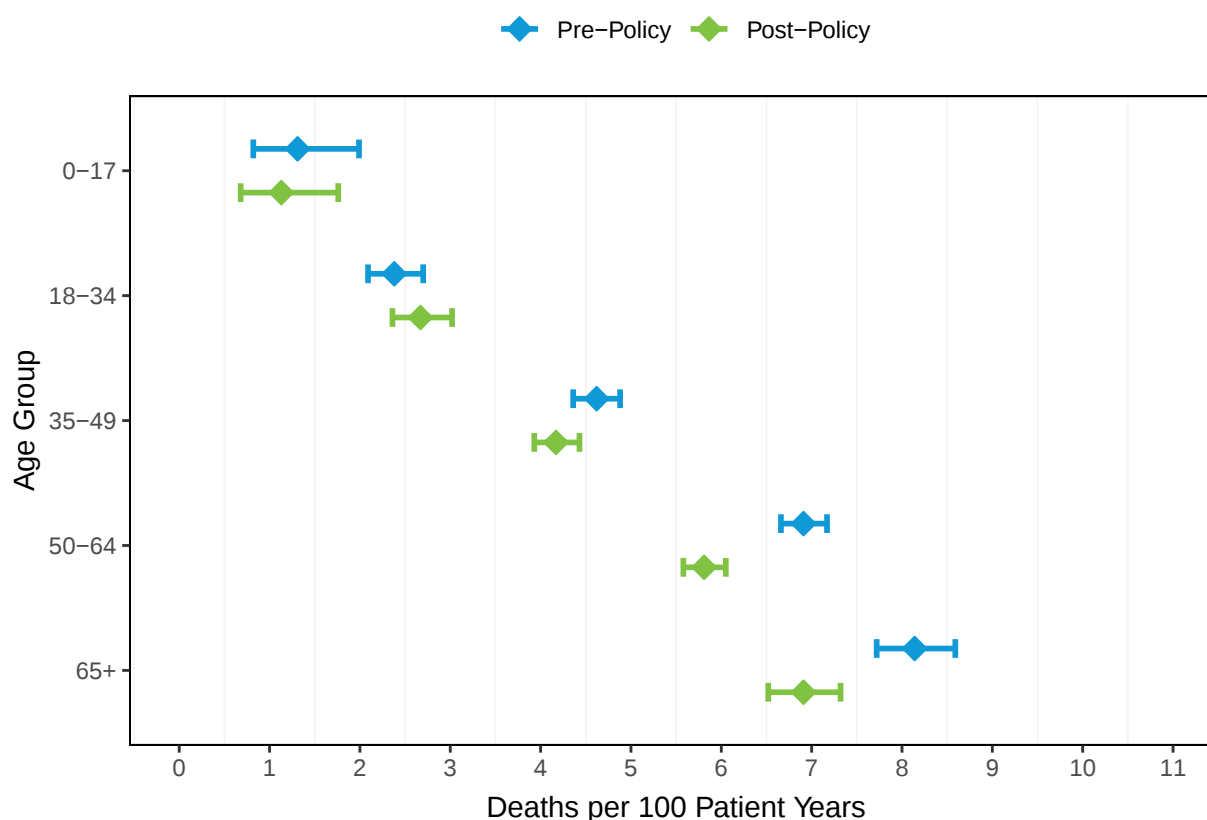


Table A18: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

Age at Listing	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
0-17	Pre-Policy	2660	22	1.31	(0.82, 1.99)
	Post-Policy	2804	19	1.13	(0.68, 1.76)
18-34	Pre-Policy	14288	242	2.38	(2.09, 2.7)
	Post-Policy	14186	257	2.67	(2.36, 3.02)
35-49	Pre-Policy	35784	1214	4.62	(4.36, 4.88)
	Post-Policy	35959	1066	4.17	(3.93, 4.43)
50-64	Pre-Policy	56989	2894	6.91	(6.66, 7.17)
	Post-Policy	57515	2371	5.81	(5.58, 6.05)
65+	Pre-Policy	24240	1374	8.14	(7.72, 8.59)
	Post-Policy	25235	1166	6.91	(6.52, 7.32)

Figure A16 and **Table A19** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and gender. Waiting list mortality decreased across genders after the policy change.

Figure A16: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Gender

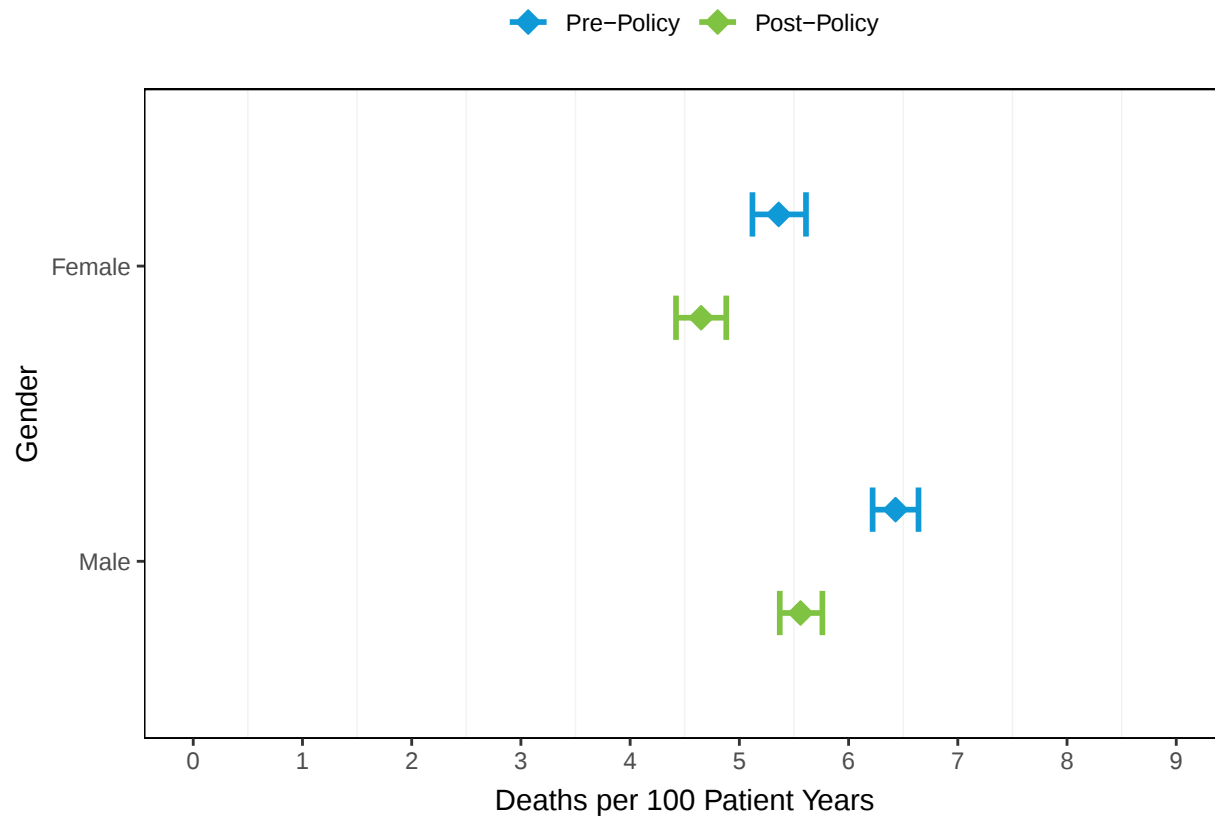


Table A19: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Gender

Gender	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
Female	Pre-Policy	47669	1883	5.36	(5.12, 5.61)
	Post-Policy	48527	1598	4.65	(4.42, 4.88)
Male	Pre-Policy	77249	3644	6.43	(6.22, 6.64)
	Post-Policy	78364	3086	5.56	(5.37, 5.76)

Figure A17 and **Table A20** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and ethnicity. Waiting list mortality decreased for Black and Hispanic candidates after policy implementation. Waiting list mortality did not change for candidates of other ethnicities.

Figure A17: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

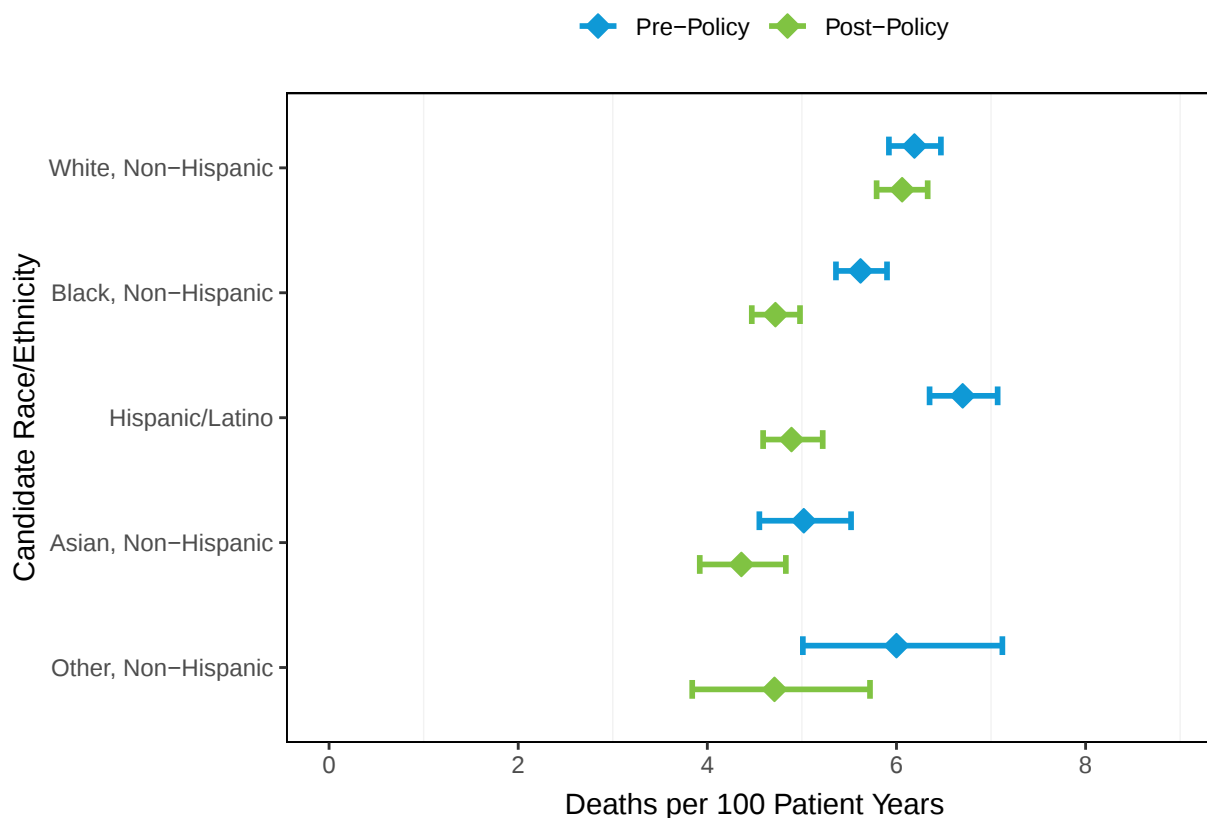
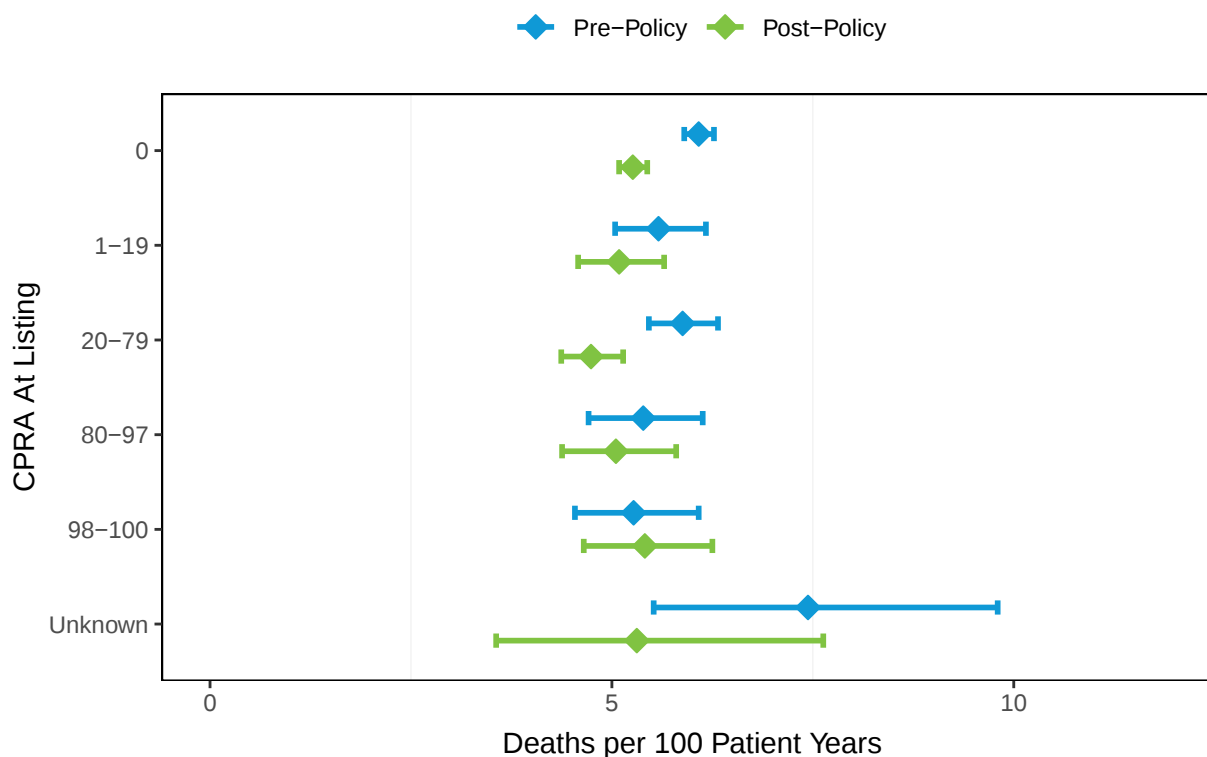


Table A20: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

Ethnicity	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
White, Non-Hispanic	Pre-Policy	46779	2021	6.19	(5.92, 6.47)
	Post-Policy	47602	1955	6.06	(5.79, 6.33)
Black, Non-Hispanic	Pre-Policy	38555	1633	5.62	(5.36, 5.9)
	Post-Policy	38967	1330	4.72	(4.47, 4.98)
Hispanic/Latino	Pre-Policy	26465	1340	6.70	(6.35, 7.07)
	Post-Policy	26897	947	4.89	(4.59, 5.22)
Asian, Non-Hispanic	Pre-Policy	10807	421	5.02	(4.55, 5.52)
	Post-Policy	11125	363	4.36	(3.92, 4.83)
Other, Non-Hispanic	Pre-Policy	3003	131	6.00	(5.01, 7.12)
	Post-Policy	2978	101	4.71	(3.84, 5.72)

Figure A18 and **Table A21** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and CPRA at listing. Waiting list mortality decreased for candidates with CPRA 0% and 20-79% at listing after policy implementation. Waiting list mortality did not change for candidates with other CPRA values at listing.

Figure A18: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing



Candidates with unknown CPRA at listing were listed prior to October 1st, 2009, when CPRA was implemented in allocation

Table A21: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing

CPRA	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
0	Pre-Policy	91081	4056	6.08	(5.9, 6.27)
	Post-Policy	91661	3421	5.26	(5.09, 5.44)
1-19	Pre-Policy	9609	385	5.58	(5.04, 6.17)
	Post-Policy	10170	355	5.09	(4.58, 5.65)
20-79	Pre-Policy	17175	727	5.88	(5.46, 6.32)
	Post-Policy	17921	588	4.74	(4.37, 5.14)
80-97	Pre-Policy	5997	231	5.39	(4.71, 6.13)
	Post-Policy	6224	203	5.05	(4.38, 5.8)
98-100	Pre-Policy	4749	186	5.27	(4.54, 6.08)
	Post-Policy	4789	184	5.41	(4.65, 6.25)
Unknown	Pre-Policy	742	50	7.44	(5.52, 9.8)
	Post-Policy	597	29	5.31	(3.56, 7.63)

Figure A19 and **Table A22** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and blood type. Waiting list mortality decreased for candidates with blood type A and O after policy implementation. Waiting list mortality did not change for candidates with blood type AB or B.

Figure A19: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

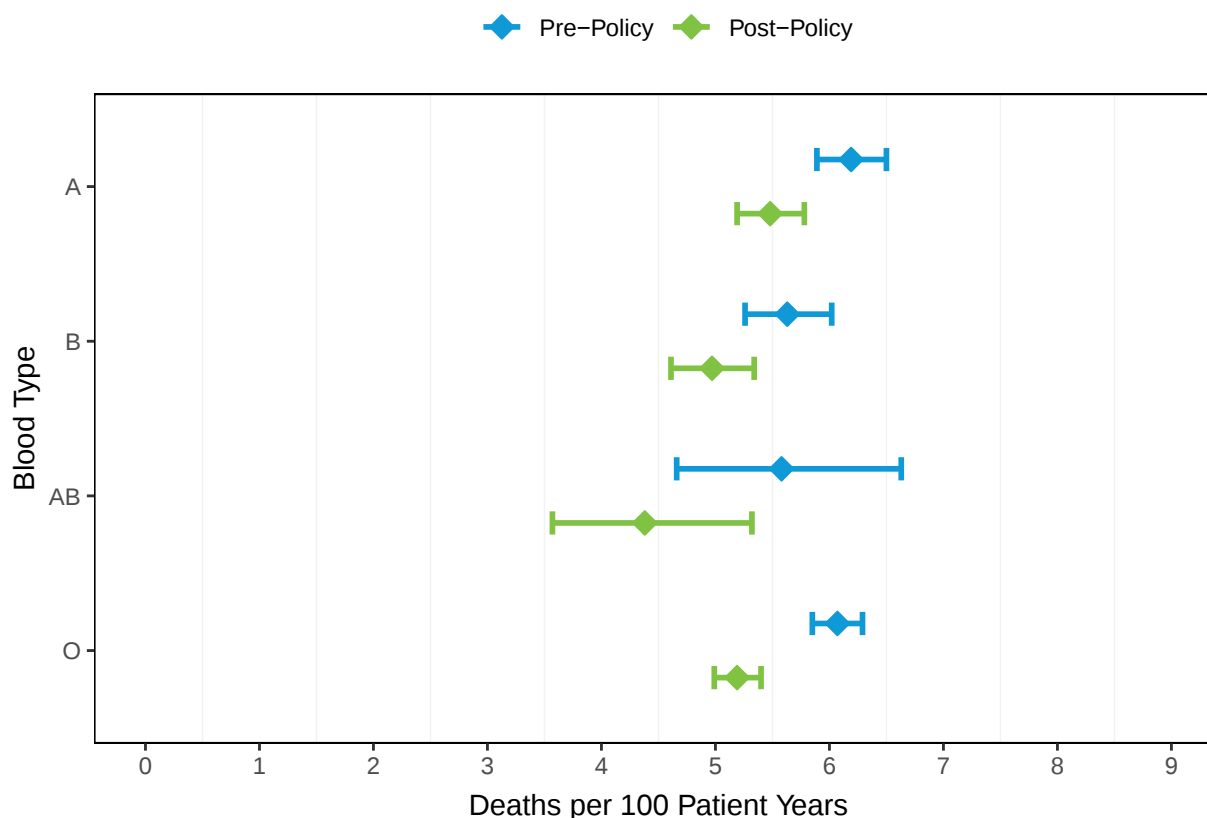


Table A22: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

Blood Type	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
A	Pre-Policy	36390	1574	6.19	(5.89, 6.5)
	Post-Policy	36812	1349	5.48	(5.19, 5.78)
B	Pre-Policy	19871	847	5.63	(5.26, 6.02)
	Post-Policy	20292	731	4.97	(4.61, 5.34)
AB	Pre-Policy	3596	129	5.58	(4.66, 6.63)
	Post-Policy	3782	101	4.38	(3.57, 5.32)
O	Pre-Policy	65108	2978	6.07	(5.85, 6.29)
	Post-Policy	66036	2504	5.19	(4.99, 5.4)

Figure A20 and **Table A23** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and EPTS at listing. Pediatric candidates and candidates with no EPTS assigned at listing due to being listed prior to May 27, 2014 are excluded. Waiting list mortality decreased from 7 to 6 deaths per 100 patient years for candidates with EPTS 21-100% at listing after policy implementation. Waiting list mortality did not change for candidates with EPTS 0-20% at listing.

Figure A20: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Listing

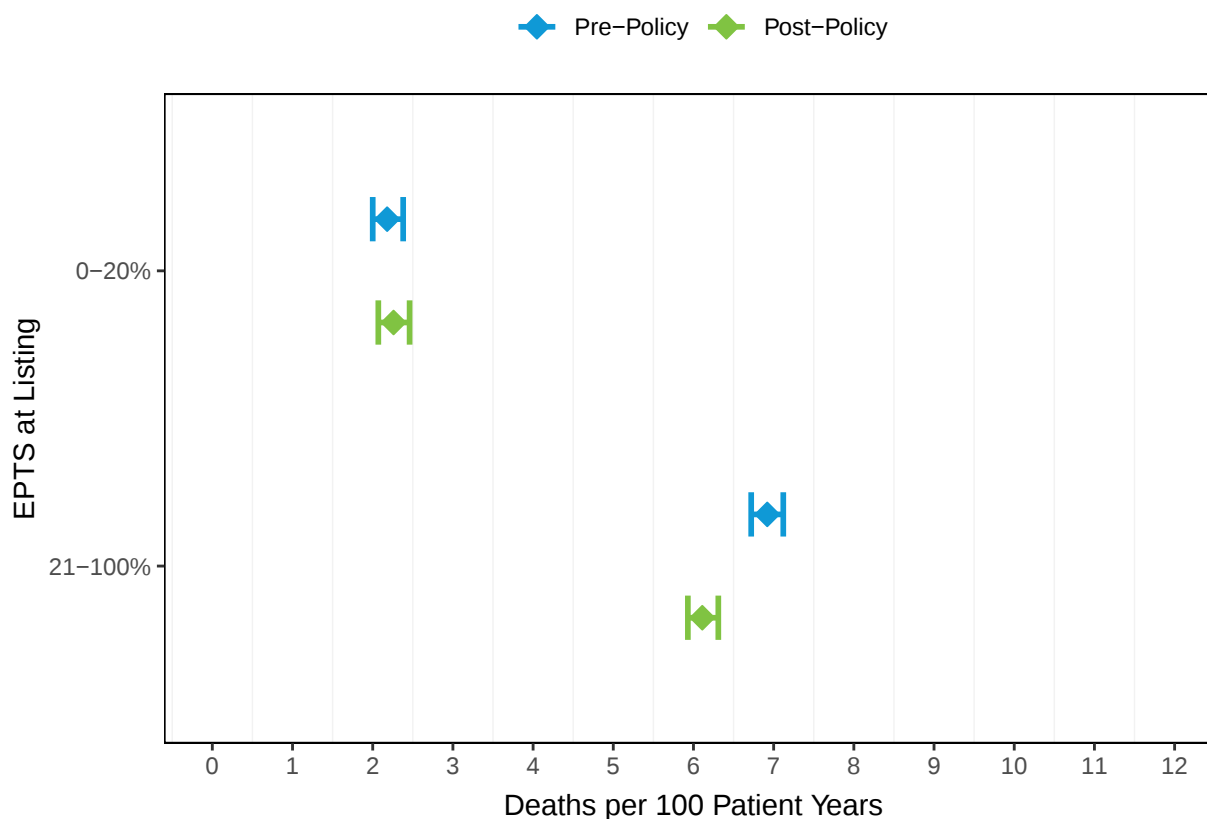


Table A23: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Listing

EPTS	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
0-20%	Pre-Policy	32772	509	2.18	(2, 2.38)
	Post-Policy	34269	530	2.26	(2.07, 2.46)
21-100%	Pre-Policy	90705	4510	6.92	(6.72, 7.12)
	Post-Policy	94191	3999	6.11	(5.93, 6.31)

Figure A21 and **Table A24** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and time on dialysis at listing. Groupings are based on the 25th, 50th, and 75th percentiles of dialysis time. Waiting list mortality decreased for candidates with 9 months to 3 years of dialysis time at listing after policy implementation.

Figure A21: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Time at Listing

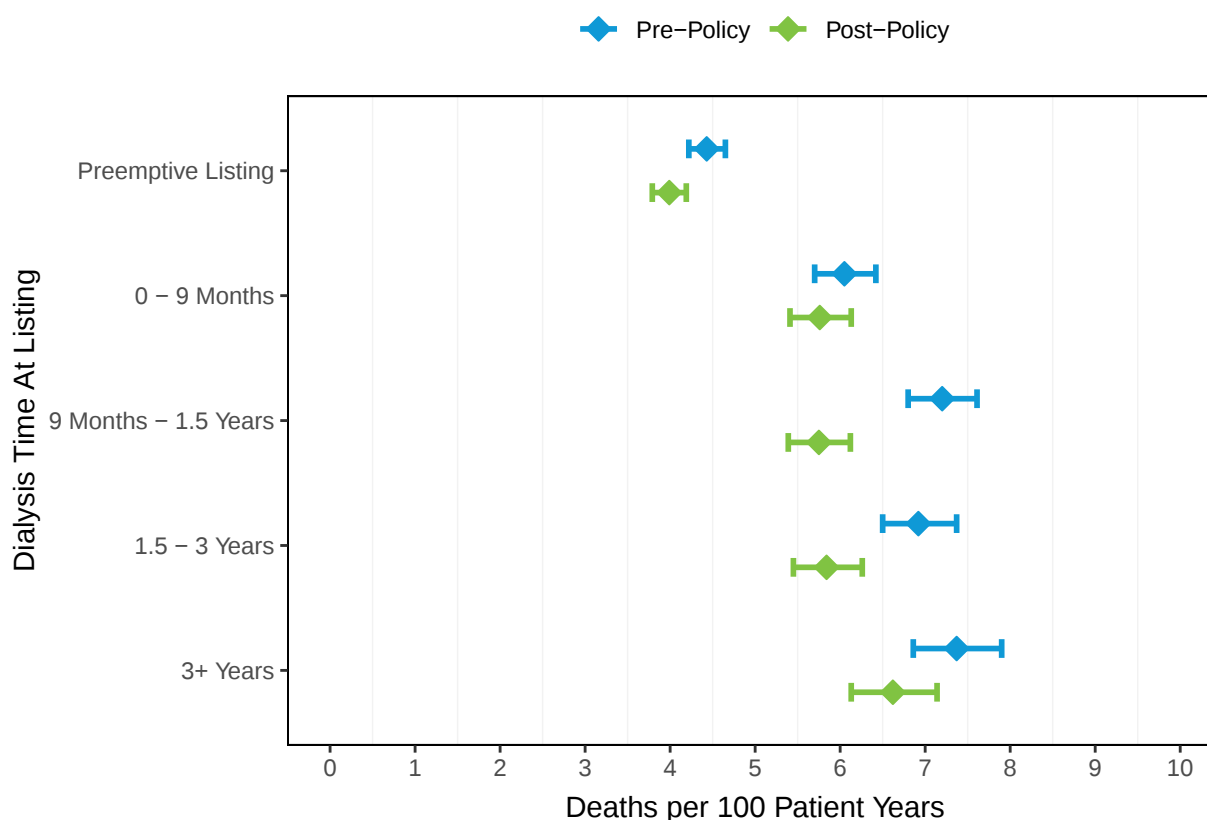


Table A24: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Time at Listing

Dialysis Time	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
Preemptive Listing	Pre-Policy	49700	1656	4.43	(4.22, 4.65)
	Post-Policy	51742	1508	3.99	(3.79, 4.19)
0 - 9 Months	Pre-Policy	25142	1117	6.05	(5.7, 6.42)
	Post-Policy	24505	1003	5.76	(5.41, 6.13)
9 Months - 1.5 Years	Pre-Policy	23412	1242	7.20	(6.8, 7.61)
	Post-Policy	23018	945	5.75	(5.39, 6.12)
1.5 - 3 Years	Pre-Policy	20616	1010	6.92	(6.5, 7.37)
	Post-Policy	20872	831	5.84	(5.45, 6.26)
3+ Years	Pre-Policy	17503	797	7.37	(6.86, 7.9)
	Post-Policy	17855	671	6.62	(6.13, 7.14)

Figure A22 and **Table A25** show deaths per 100 patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and diagnosis. Waiting list mortality decreased for candidates diagnosed with diabetes or hypertensive nephrosclerosis. Waiting list mortality did not change for candidates with other diagnoses.

Figure A22: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis

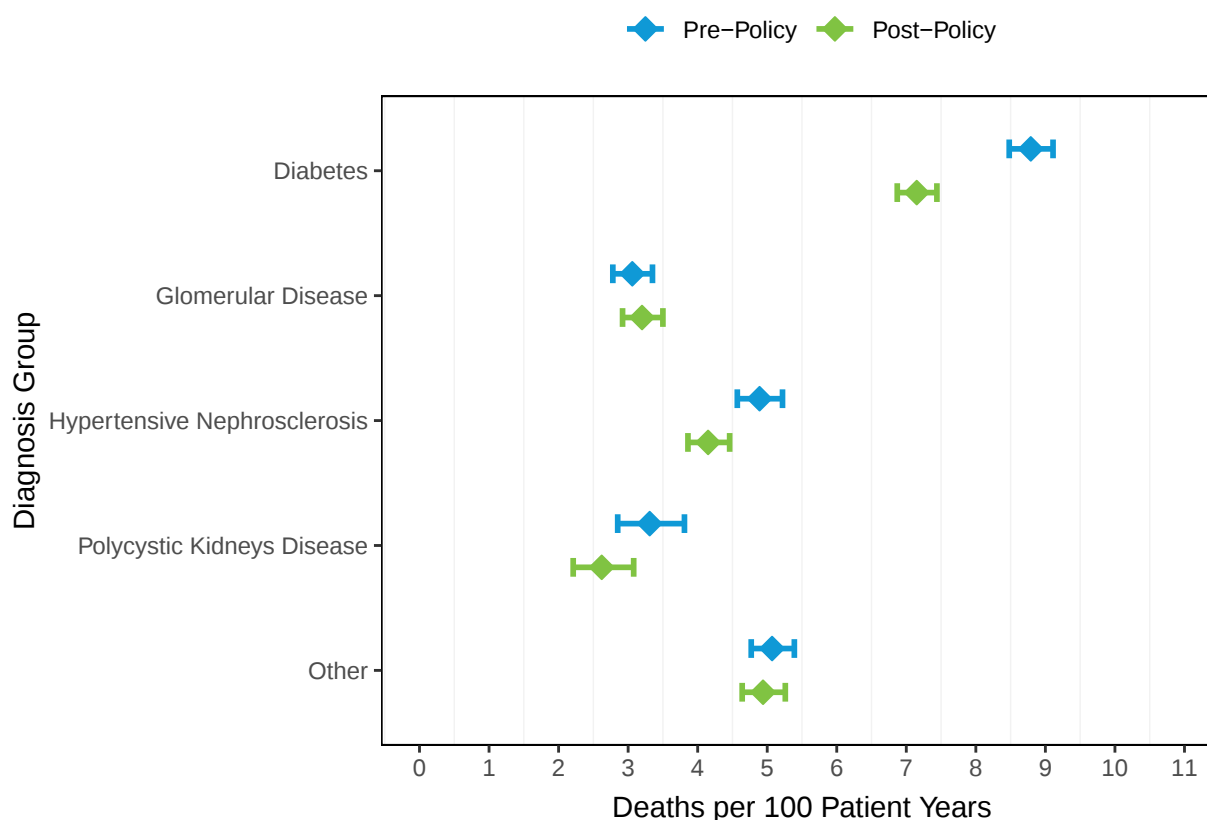


Table A25: Deaths per 100 Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis

Diagnosis	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
Diabetes	Pre-Policy	46595	3039	8.79	(8.48, 9.11)
	Post-Policy	46888	2415	7.15	(6.87, 7.44)
Glomerular Disease	Pre-Policy	20896	463	3.06	(2.78, 3.35)
	Post-Policy	21124	472	3.20	(2.92, 3.5)
Hypertensive Nephrosclerosis	Pre-Policy	24951	900	4.89	(4.57, 5.22)
	Post-Policy	25181	734	4.15	(3.86, 4.46)
Polycystic Kidneys Disease	Pre-Policy	7888	190	3.31	(2.85, 3.81)
	Post-Policy	7973	147	2.62	(2.21, 3.08)
Other	Pre-Policy	28628	1030	5.07	(4.77, 5.39)
	Post-Policy	29725	1000	4.94	(4.64, 5.26)

Figure A23 and **Table A26** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and gender. The transplant rate for female registrations increased from 33 to 39 transplants per 100 active patient years. The rate for male registrations increased from 31 to 35 transplants per 100 active patient years.

Figure A23: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Gender

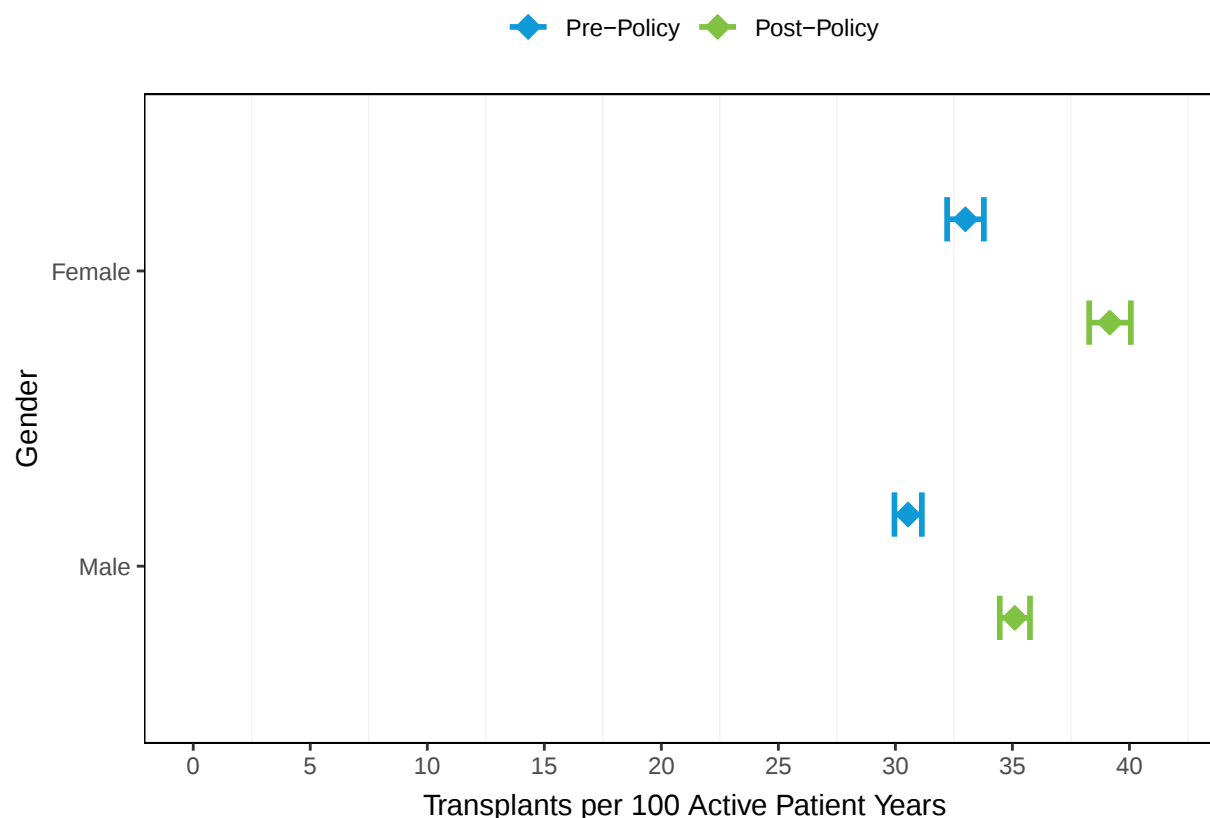


Table A26: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Gender

Gender	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
Female	Pre-Policy	34338	6778	32.99	(32.21, 33.78)
	Post-Policy	34091	7479	39.16	(38.28, 40.06)
Male	Pre-Policy	57575	10596	30.54	(29.96, 31.13)
	Post-Policy	56968	11401	35.10	(34.46, 35.75)

Figure A24 and **Table A27** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and blood type. Transplant rates increased from 43 to 50 transplants per 100 active patient years for type A registrations, 25 to 32 for type B registrations, and 26 to 31 for type O registrations. There was no change in transplant rate for type AB registrations after policy implementation.

Figure A24: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

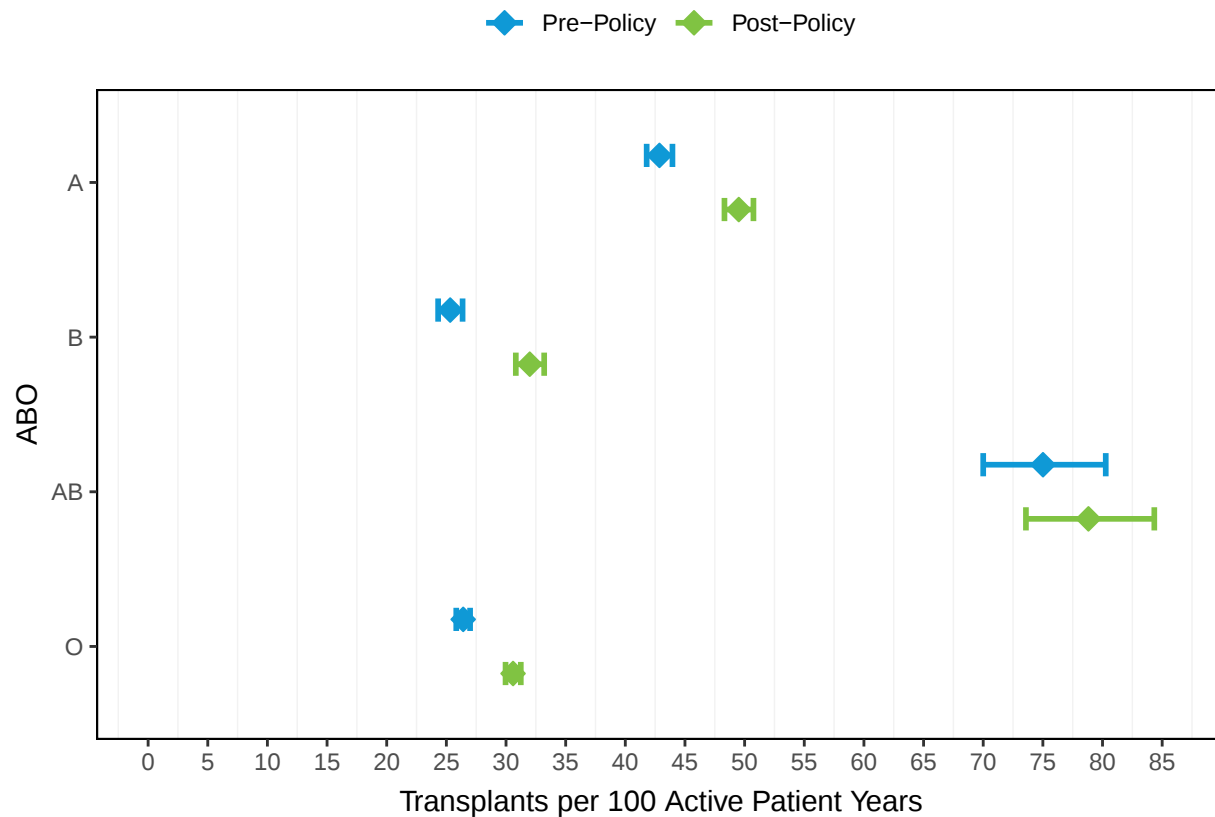


Table A27: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

Blood Type	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
A	Pre-Policy	26083	6110	42.86	(41.79, 43.95)
	Post-Policy	25553	6450	49.51	(48.31, 50.74)
B	Pre-Policy	14859	2369	25.32	(24.31, 26.36)
	Post-Policy	14811	2799	31.99	(30.82, 33.2)
AB	Pre-Policy	2453	834	75.01	(70, 80.27)
	Post-Policy	2568	839	78.82	(73.58, 84.34)
O	Pre-Policy	48549	8061	26.41	(25.83, 26.99)
	Post-Policy	48147	8793	30.59	(29.96, 31.24)

Figure A25 and **Table A28** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and EPTS at listing. Pediatric candidates and candidates with no EPTS assigned at listing due to being listed prior to May 27, 2014 are excluded. The transplant rate for registrations with EPTS 0-20% increased from 30 to 36 transplants per 100 active patient years. The transplant rate for registrations with EPTS 21-100% increased from 27 to 31 transplants per 100 active patient years.

Figure A25: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Listing

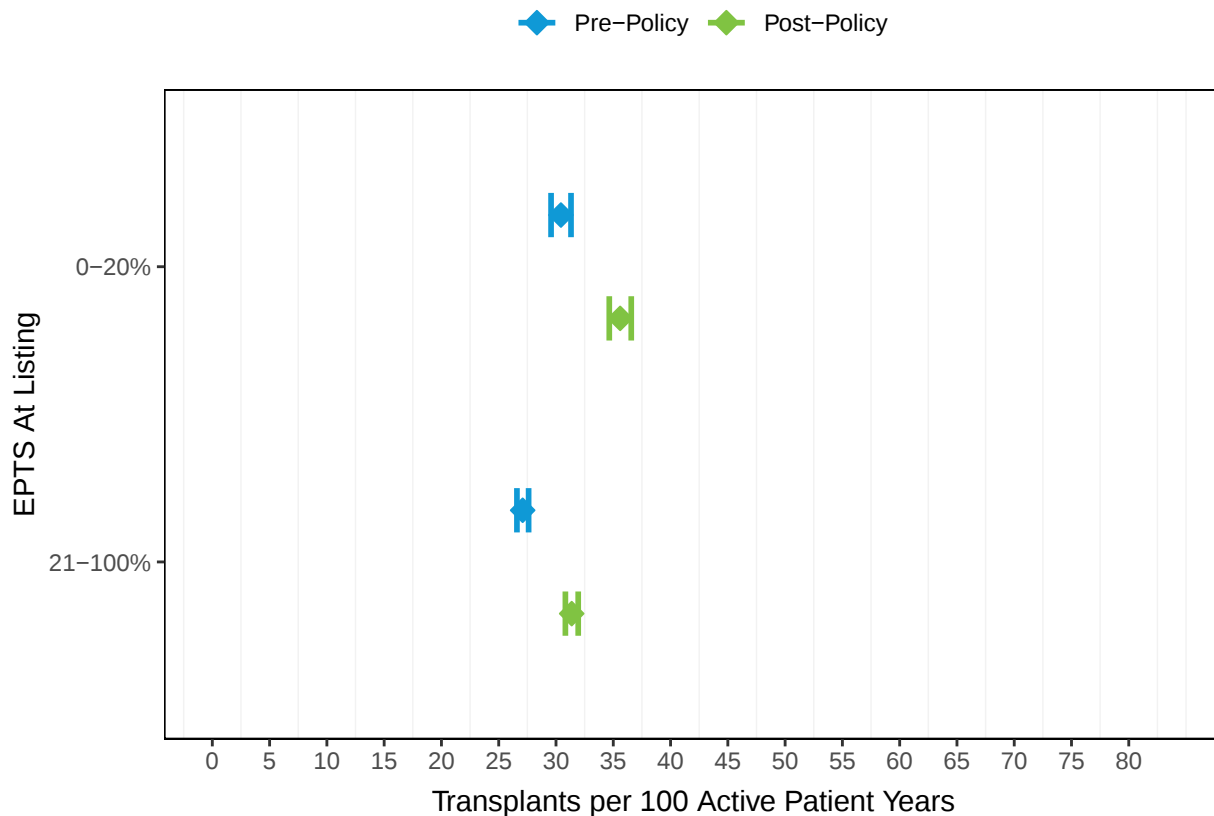


Table A28: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Listing

EPTS	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
0-20%	Pre-Policy	26071	4764	30.43	(29.57, 31.31)
	Post-Policy	26481	5330	35.60	(34.65, 36.57)
21-100%	Pre-Policy	68188	10907	27.09	(26.59, 27.61)
	Post-Policy	68280	12023	31.37	(30.82, 31.94)

Figure A26 and **Table A29** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and diagnosis. Transplant rates increased for all diagnoses except polycystic kidney disease after policy implementation.

Figure A26: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis

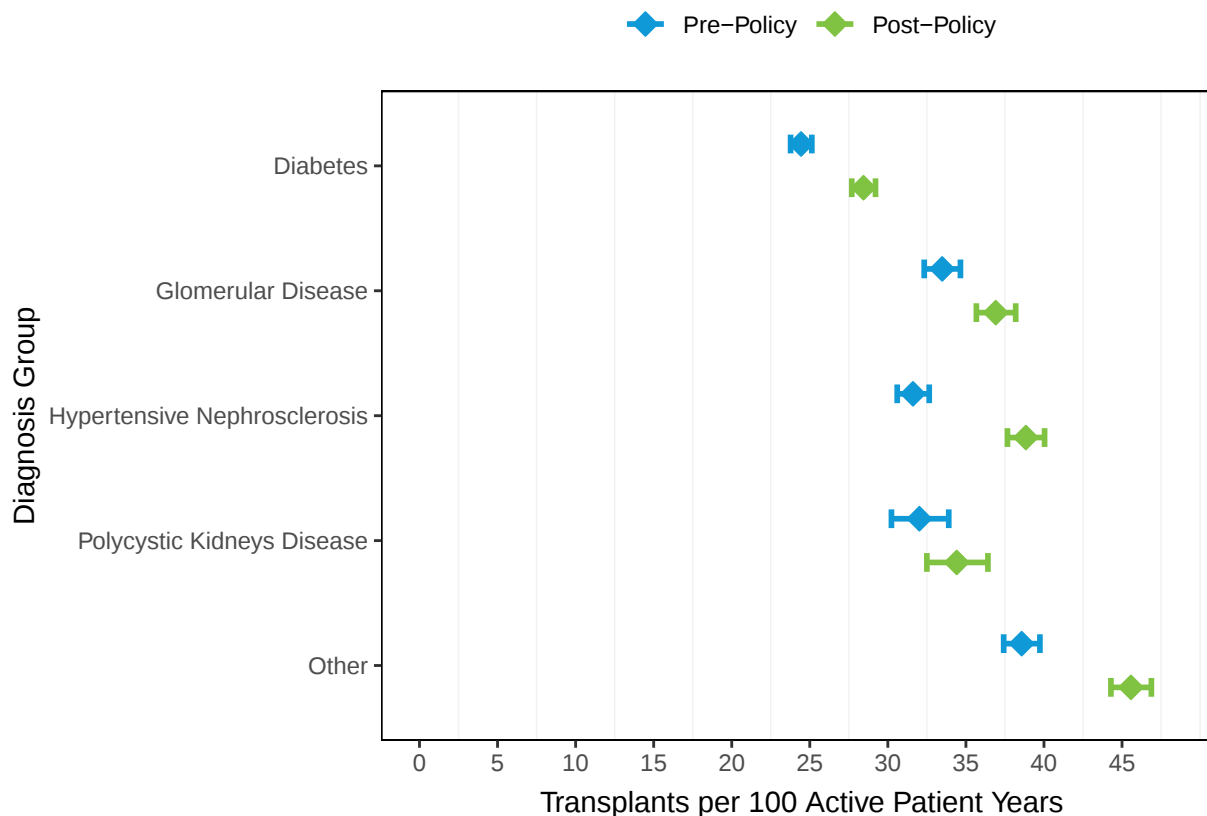


Table A29: Transplants per 100 Active Patient Years for Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis

Diagnosis	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
Diabetes	Pre-Policy	33570	4987	24.44	(23.77, 25.13)
	Post-Policy	32824	5423	28.44	(27.69, 29.21)
Glomerular Disease	Pre-Policy	16140	3232	33.48	(32.33, 34.65)
	Post-Policy	15913	3323	36.91	(35.67, 38.19)
Hypertensive Nephrosclerosis	Pre-Policy	18995	3674	31.61	(30.6, 32.65)
	Post-Policy	18692	4120	38.84	(37.66, 40.04)
Polycystic Kidneys Disease	Pre-Policy	6092	1191	32.02	(30.23, 33.9)
	Post-Policy	6035	1206	34.41	(32.5, 36.41)
Other	Pre-Policy	19958	4302	38.57	(37.42, 39.74)
	Post-Policy	20242	4814	45.57	(44.29, 46.88)

Transplants

Figure A27 and **Table A30** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era. There were 17398 transplants performed pre-policy, and 18910 performed post-policy.

Figure A27: Deceased Donor Kidney Transplants March 15, 2020 - March 14, 2022 by Policy Era

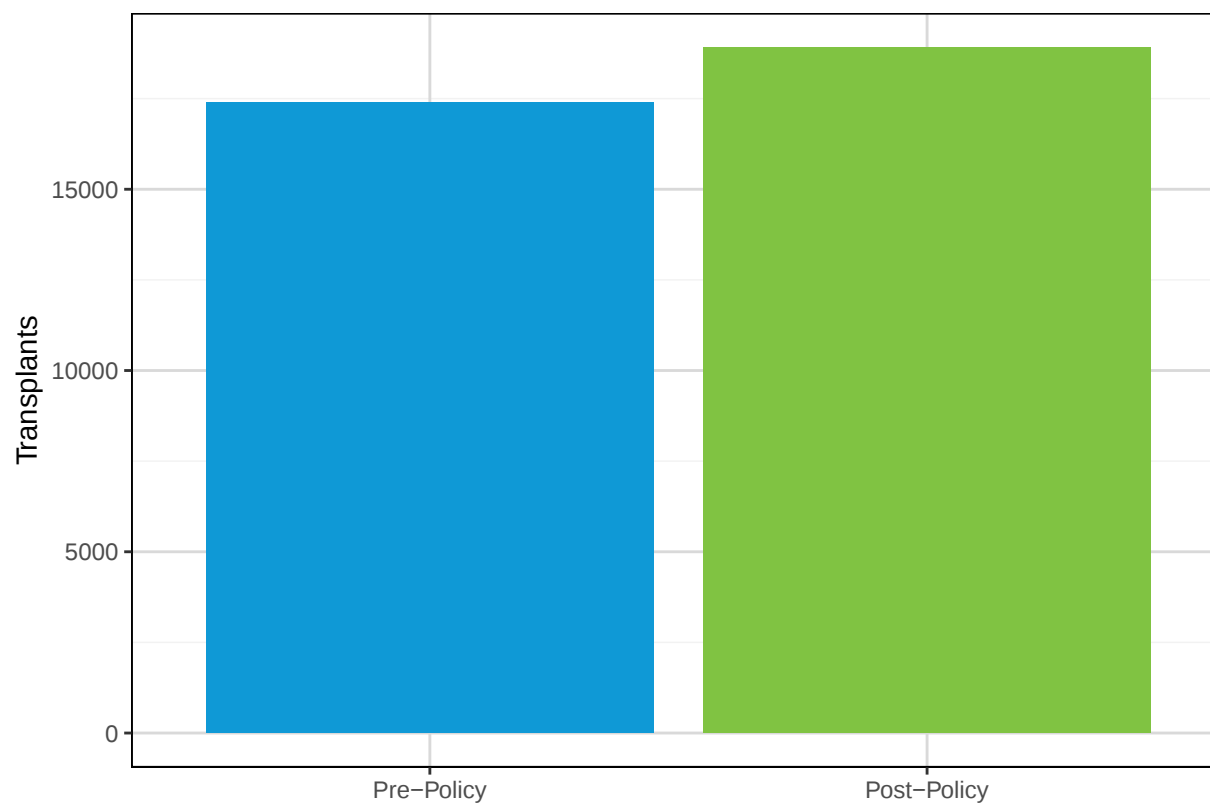


Table A30: Deceased Donor Kidney Transplants March 15, 2020 - March 14, 2022 by Policy Era

Era	Transplants
Pre-Policy	17398
Post-Policy	18910

Figure A28 and **Table A31** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and recipient age at transplant. The number of transplants to all age groups increased after policy implementation. The distribution of age at transplant did not change with the new policy.

Figure A28: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Recipient Age at Transplant

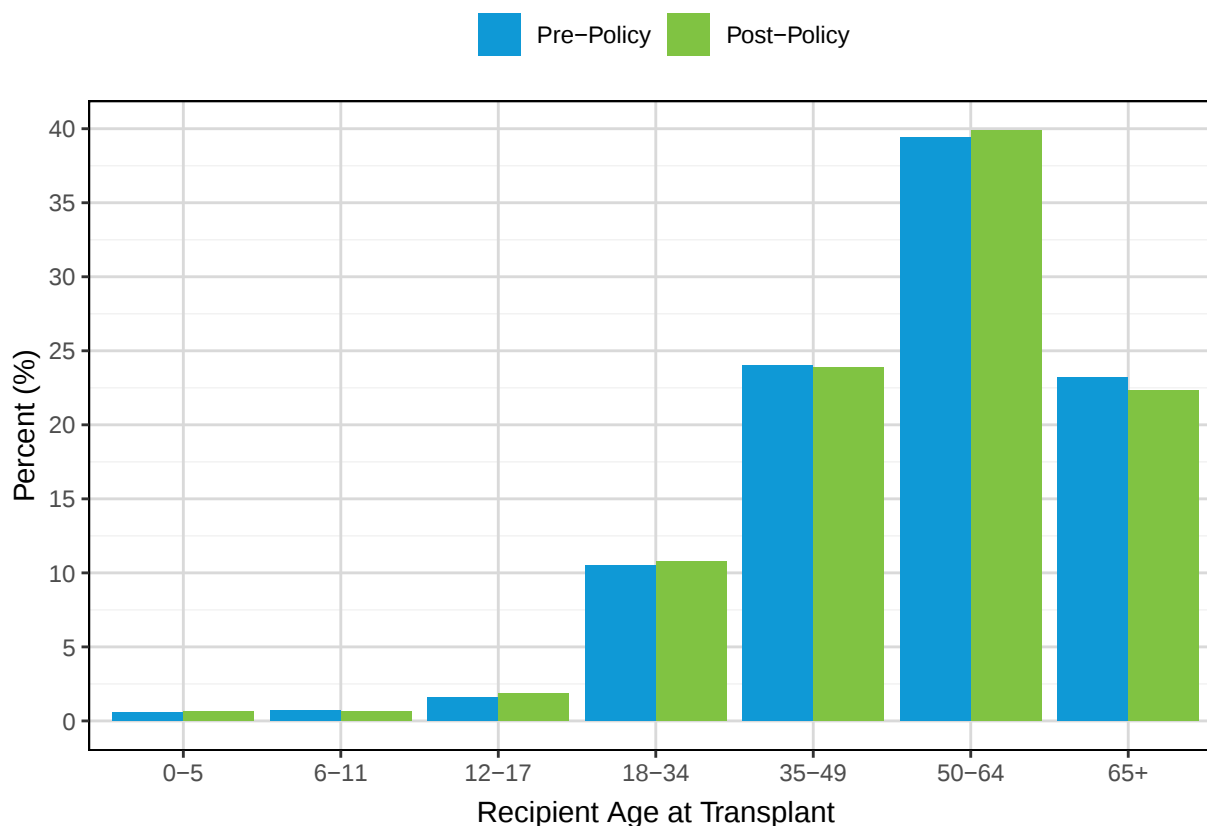


Table A31: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Recipient Age at Transplant

Age at Transplant	Pre-Policy		Post-Policy	
	N	%	N	%
0-5	99	0.57	115	0.61
6-11	121	0.70	126	0.67
12-17	280	1.61	357	1.89
18-34	1828	10.51	2031	10.74
35-49	4177	24.01	4513	23.87
50-64	6861	39.44	7542	39.88
65+	4032	23.18	4226	22.35
Total	17398	100.00	18910	100.00

Figure A29 and **Table A32** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and recipient ethnicity. There was an increase in transplants observed for all ethnicities after implementation except for White candidates, who saw a decrease.

Figure A29: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Recipient Ethnicity

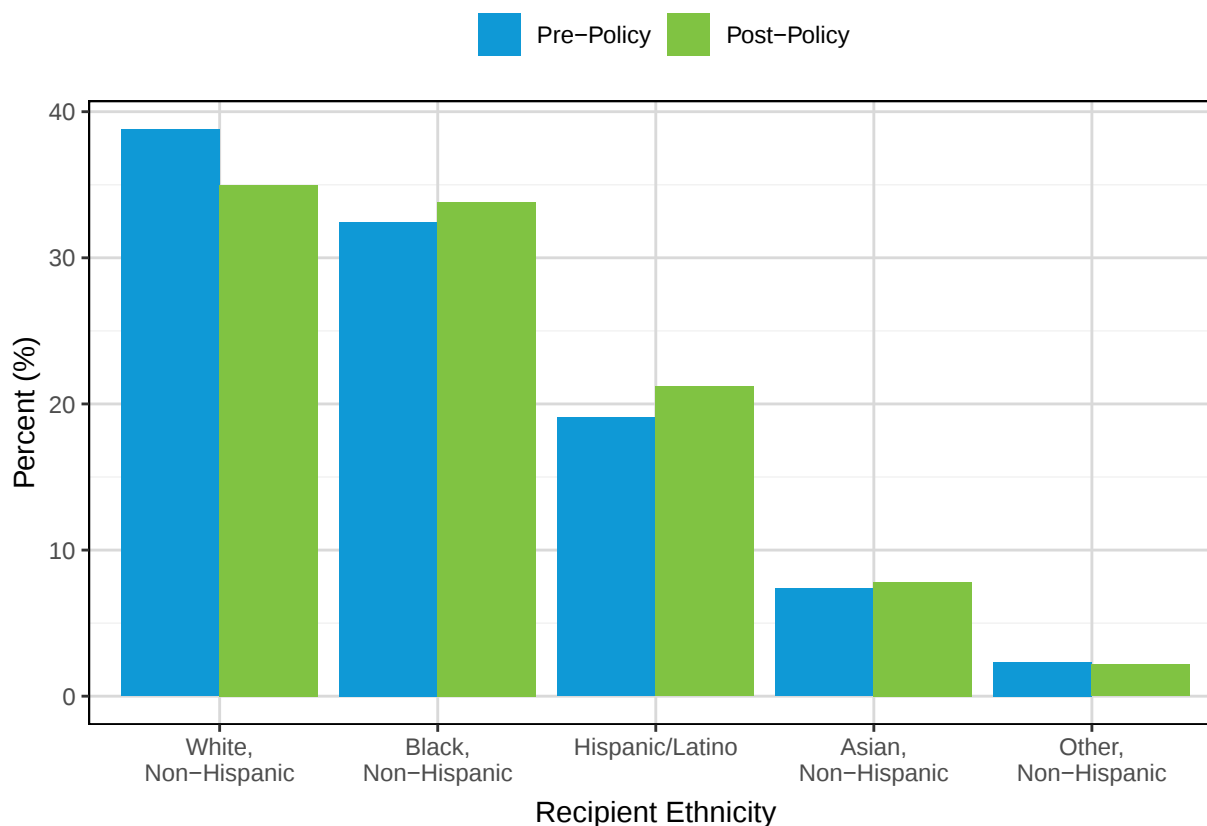


Table A32: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Recipient Ethnicity

Ethnicity	Pre-Policy		Post-Policy	
	N	%	N	%
White, Non-Hispanic	6750	38.80	6615	34.98
Black, Non-Hispanic	5645	32.45	6395	33.82
Hispanic/Latino	3317	19.07	4009	21.20
Asian, Non-Hispanic	1279	7.35	1477	7.81
Other, Non-Hispanic	407	2.34	414	2.19
Total	17398	100.00	18910	100.00

Figure A30 and **Table A33** show the distribution of time on the waiting list in years for deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era. View is restricted to 10 years. Median waiting time remained constant at roughly 1.25 years after policy implementation, though these data only account for transplanted patients and not those who remained on the waiting list.

Figure A30: Distribution of Waiting Time (Years) for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

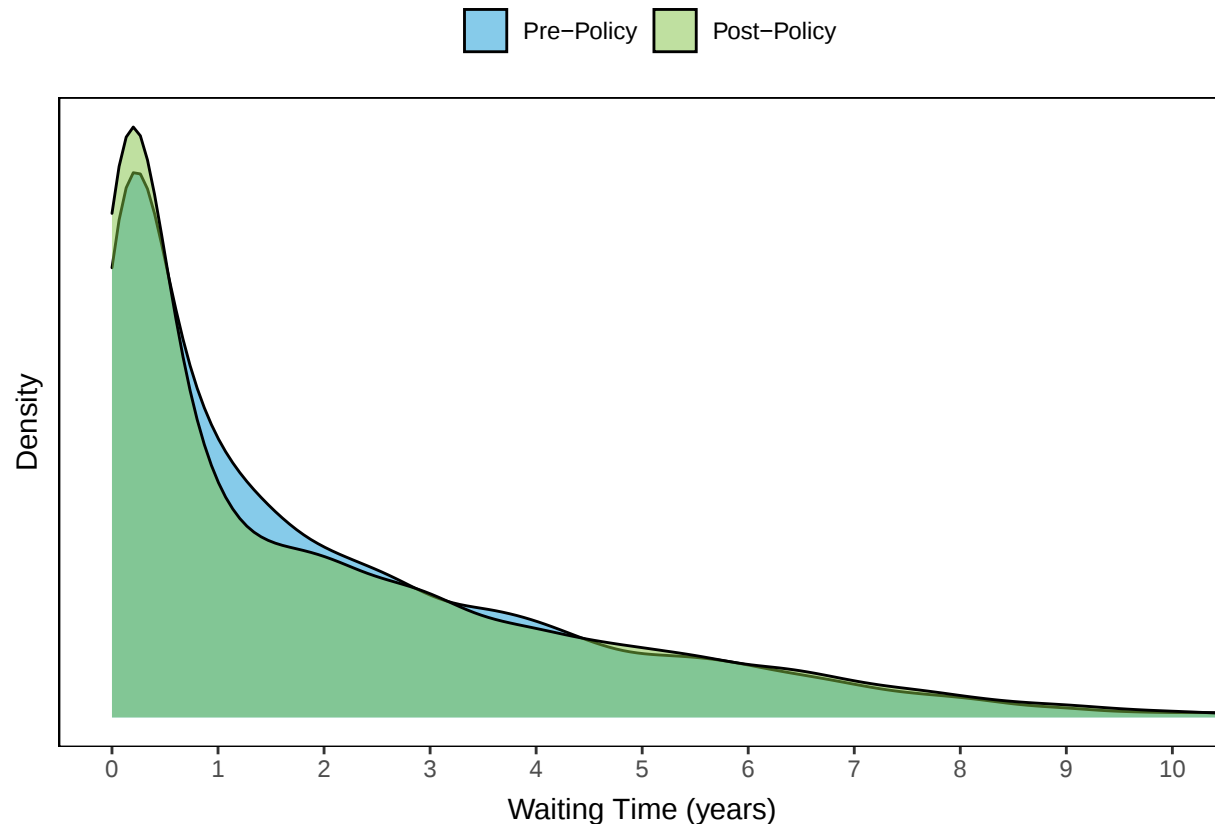


Table A33: Distribution of Waiting Time (Years) for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	17398	0	0	0.32	1.28	2.12	3.25	34.21
Post-Policy	18910	0	0	0.23	1.21	2.13	3.33	22.38

Figure A31 and **Table A34** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and dialysis status at the time of transplant as reported to the OPTN. Roughly 82% of transplant recipients were on dialysis both pre- and post-policy implementation.

Figure A31: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Status at Transplant

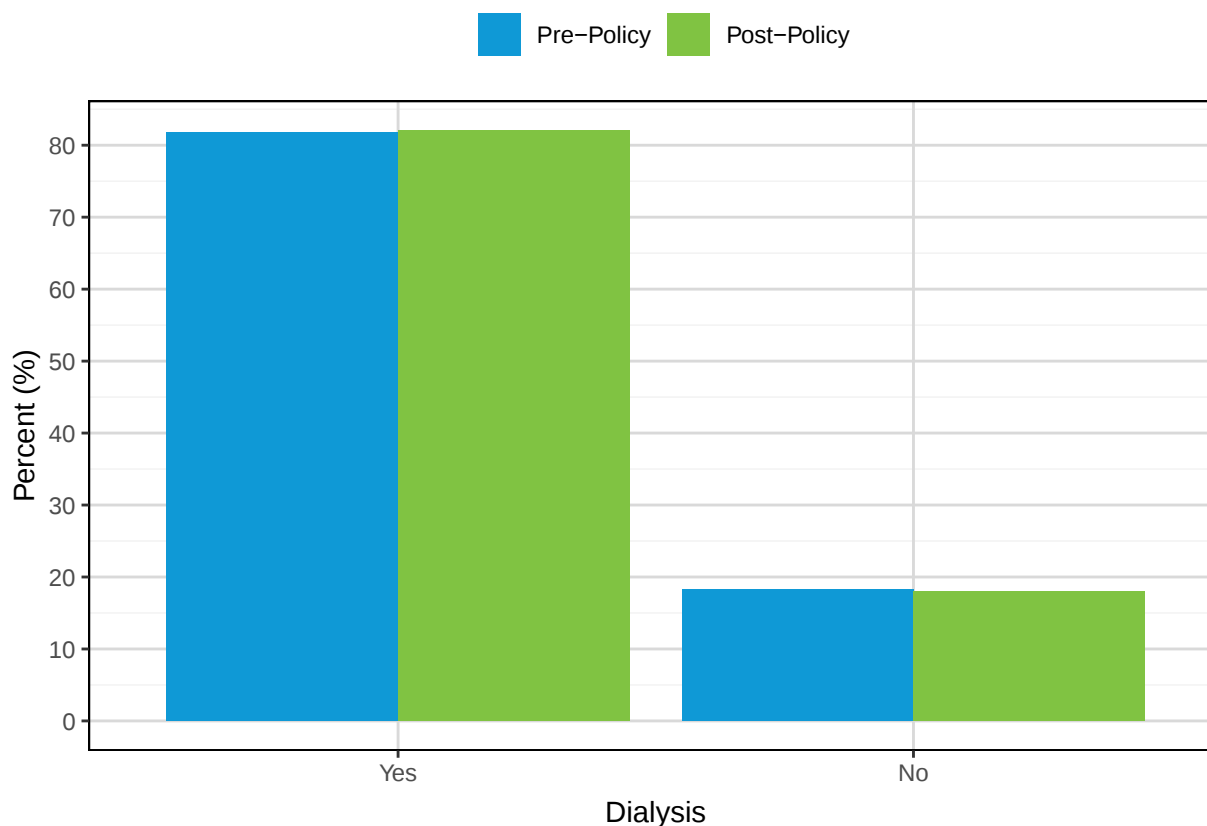


Table A34: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Status at Transplant

Dialysis	Pre-Policy		Post-Policy	
	N	%	N	%
Yes	14217	81.72	15516	82.05
No	3181	18.28	3394	17.95
Total	17398	100.00	18910	100.00

Figure A32 and **Table A35** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and time on dialysis at transplant as reported to the OPTN. Only recipients on dialysis at time of transplant were included. View is restricted to the 99th percentile. Median dialysis time at transplant increased from 4 to 4.4 years after the policy change. This increase does not imply patients need to accrue more time on dialysis in order to receive at transplant, rather patients with higher dialysis times are getting transplanted under the new system as kidneys are distributed more broadly.

Figure A32: Distribution of Time on Dialysis (Years) at Transplant for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

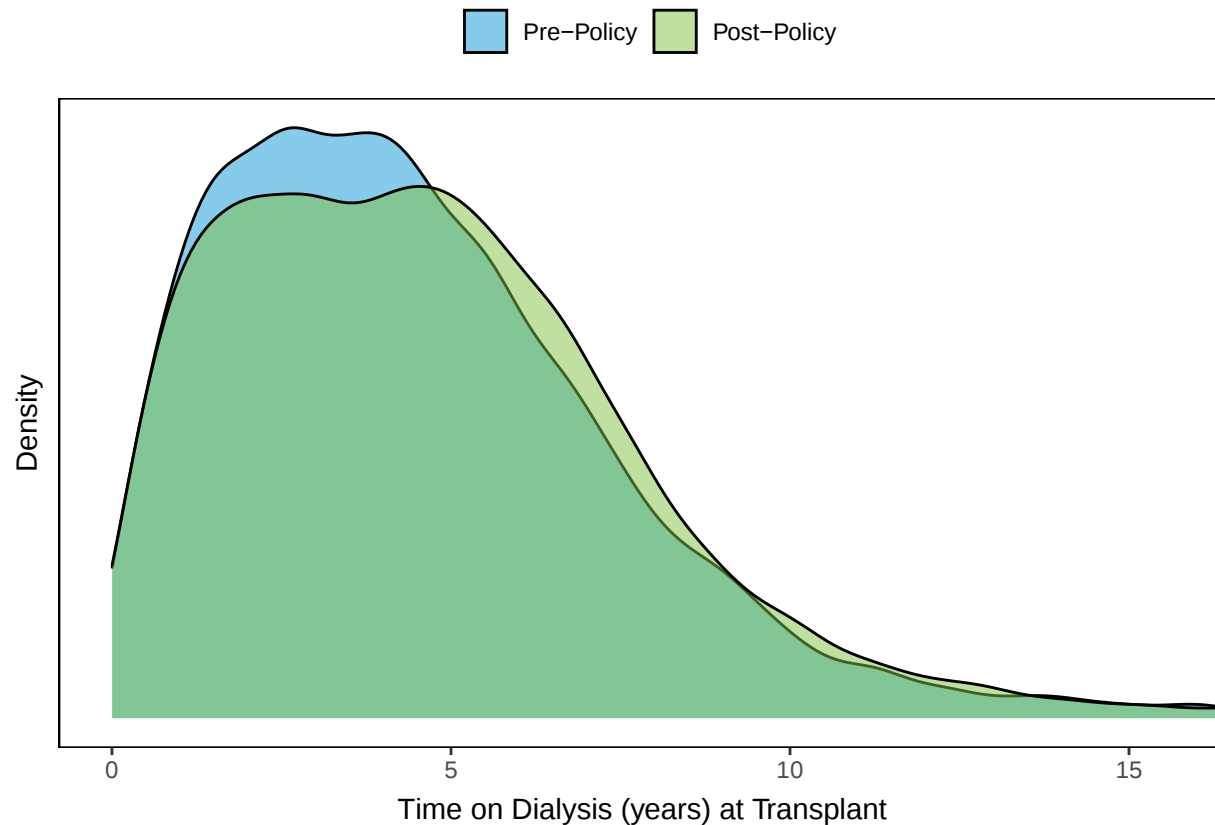


Table A35: Distribution of Time on Dialysis (Years) at Transplant for Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Era	Total	Min	25th Percentile	Median	Mean	75th Percentile	Max
Pre-Policy	14217	0.01	2.29	4.07	4.59	6.18	39.63
Post-Policy	15516	0.00	2.38	4.39	4.81	6.52	31.84

Figure A33 and **Table A36** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and recipient blood type. The majority of recipients were type O both before and after the policy change.

Figure A33: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Recipient Blood Type

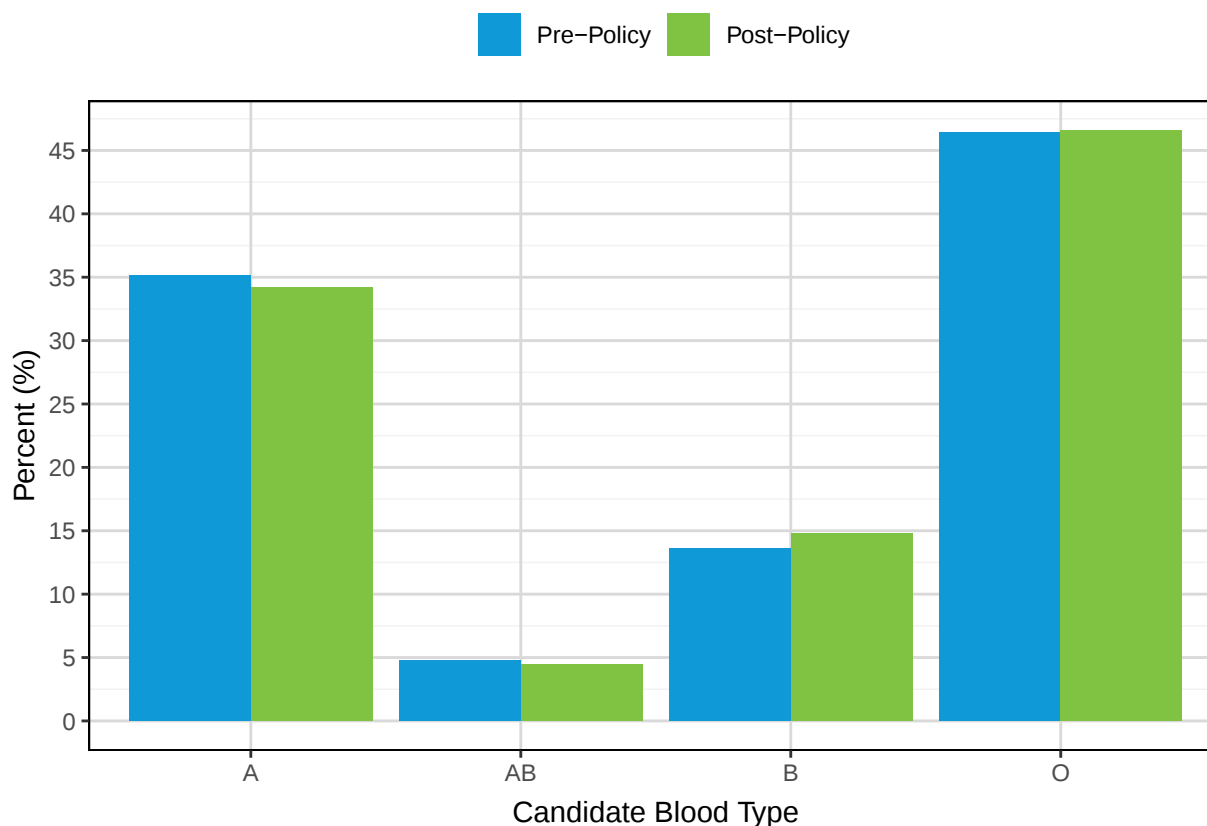


Table A36: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Recipient Blood Type

Blood Type	Pre-Policy		Post-Policy	
	N	%	N	%
A	6116	35.15	6460	34.16
AB	836	4.81	841	4.45
B	2373	13.64	2801	14.81
O	8073	46.40	8808	46.58
Total	17398	100.00	18910	100.00

Figure A34 and **Table A37** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and CPRA at transplant. The proportion recipients with CPRA 0% decreased from 61% to 58% with this change. The proportion of recipients with CPRA 80-97% increased from 7% to 10% after policy implementation.

Figure A34: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Transplant

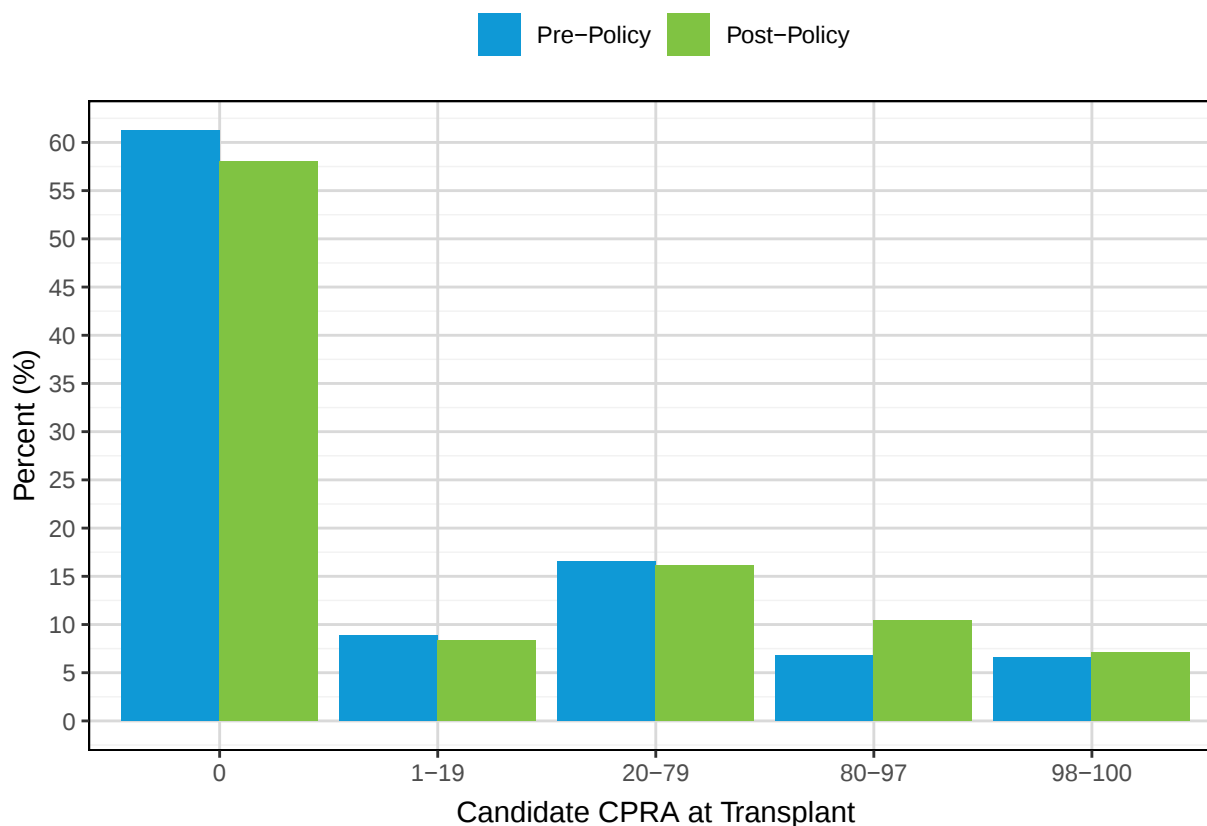


Table A37: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Transplant

CPRA %	Pre-Policy		Post-Policy	
	N	%	N	%
0	10655	61.24	10971	58.02
1-19	1548	8.90	1576	8.33
20-79	2874	16.52	3048	16.12
80-97	1184	6.81	1973	10.43
98-100	1137	6.54	1342	7.10
Total	17398	100.00	18910	100.00

Figure A35 and **Table A38** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and level of HLA mismatch. Multi-organ transplants including a kidney were excluded. The proportion of 0 ABDR mismatch transplants remained stable after policy implementation, at roughly 5%. Little change was observed in the distribution of HLA mismatch level pre- to post-policy.

Figure A35: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and HLA Mismatch

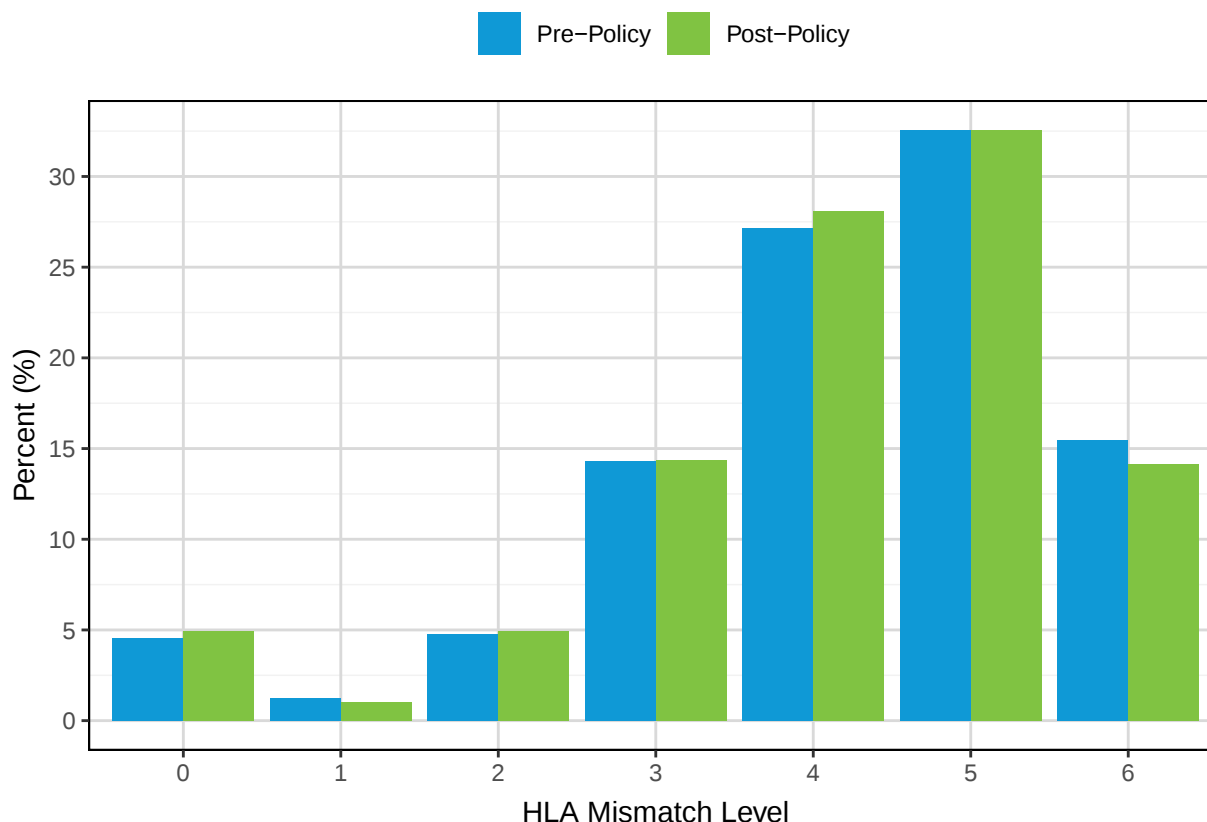


Table A38: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and HLA Mismatch

HLA Mismatch Level	Pre-Policy		Post-Policy	
	N	%	N	%
0	739	4.53	873	4.92
1	204	1.25	184	1.04
2	777	4.76	874	4.92
3	2338	14.32	2552	14.37
4	4434	27.15	4982	28.06
5	5316	32.55	5778	32.54
6	2522	15.44	2511	14.14
Total	16330	100.00	17754	100.00

Figure A36 and **Table A39** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and primary diagnosis at transplant. The distribution of diagnosis at transplant did not change after policy implementation.

Figure A36: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis at Transplant

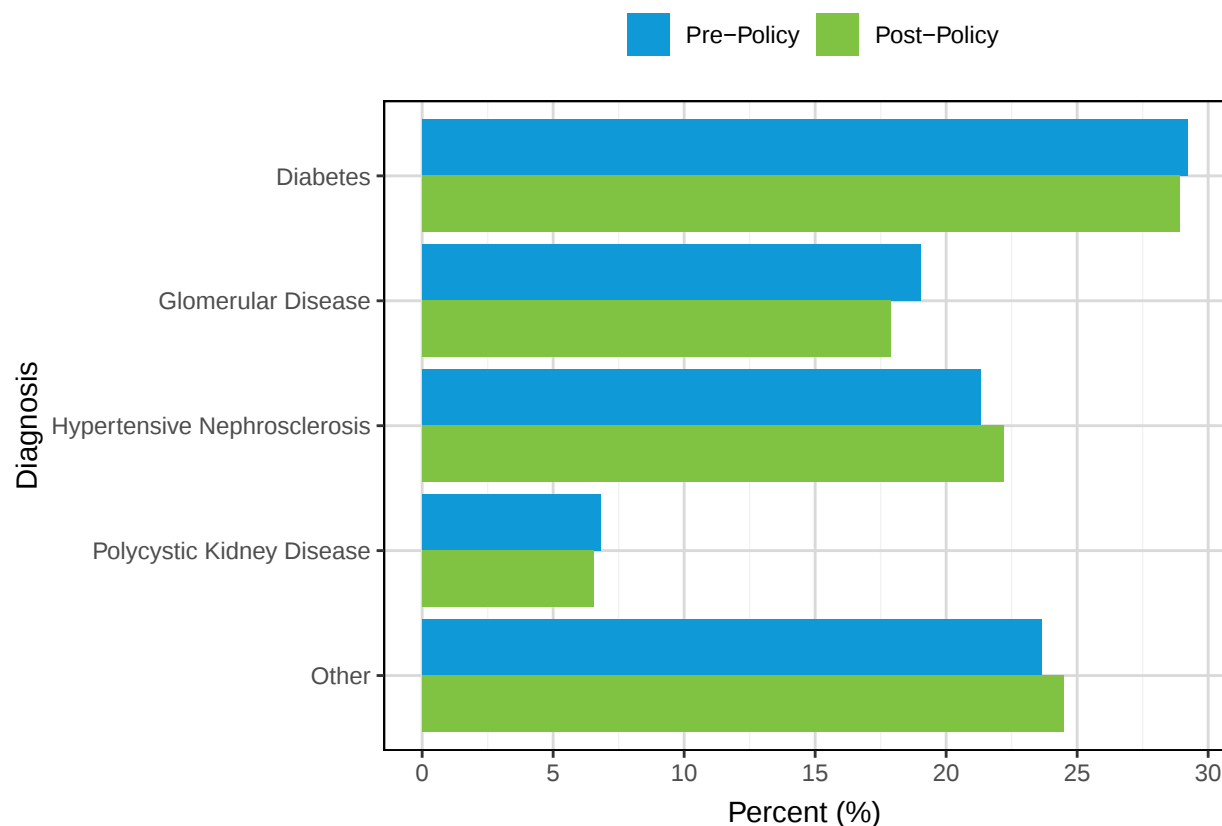


Table A39: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis at Transplant

Diagnosis	Pre-Policy		Post-Policy	
	N	%	N	%
Diabetes	5080	29.20	5465	28.90
Glomerular Disease	3309	19.02	3380	17.87
Hypertensive Nephrosclerosis	3707	21.31	4194	22.18
Polycystic Kidney Disease	1188	6.83	1239	6.55
Other	4114	23.65	4632	24.49
Total	17398	100.00	18910	100.00

Figure A37 and **Table A40** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and EPTS at transplant. There was little change in the distribution of EPTS at transplant after the policy was implemented.

Figure A37: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Transplant

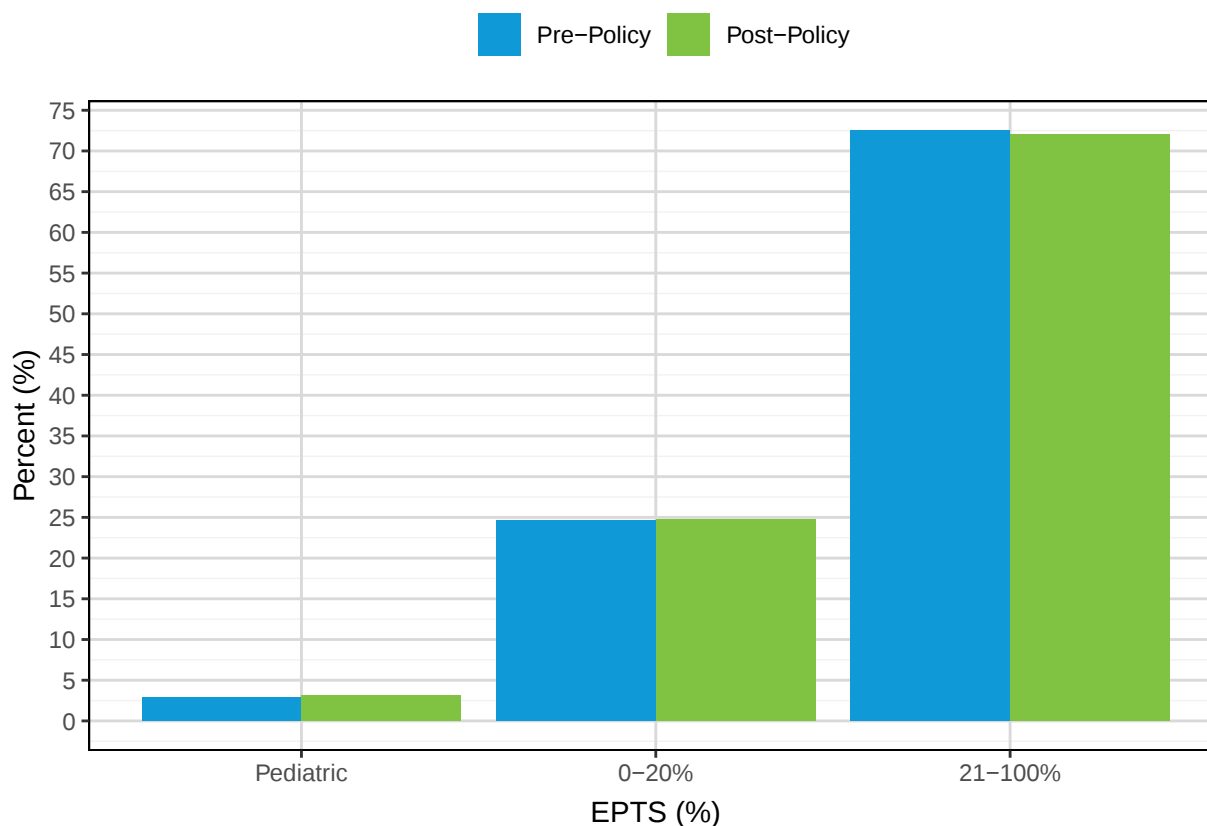


Table A40: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Transplant

EPTS	Pre-Policy		Post-Policy	
	N	%	N	%
Pediatric	502	2.89	602	3.18
0-20%	4279	24.59	4686	24.78
21-100%	12617	72.52	13622	72.04
Total	17398	100.00	18910	100.00

Figure A38 and **Table A41** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and KDPI. There was little change in the distribution of KDPI after the policy was implemented.

Figure A38: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and KDPI

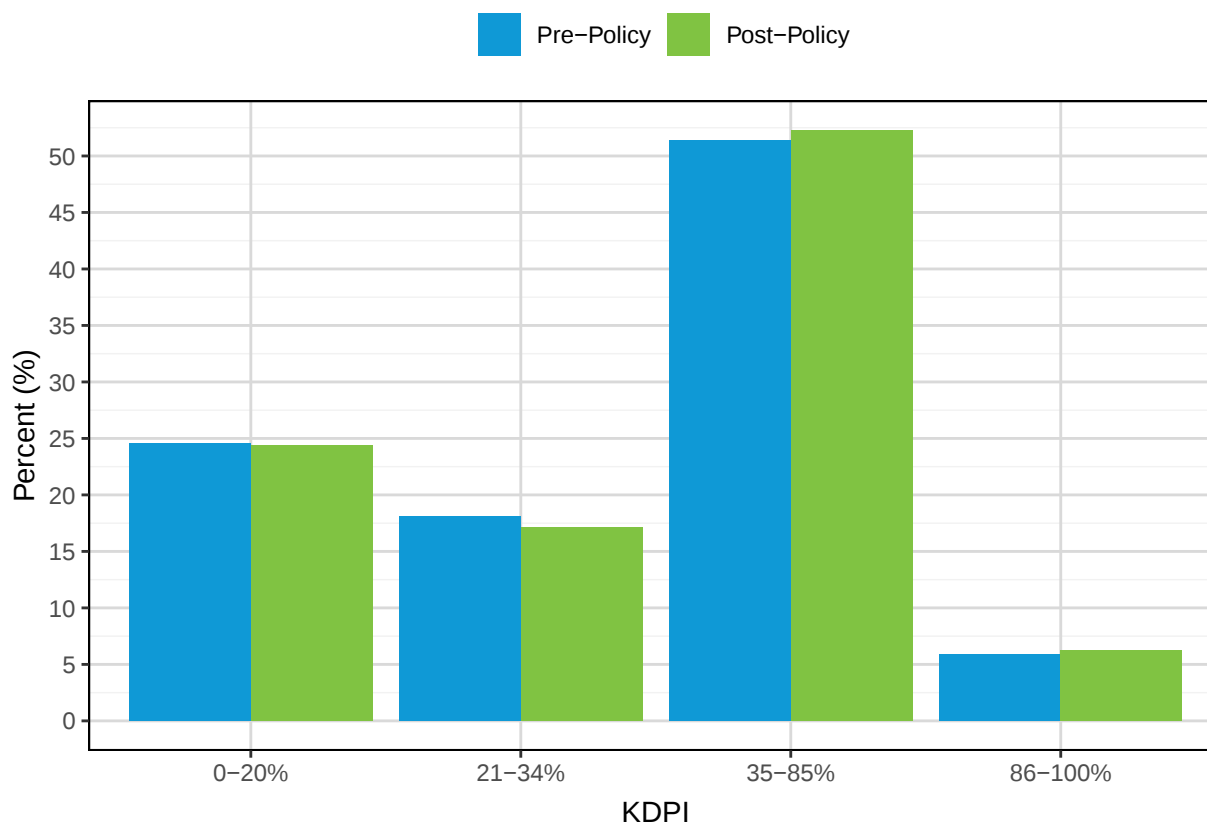


Table A41: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and KDPI

KDPI	Pre-Policy		Post-Policy	
	N	%	N	%
0-20%	4280	24.60	4610	24.38
21-34%	3153	18.12	3235	17.11
35-85%	8942	51.40	9883	52.26
86-100%	1023	5.88	1182	6.25
Total	17398	100.00	18910	100.00

Figure A39 and **Table A42** show deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and donor DCD status. The proportion of DCDs increased from 27% pre-policy to 31% post-policy.

Figure A39: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and DCD Status

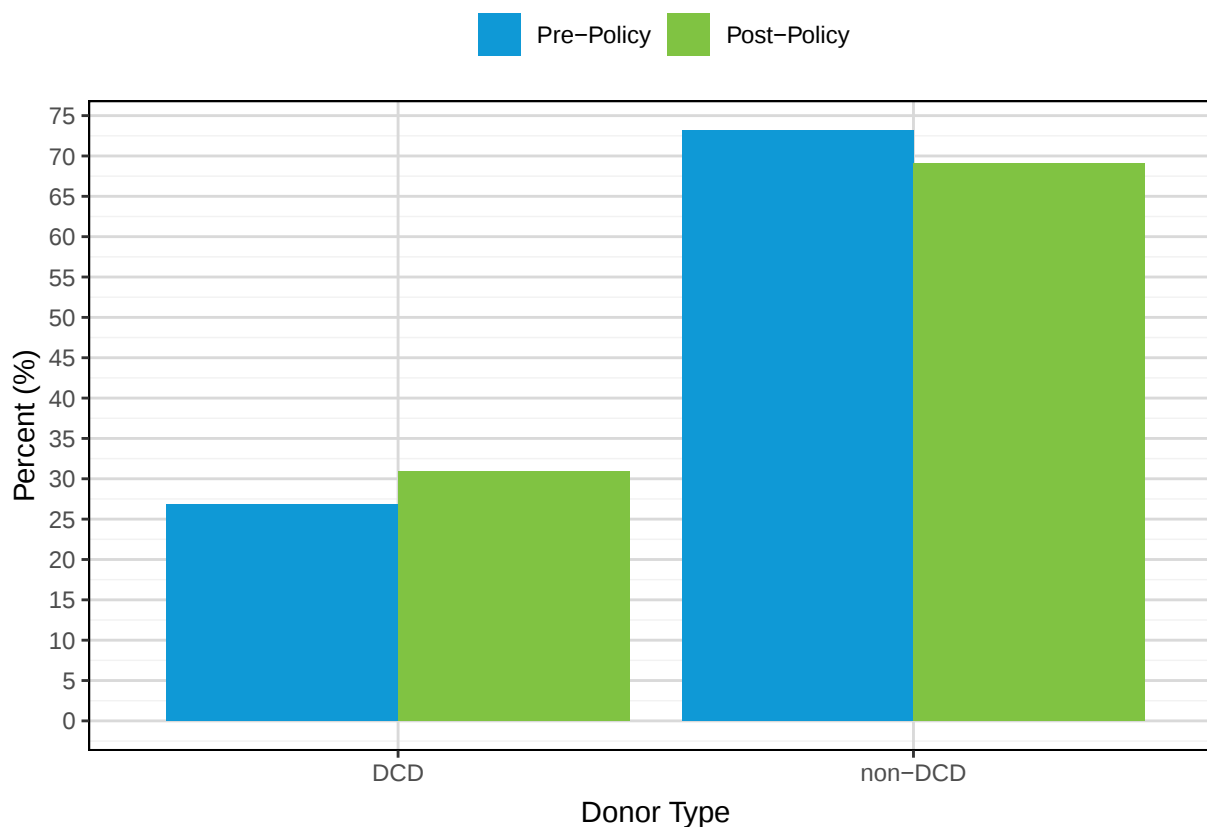
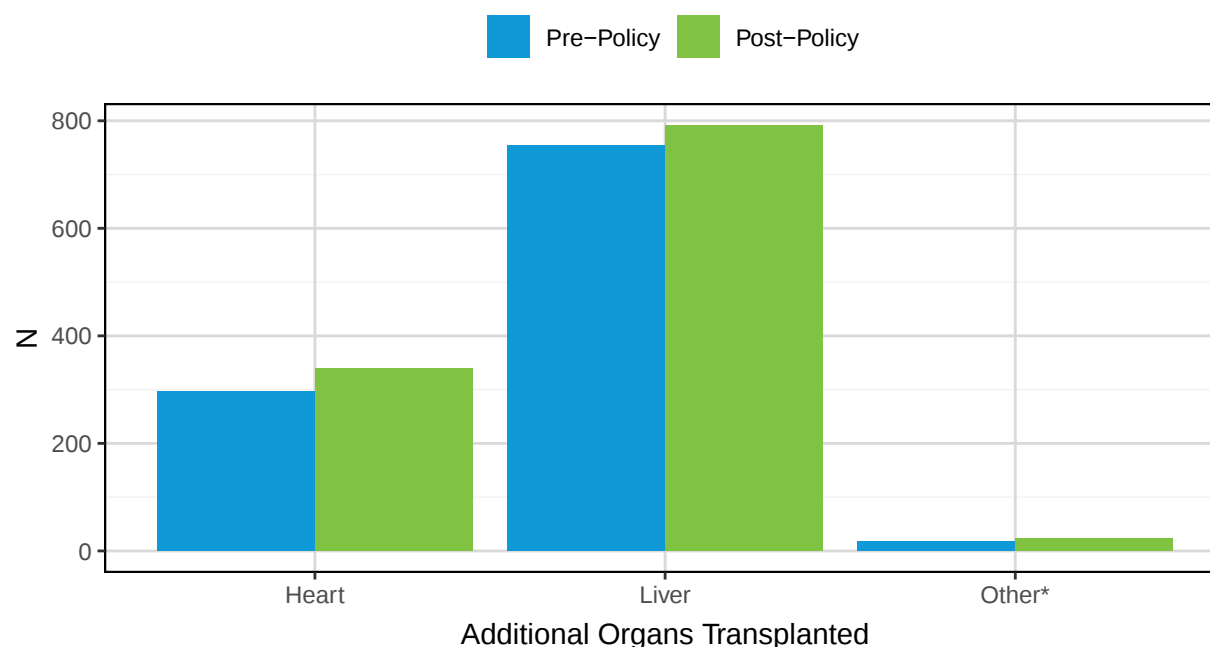


Table A42: Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and DCD Status

DCD Donor	Pre-Policy		Post-Policy	
	N	%	N	%
DCD	4668	26.83	5847	30.92
non-DCD	12730	73.17	13063	69.08
Total	17398	100.00	18910	100.00

Figure A40 and **Table A43** show multi-organ deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era, organ, and KDPI, excluding kidney-pancreas transplants. There were 296 heart-kidney transplants pre-policy implementation and 340 post-policy. There were 754 liver-kidney transplants pre-policy and 792 post-policy.

Figure A40: Multi-Organ Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era



*Does not include kidney-pancreas transplants.

Table A43: Multi-Organ Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and KDPI

Organ	KDPI	Pre-Policy		Post-Policy	
		N	%	N	%
Heart	0-20%	164	55.41	196	57.65
	21-34%	70	23.65	67	19.71
	35-85%	61	20.61	77	22.65
	86-100%	1	0.34	0	0.00
	Total	296	100.00	340	100.00
Liver	0-20%	284	37.67	311	39.27
	21-34%	162	21.49	151	19.07
	35-85%	293	38.86	307	38.76
	86-100%	15	1.99	23	2.90
	Total	754	100.00	792	100.00
Other*	0-20%	10	55.56	12	50.00
	21-34%	5	27.78	4	16.67
	35-85%	3	16.67	8	33.33
	86-100%	0	0.00	0	0.00
	Total	18	100.00	24	100.00

* Does not include kidney-pancreas transplants.

Post-Transplant Outcomes

Figure A41 and **Table A44** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient age at transplant. Patient survival did not change for any age groups after policy implementation.

Figure A41: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Age at Transplant

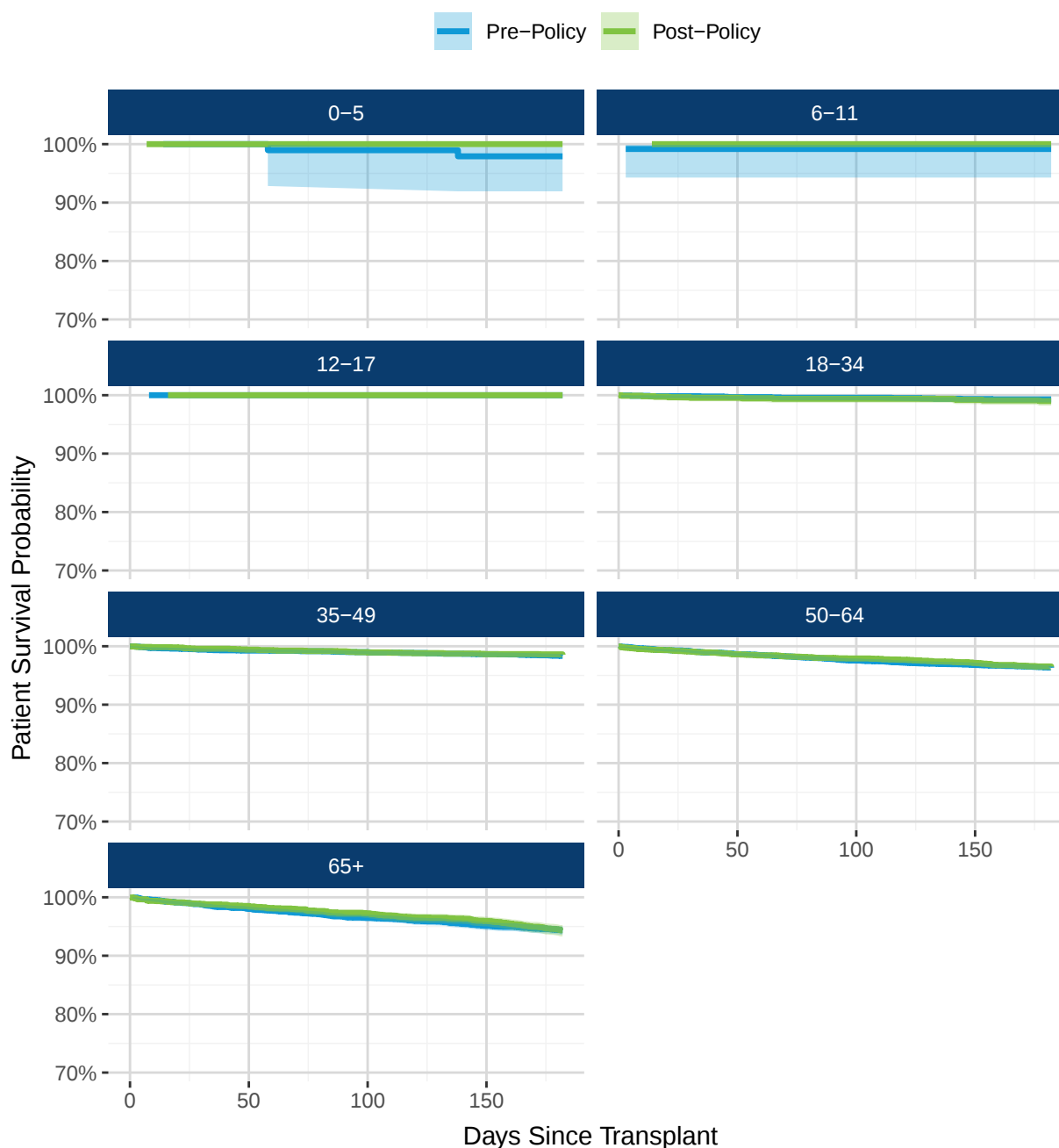


Table A42: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Age at Transplant

Recipient Age	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
0-5	Pre-Policy	99	2	94	97.9	(91.9, 99.5)
	Post-Policy	71	0	44	100	–
6-11	Pre-Policy	121	1	117	99.2	(94.3, 99.9)
	Post-Policy	78	0	60	100	–
12-17	Pre-Policy	280	0	277	100	–
	Post-Policy	202	0	152	100	–
18-34	Pre-Policy	1828	13	1774	99.3	(98.8, 99.6)
	Post-Policy	1162	11	783	99	(98.2, 99.5)
35-49	Pre-Policy	4177	68	4004	98.4	(97.9, 98.7)
	Post-Policy	2593	36	1769	98.6	(98, 99)
50-64	Pre-Policy	6861	250	6467	96.3	(95.8, 96.7)
	Post-Policy	4265	143	2842	96.5	(95.9, 97)
65+	Pre-Policy	4032	225	3729	94.4	(93.6, 95)
	Post-Policy	2311	124	1551	94.4	(93.3, 95.3)

Figure A42 and **Table A45** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient age at transplant. Graft survival did not change for any age group after policy implementation.

Figure A42: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Age at Transplant

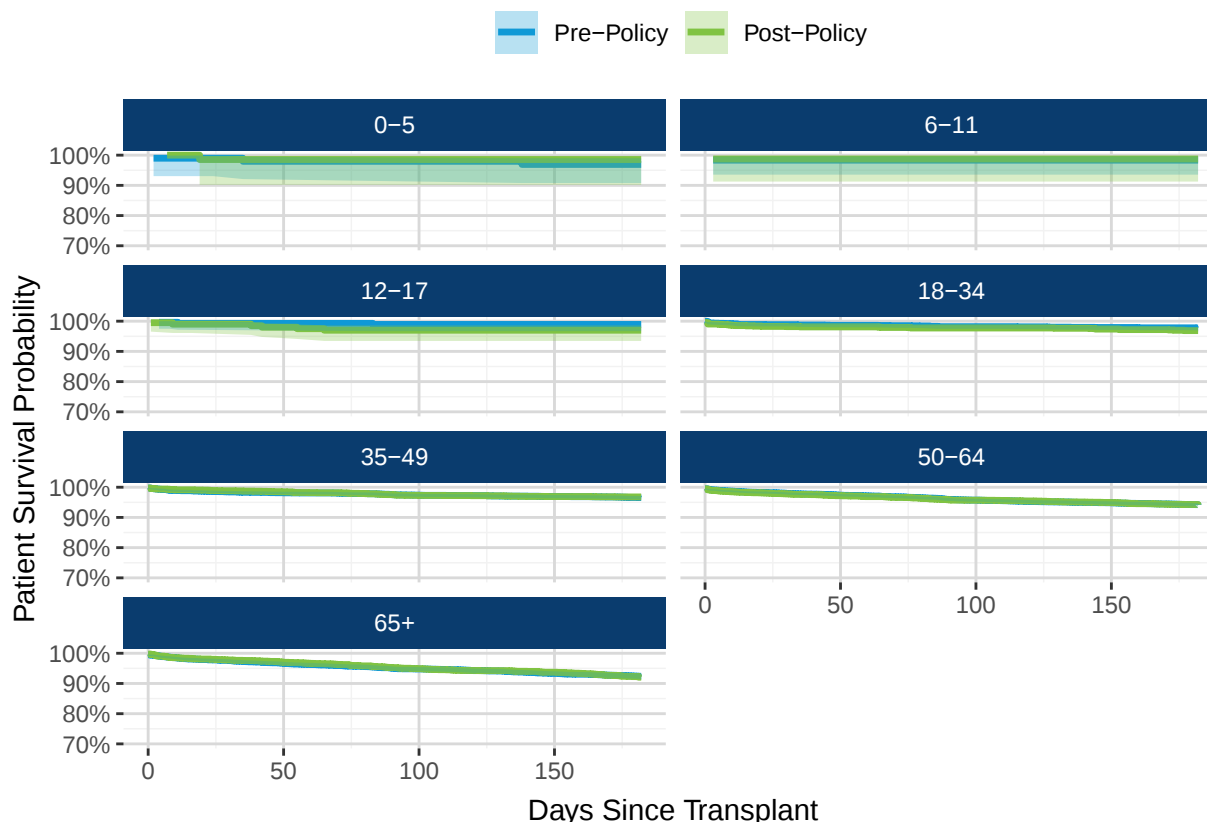


Table A43: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Age at Transplant

Recipient Age	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
0-5	Pre-Policy	99	3	94	96.9	(90.8, 99)
	Post-Policy	71	1	44	98.6	(90.2, 99.8)
6-11	Pre-Policy	121	2	116	98.3	(93.6, 99.6)
	Post-Policy	78	1	60	98.7	(91.2, 99.8)
12-17	Pre-Policy	280	3	275	98.9	(96.7, 99.7)
	Post-Policy	202	6	151	97	(93.5, 98.6)
18-34	Pre-Policy	1828	41	1766	97.8	(97, 98.3)
	Post-Policy	1162	35	773	96.9	(95.7, 97.8)
35-49	Pre-Policy	4177	142	3981	96.6	(96, 97.1)
	Post-Policy	2593	82	1755	96.8	(96, 97.4)
50-64	Pre-Policy	6861	397	6404	94.2	(93.6, 94.7)
	Post-Policy	4265	240	2819	94.3	(93.5, 94.9)
65+	Pre-Policy	4032	306	3688	92.4	(91.5, 93.2)
	Post-Policy	2311	177	1541	92.1	(90.9, 93.2)

Figure A43 and **Table A46** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient gender. Patient survival did not change for either gender after policy implementation.

Figure A43: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Gender

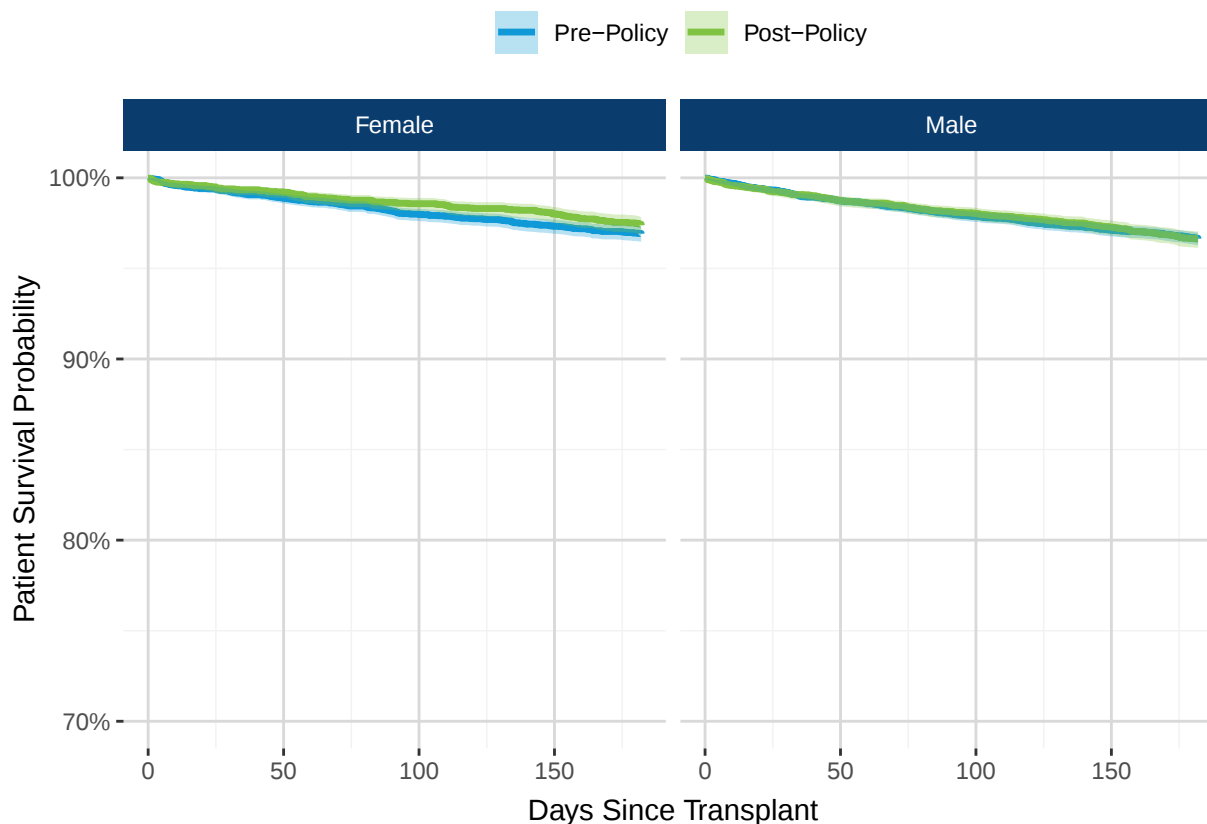


Table A44: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Gender

Recipient Gender	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Female	Pre-Policy	6786	207	6435	96.9	(96.5, 97.3)
	Post-Policy	4254	106	2887	97.4	(96.8, 97.8)
Male	Pre-Policy	10612	352	10027	96.6	(96.3, 97)
	Post-Policy	6428	208	4314	96.6	(96.1, 97)

Figure A44 and **Table A47** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient gender. Graft survival did not change for either gender after policy implementation.

Figure A44: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Gender

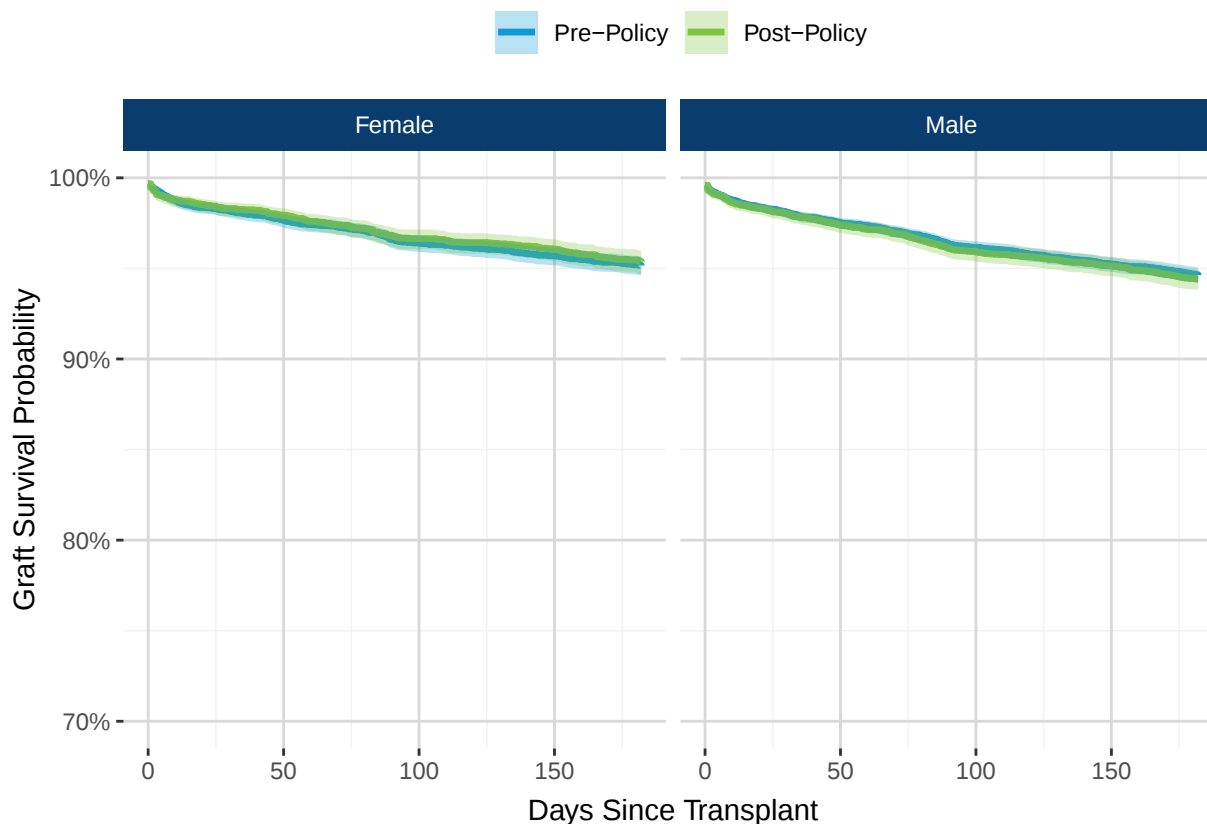


Table A45: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Gender

Recipient Gender	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Female	Pre-Policy	6786	327	6385	95.2	(94.6, 95.6)
	Post-Policy	4254	192	2867	95.4	(94.7, 96)
Male	Pre-Policy	10612	567	9939	94.6	(94.2, 95)
	Post-Policy	6428	350	4276	94.4	(93.8, 95)

Figure A45 and **Table A48** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient race/ethnicity. Patient survival did not change for any race/ethnicity groups after policy implementation.

Figure A45: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Race/Ethnicity

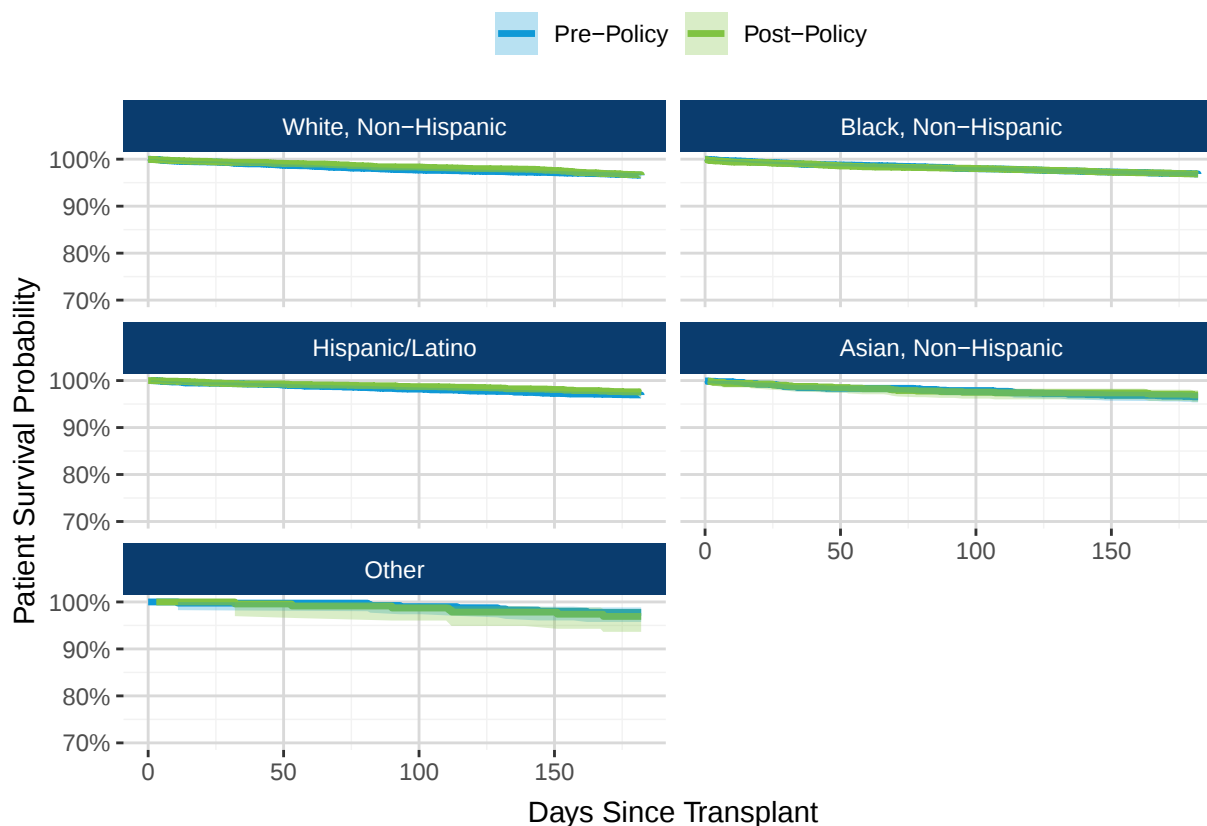


Table A46: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Race/Ethnicity

Recipient Race/Ethnicity	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
White, Non-Hispanic	Pre-Policy	6750	229	6396	96.6	(96.1, 97)
	Post-Policy	3739	120	2564	96.6	(96, 97.2)
Black, Non-Hispanic	Pre-Policy	5645	176	5330	96.8	(96.4, 97.3)
	Post-Policy	3627	110	2394	96.8	(96.2, 97.4)
Hispanic/Latino	Pre-Policy	3317	101	3137	96.9	(96.3, 97.5)
	Post-Policy	2269	53	1534	97.5	(96.8, 98.1)
Asian, Non-Hispanic	Pre-Policy	1279	44	1211	96.5	(95.4, 97.4)
	Post-Policy	813	24	546	96.9	(95.5, 97.9)
Other	Pre-Policy	407	9	388	97.8	(95.7, 98.8)
	Post-Policy	234	7	163	96.9	(93.6, 98.5)

Figure A46 and **Table A49** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient race/ethnicity. Graft survival did not change for any race/ethnicity group after policy implementation.

Figure A46: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Race/Ethnicity

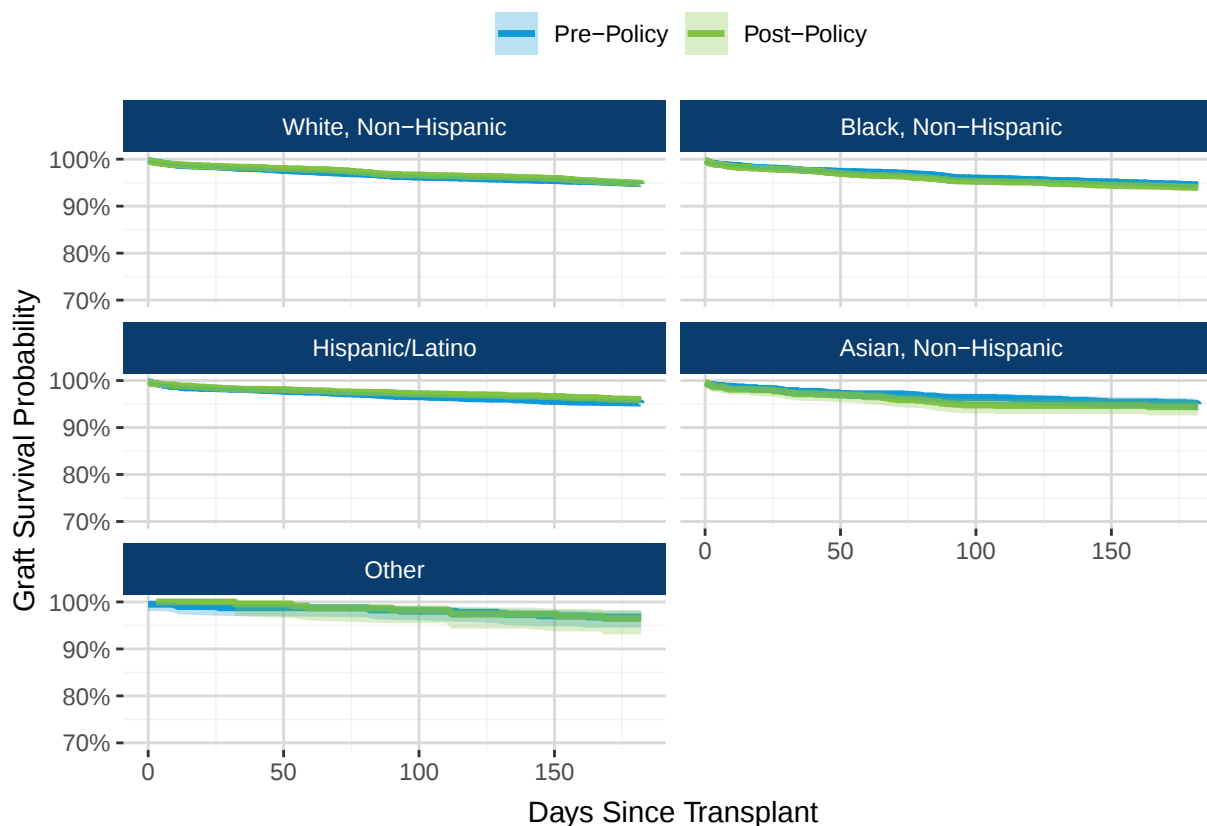


Table A47: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Race/Ethnicity

Recipient Race/Ethnicity	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
White, Non-Hispanic	Pre-Policy	6750	352	6342	94.8	(94.2, 95.3)
	Post-Policy	3739	187	2547	94.9	(94.1, 95.5)
Black, Non-Hispanic	Pre-Policy	5645	307	5277	94.5	(93.9, 95.1)
	Post-Policy	3627	213	2370	94	(93.2, 94.7)
Hispanic/Latino	Pre-Policy	3317	158	3115	95.2	(94.4, 95.9)
	Post-Policy	2269	89	1522	96	(95, 96.7)
Asian, Non-Hispanic	Pre-Policy	1279	64	1204	95	(93.6, 96)
	Post-Policy	813	45	542	94.4	(92.6, 95.8)
Other	Pre-Policy	407	13	386	96.8	(94.5, 98.1)
	Post-Policy	234	8	162	96.5	(93.1, 98.2)

Figure A47 and **Table A50** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient CPRA at transplant. Patient survival did not change for any CPRA groups after policy implementation.

Figure A47: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient CPRA at Transplant

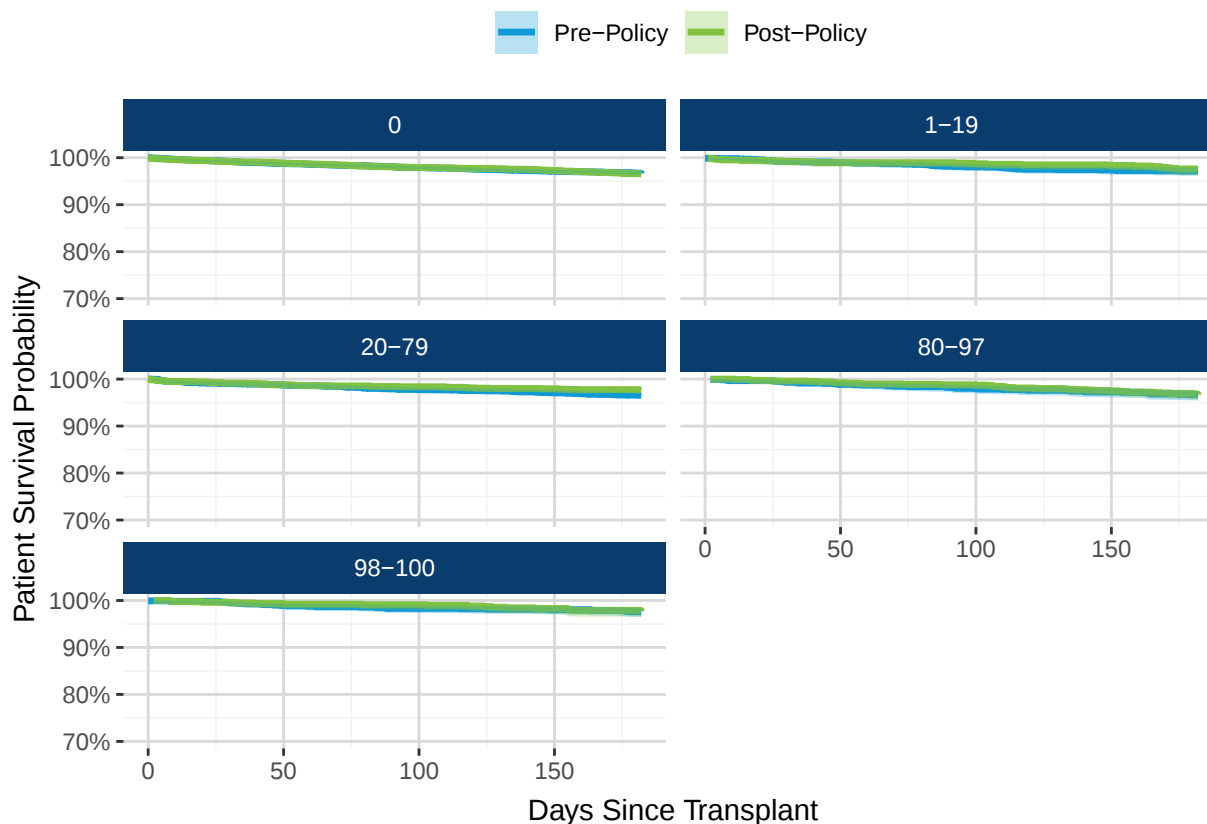


Table A48: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient CPRA at Transplant

CPRA	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
0	Pre-Policy	10655	351	10058	96.7	(96.3, 97)
	Post-Policy	6117	201	4115	96.6	(96.1, 97)
1-19	Pre-Policy	1548	44	1480	97.1	(96.2, 97.9)
	Post-Policy	869	20	590	97.6	(96.3, 98.4)
20-79	Pre-Policy	2874	98	2724	96.6	(95.8, 97.2)
	Post-Policy	1727	39	1160	97.7	(96.8, 98.3)
80-97	Pre-Policy	1184	39	1111	96.7	(95.5, 97.5)
	Post-Policy	1184	37	800	96.7	(95.4, 97.6)
98-100	Pre-Policy	1137	27	1089	97.6	(96.5, 98.3)
	Post-Policy	785	17	536	97.7	(96.3, 98.6)

Figure A48 and **Table A51** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient CPRA at transplant. Graft survival did not change for any CPRA group after policy implementation.

Figure A48: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient CPRA at Transplant

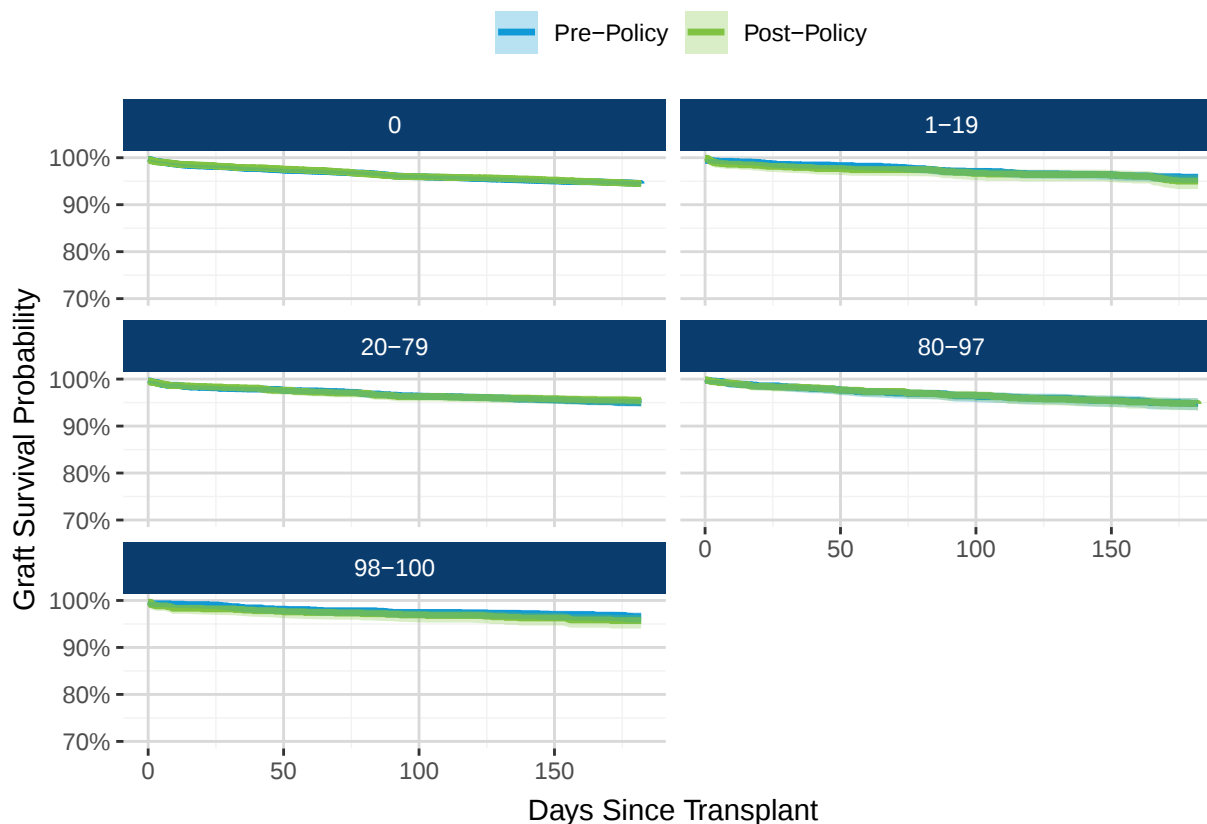


Table A49: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient CPRA at Transplant

CPRA	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
0	Pre-Policy	10655	585	9959	94.5	(94, 94.9)
	Post-Policy	6117	328	4086	94.5	(93.9, 95.1)
1-19	Pre-Policy	1548	65	1470	95.8	(94.7, 96.7)
	Post-Policy	869	42	582	95	(93.3, 96.3)
20-79	Pre-Policy	2874	144	2705	95	(94.1, 95.7)
	Post-Policy	1727	78	1147	95.4	(94.3, 96.3)
80-97	Pre-Policy	1184	61	1106	94.8	(93.4, 95.9)
	Post-Policy	1184	61	795	94.7	(93.3, 95.9)
98-100	Pre-Policy	1137	39	1084	96.6	(95.3, 97.5)
	Post-Policy	785	33	533	95.7	(94, 96.9)

Figure A49 and **Table A52** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient blood type. Patient survival did not change for any blood type after policy implementation.

Figure A49: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Blood Type

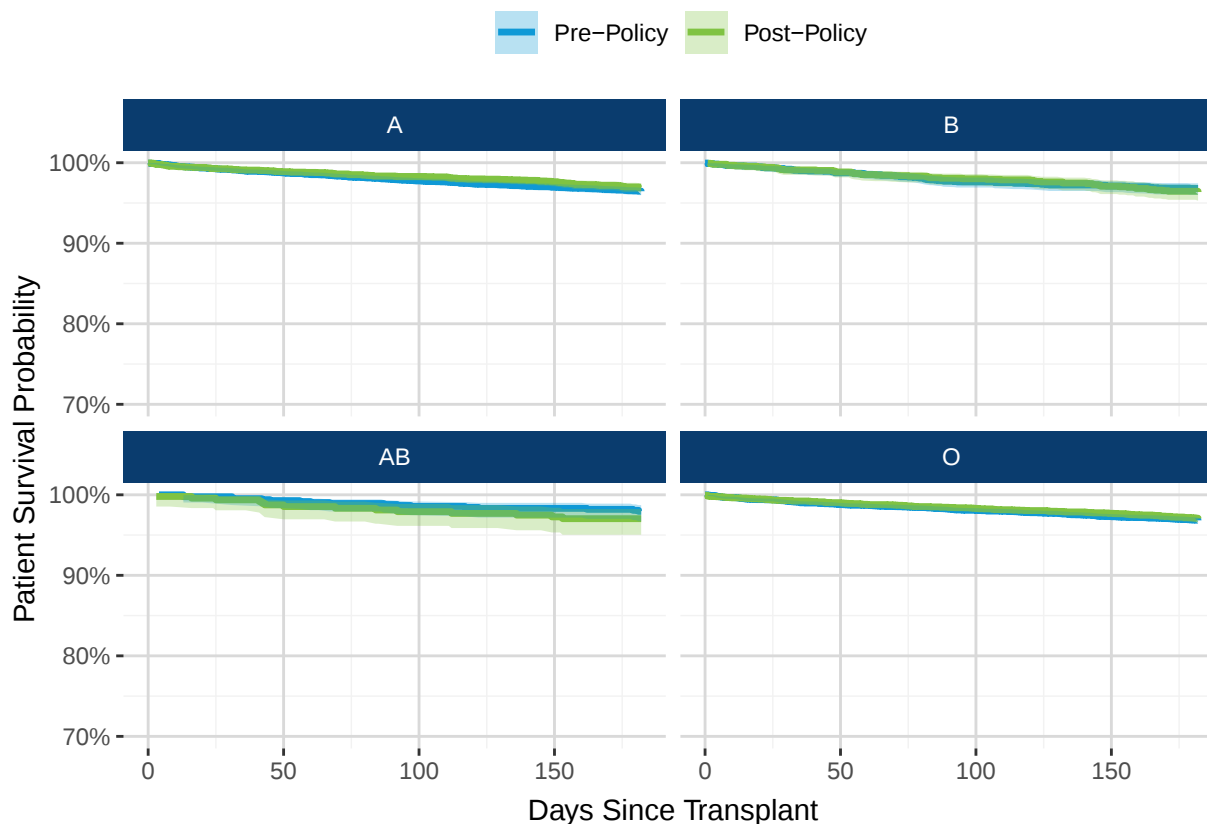


Table A50: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Blood Type

ABO	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
A	Pre-Policy	6116	214	5772	96.5	(96, 96.9)
	Post-Policy	3631	106	2479	97	(96.3, 97.5)
B	Pre-Policy	2373	75	2247	96.8	(96, 97.4)
	Post-Policy	1585	55	1064	96.4	(95.3, 97.2)
AB	Pre-Policy	836	17	802	97.9	(96.7, 98.7)
	Post-Policy	484	14	335	97	(95, 98.2)
O	Pre-Policy	8073	253	7641	96.8	(96.4, 97.2)
	Post-Policy	4982	139	3323	97.1	(96.5, 97.5)

Figure A50 and **Table A53** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient blood type. Graft survival did not change for any blood type after policy implementation.

Figure A50: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Blood Type

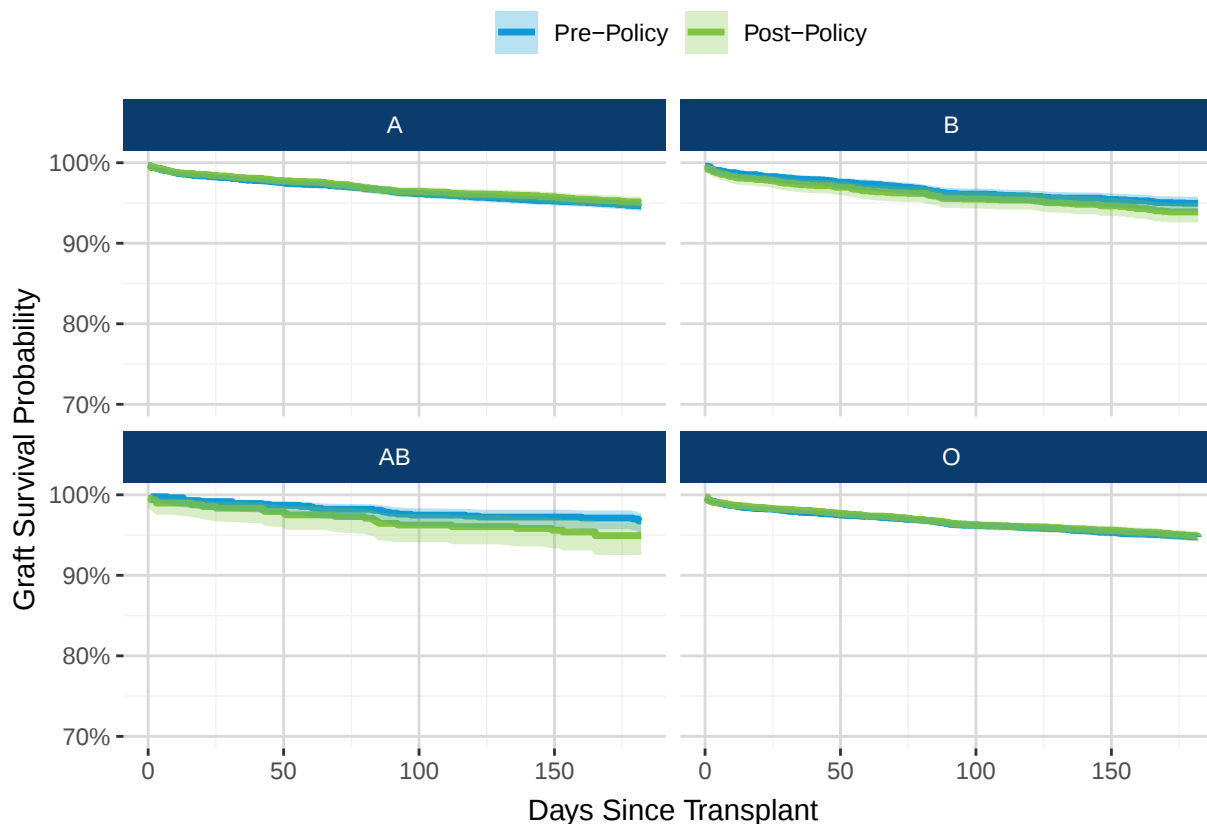


Table A51: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Blood Type

ABO	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
A	Pre-Policy	6116	326	5721	94.6	(94.1, 95.2)
	Post-Policy	3631	174	2466	95.1	(94.3, 95.8)
B	Pre-Policy	2373	119	2228	95	(94, 95.8)
	Post-Policy	1585	95	1056	93.9	(92.6, 95)
AB	Pre-Policy	836	27	798	96.8	(95.3, 97.8)
	Post-Policy	484	24	331	94.9	(92.5, 96.6)
O	Pre-Policy	8073	422	7577	94.8	(94.2, 95.2)
	Post-Policy	4982	249	3290	94.9	(94.2, 95.4)

Figure A51 and **Table A54** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by donor/recipient HLA mismatch. Patient survival did not change after policy implementation.

Figure A51: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Donor/Recipient HLA Mismatch



Table A52: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Donor/Recipient HLA Mismatch

HLA Mismatch	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
0 ABDR MM	Pre-Policy	739	18	708	97.5	(96.1, 98.4)
	Post-Policy	497	7	338	98.5	(96.9, 99.3)
Non-0 ABDR MM	Pre-Policy	16627	540	15723	96.7	(96.4, 97)
	Post-Policy	10161	304	6851	96.9	(96.5, 97.2)

Figure A52 and **Table A55** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by donor/recipient HLA mismatch. Graft survival did not change after policy implementation.

Figure A52: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Donor/Recipient HLA Mismatch

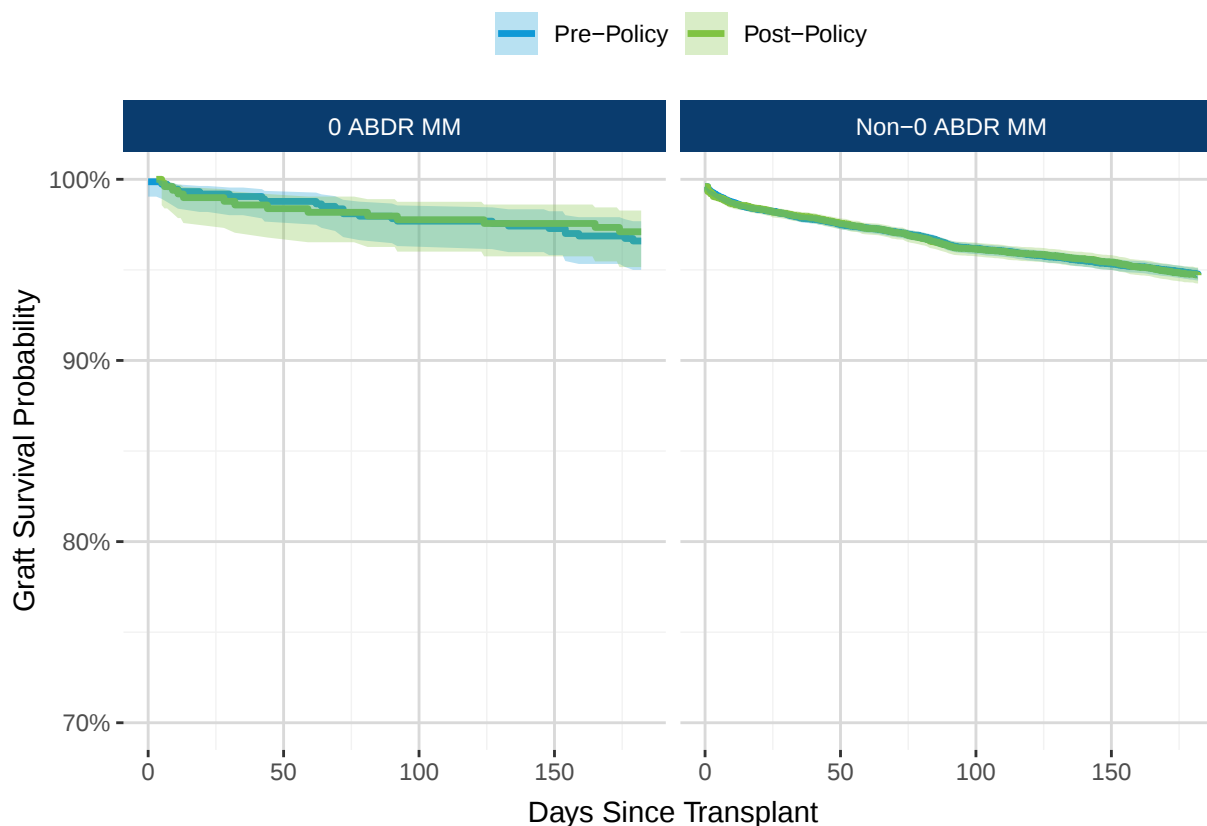


Table A53: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Donor/Recipient HLA Mismatch

HLA Mismatch	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
0 ABDR MM	Pre-Policy	739	25	703	96.6	(95, 97.7)
	Post-Policy	497	14	335	97.1	(95.2, 98.3)
Non-0 ABDR MM	Pre-Policy	16627	868	15590	94.8	(94.4, 95.1)
	Post-Policy	10161	525	6796	94.7	(94.2, 95.1)

Figure A53 and **Table A56** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by cold ischemic time. Patient survival did not change for any cold ischemic time group after policy implementation.

Figure A53: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Cold Ischemic Time

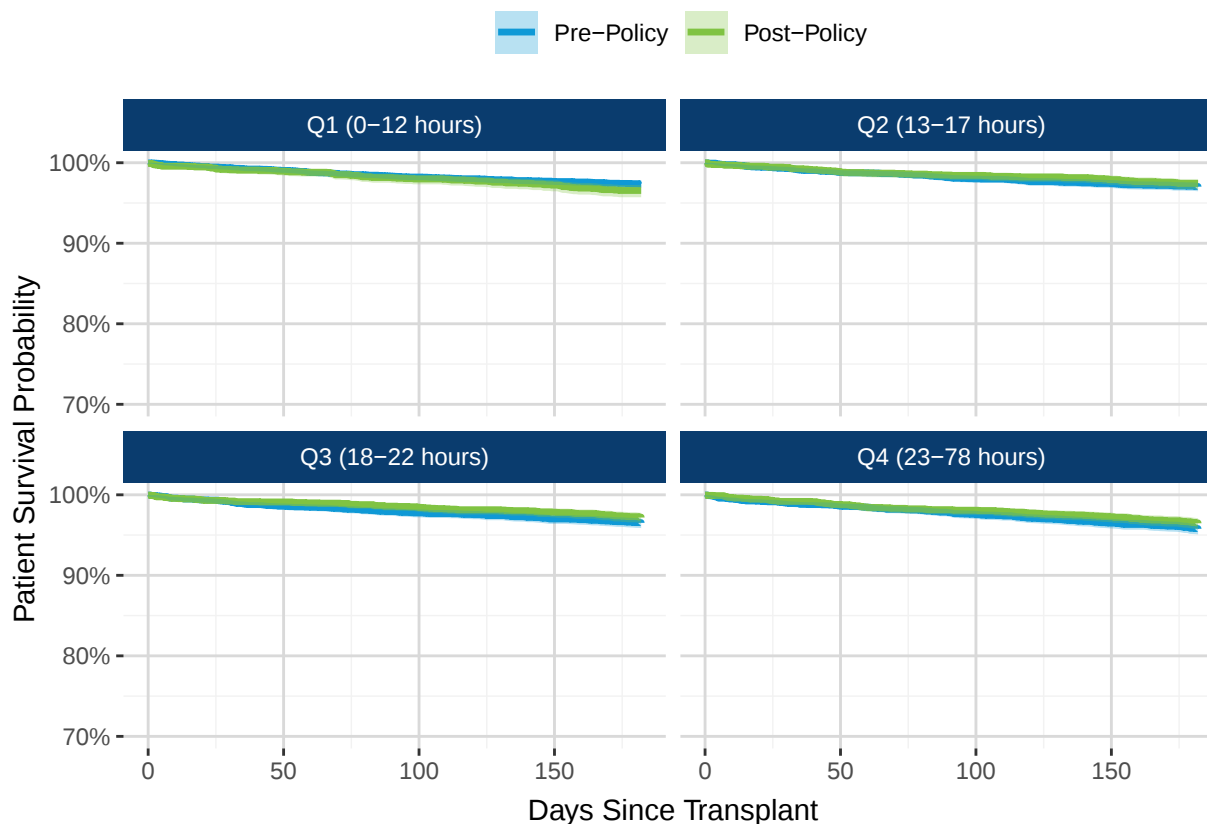


Table A54: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Cold Ischemic Time

Cold Ischemic Time	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Q1 (0-12 hours)	Pre-Policy	5777	151	5518	97.4	(96.9, 97.7)
	Post-Policy	2311	77	1612	96.6	(95.7, 97.2)
Q2 (13-17 hours)	Pre-Policy	4080	120	3875	97	(96.5, 97.5)
	Post-Policy	2577	64	1779	97.4	(96.7, 98)
Q3 (18-22 hours)	Pre-Policy	3630	125	3424	96.5	(95.9, 97.1)
	Post-Policy	2735	73	1805	97.2	(96.5, 97.8)
Q4 (23-78 hours)	Pre-Policy	3799	158	3546	95.8	(95.1, 96.4)
	Post-Policy	2960	99	1945	96.5	(95.7, 97.1)

Figure A54 and **Table A57** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by cold ischemic time. Graft survival did not change for any cold ischemic time group after policy implementation.

Figure A54: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Cold Ischemic Time

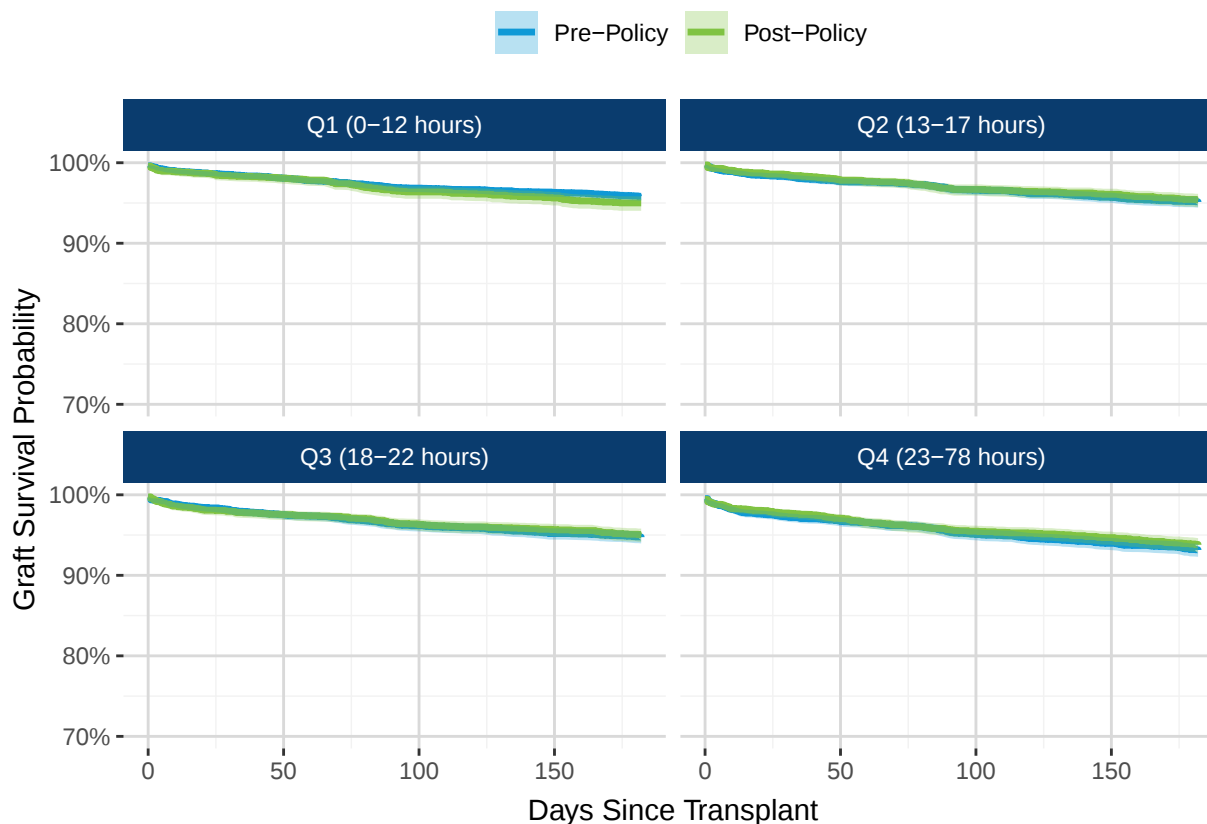


Table A55: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Cold Ischemic Time

Cold Ischemic Time	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Q1 (0-12 hours)	Pre-Policy	5777	241	5479	95.8	(95.3, 96.3)
	Post-Policy	2311	113	1602	95	(94, 95.8)
Q2 (13-17 hours)	Pre-Policy	4080	198	3847	95.1	(94.4, 95.8)
	Post-Policy	2577	116	1765	95.4	(94.5, 96.1)
Q3 (18-22 hours)	Pre-Policy	3630	190	3398	94.7	(94, 95.4)
	Post-Policy	2735	132	1787	95	(94.2, 95.8)
Q4 (23-78 hours)	Pre-Policy	3799	259	3501	93.2	(92.3, 93.9)
	Post-Policy	2960	179	1929	93.8	(92.8, 94.6)

Figure A55 and **Table A58** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient diagnosis. Patient survival did not change for any diagnosis after policy implementation.

Figure A55: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Diagnosis



Table A56: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Diagnosis

Diagnosis Group	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Diabetes	Pre-Policy	5080	250	4721	95	(94.4, 95.6)
	Post-Policy	3041	140	2071	95.2	(94.4, 95.9)
Glomerular Disease	Pre-Policy	3309	64	3164	98	(97.5, 98.5)
	Post-Policy	1885	31	1244	98.2	(97.5, 98.8)
Hypertensive Nephrosclerosis	Pre-Policy	3707	90	3542	97.5	(97, 98)
	Post-Policy	2346	53	1590	97.7	(96.9, 98.2)
Polycystic Kidney Disease	Pre-Policy	1188	27	1135	97.7	(96.7, 98.4)
	Post-Policy	707	15	477	97.7	(96.3, 98.6)
Other	Pre-Policy	4114	128	3900	96.9	(96.3, 97.3)
	Post-Policy	2703	75	1819	97.1	(96.4, 97.7)

Figure A56 and **Table A59** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient diagnosis. Graft survival did not change for any diagnosis after policy implementation.

Figure A56: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Diagnosis

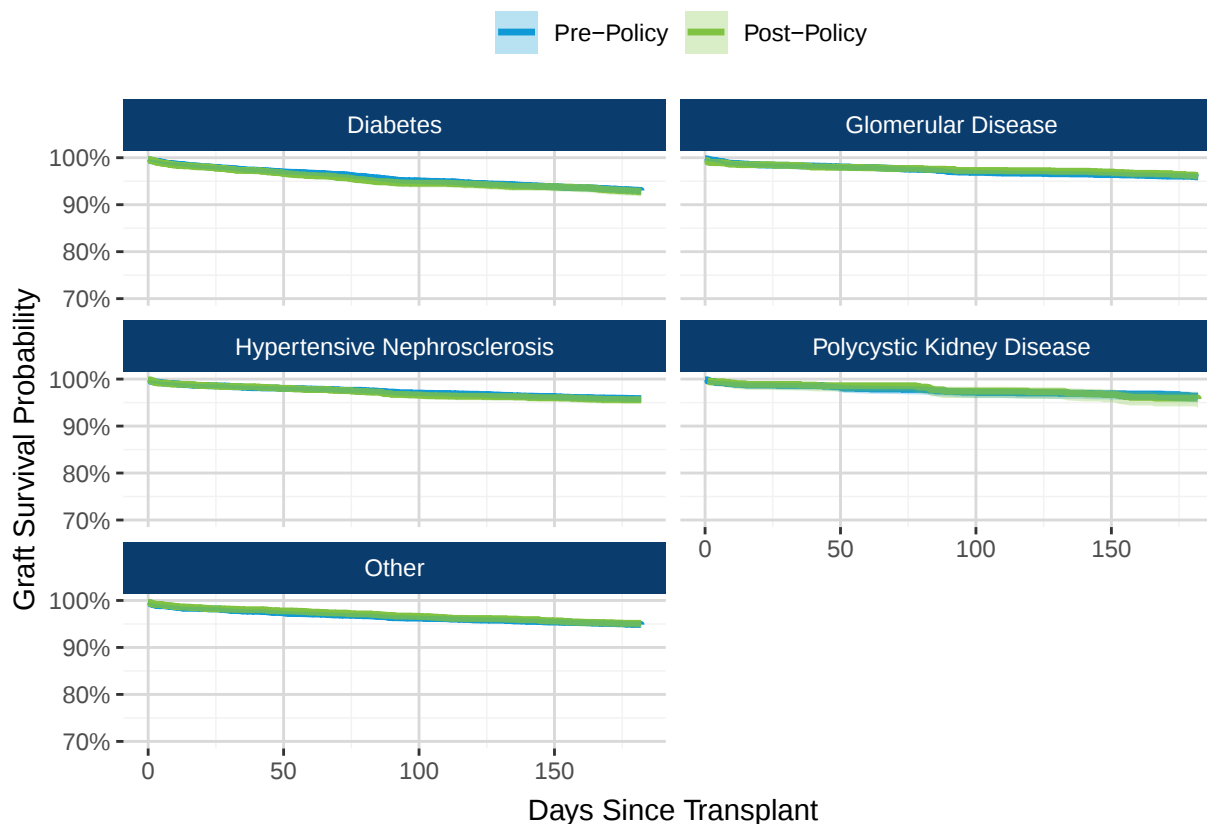


Table A57: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Diagnosis

Diagnosis Group	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Diabetes	Pre-Policy	5080	353	4677	93	(92.3, 93.7)
	Post-Policy	3041	214	2052	92.8	(91.8, 93.7)
Glomerular Disease	Pre-Policy	3309	134	3141	95.9	(95.2, 96.6)
	Post-Policy	1885	69	1236	96.2	(95.2, 97)
Hypertensive Nephrosclerosis	Pre-Policy	3707	153	3516	95.9	(95.2, 96.5)
	Post-Policy	2346	101	1578	95.6	(94.7, 96.4)
Polycystic Kidney Disease	Pre-Policy	1188	43	1128	96.4	(95.1, 97.3)
	Post-Policy	707	29	473	95.7	(93.9, 97)
Other	Pre-Policy	4114	211	3862	94.9	(94.1, 95.5)
	Post-Policy	2703	129	1804	95.1	(94.2, 95.9)

Figure A57 and **Table A60** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient dialysis time. Patient survival did not change for any dialysis time after policy implementation.

Figure A57: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Dialysis Time

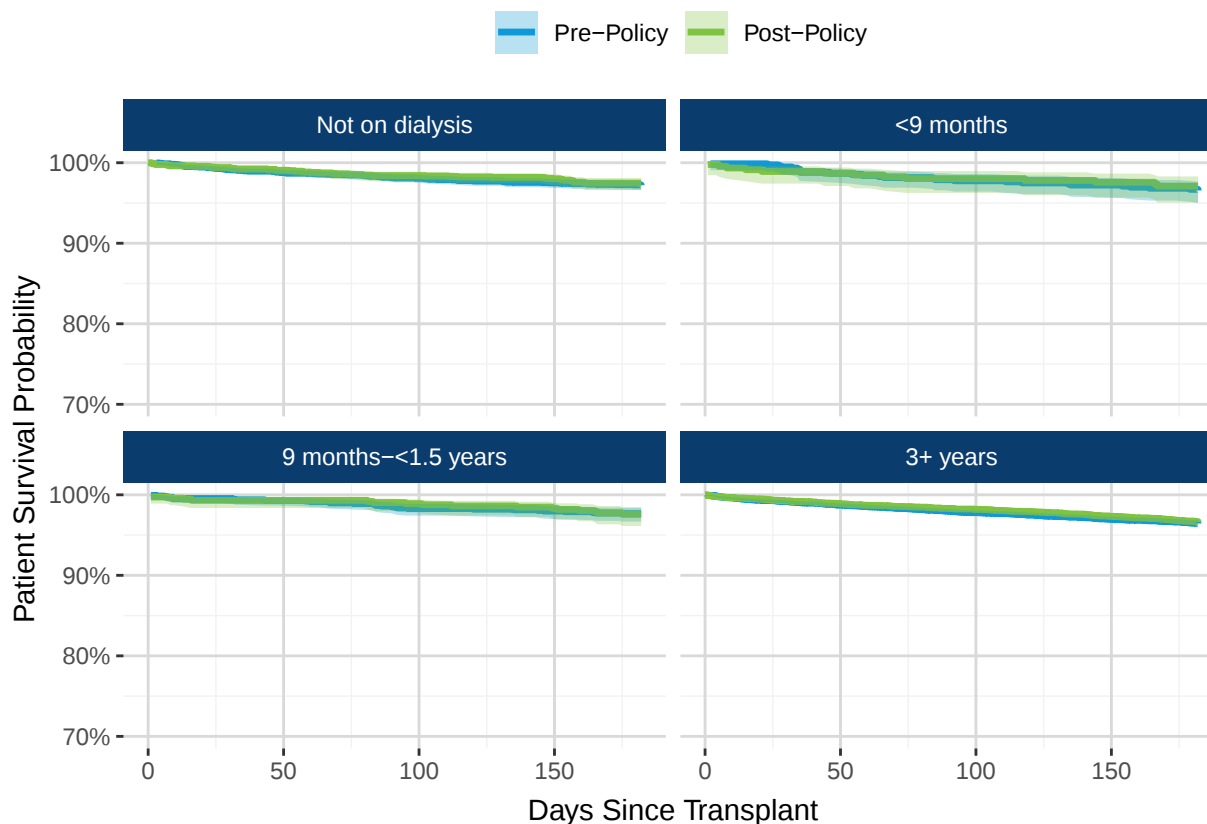


Table A58: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Dialysis Time

Dialysis Time	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Not on dialysis	Pre-Policy	3181	88	3038	97.2	(96.6, 97.7)
	Post-Policy	1844	45	1243	97.5	(96.6, 98.1)
<9 months	Pre-Policy	765	26	726	96.6	(95, 97.6)
	Post-Policy	462	13	312	97.1	(95.1, 98.3)
9 months-<1.5 years	Pre-Policy	1299	30	1239	97.7	(96.7, 98.4)
	Post-Policy	732	17	498	97.6	(96.1, 98.5)
3+ years	Pre-Policy	9206	324	8667	96.4	(96, 96.8)
	Post-Policy	6018	193	4060	96.6	(96.1, 97.1)

Figure A58 and **Table A61** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient dialysis time. Graft survival did not change for any dialysis time after policy implementation.

Figure A58: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Dialysis Time

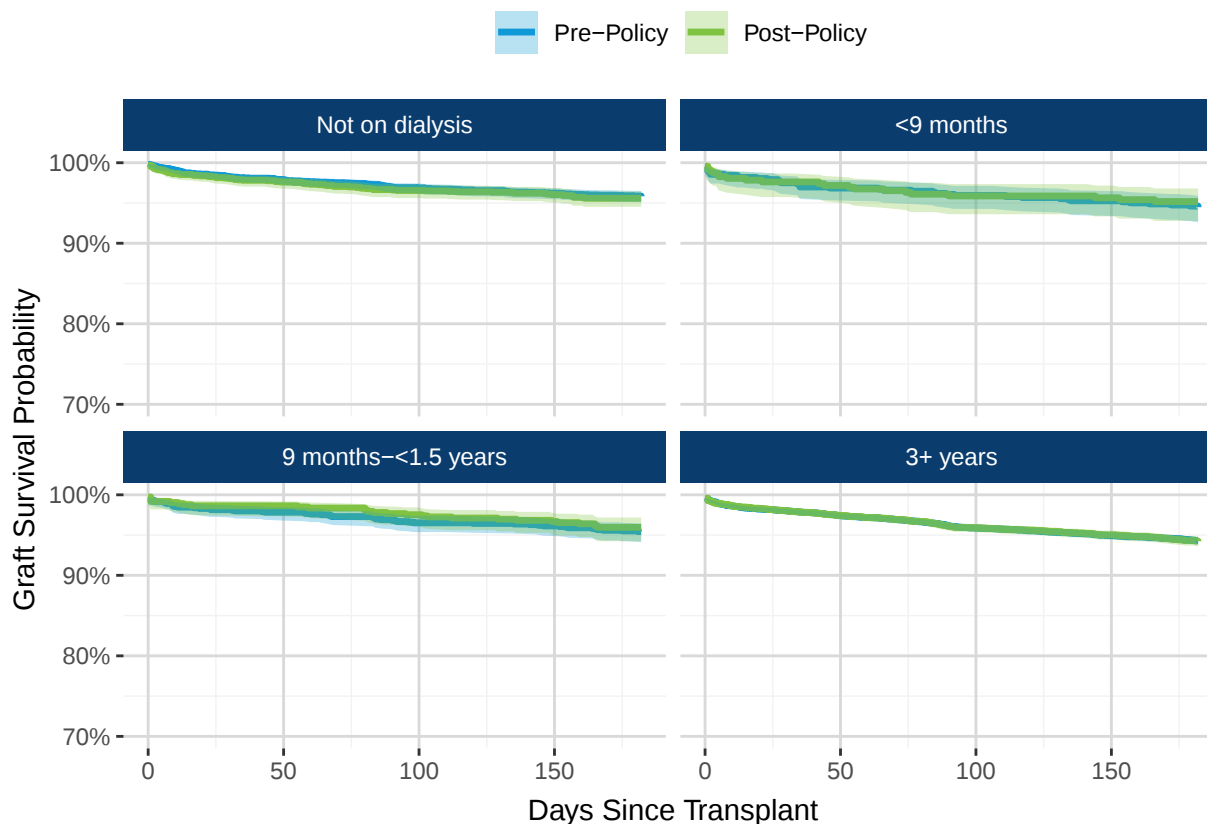


Table A59: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient Dialysis Time

Dialysis Time	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Not on dialysis	Pre-Policy	3181	132	3019	95.8	(95.1, 96.5)
	Post-Policy	1844	80	1235	95.6	(94.5, 96.4)
<9 months	Pre-Policy	765	42	717	94.5	(92.6, 95.9)
	Post-Policy	462	22	308	95.2	(92.8, 96.8)
9 months-<1.5 years	Pre-Policy	1299	59	1224	95.4	(94.1, 96.4)
	Post-Policy	732	29	495	96	(94.2, 97.2)
3+ years	Pre-Policy	9206	520	8593	94.3	(93.8, 94.8)
	Post-Policy	6018	338	4022	94.2	(93.6, 94.8)

Figure A59 and **Table A62** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient EPTS at transplant. Patient survival did not change for any EPTS after policy implementation.

Figure A59: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient EPTS at Transplant

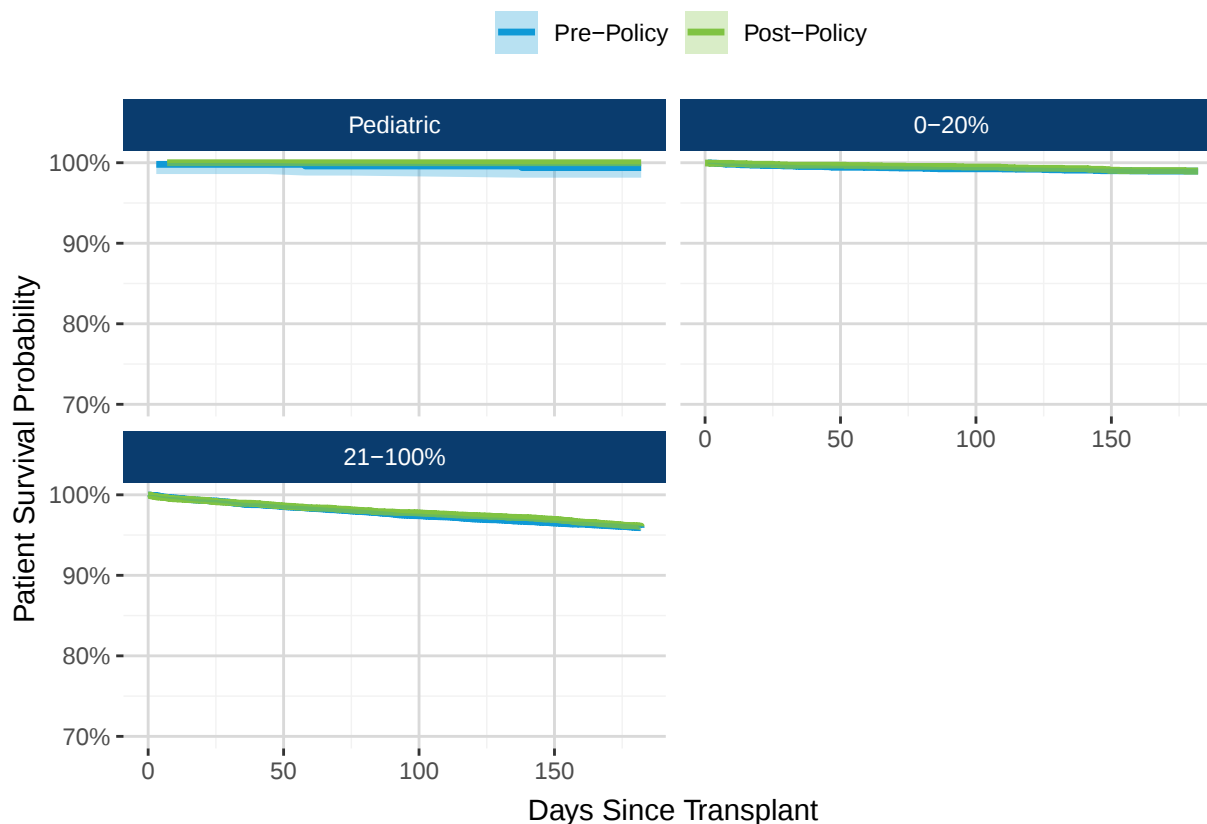


Table A60: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient EPTS at Transplant

EPTS	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Pediatric	Pre-Policy	502	3	490	99.4	(98.1, 99.8)
	Post-Policy	353	0	258	100	–
0-20%	Pre-Policy	4279	44	4139	99	(98.6, 99.2)
	Post-Policy	2642	26	1766	99	(98.5, 99.3)
21-100%	Pre-Policy	12617	512	11833	95.9	(95.5, 96.2)
	Post-Policy	7687	288	5177	96.1	(95.6, 96.5)

Figure A60 and **Table A63** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by recipient EPTS at transplant. Graft survival did not change for any EPTS after policy implementation.

Figure A60: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient EPTS at Transplant



Table A61: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Recipient EPTS at Transplant

EPTS	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Pediatric	Pre-Policy	502	0	487	98.4	(96.8, 99.2)
	Post-Policy	353	0	257	97.7	(95.5, 98.8)
0-20%	Pre-Policy	4279	0	4120	97.4	(96.9, 97.9)
	Post-Policy	2642	0	1755	97.4	(96.7, 98)
21-100%	Pre-Policy	12617	3	11717	93.8	(93.4, 94.2)
	Post-Policy	7687	1	5131	93.8	(93.2, 94.3)

Figure A61 and **Table A64** show six month post-transplant patient survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by donor KDPI. Patient survival did not change for any donor KDPI after policy implementation.

Figure A61: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Donor KDPI



Table A62: Six Month Post-Transplant Patient Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Donor KDPI

KDPI	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
0-20%	Pre-Policy	4280	70	4136	98.4	(97.9, 98.7)
	Post-Policy	2517	43	1688	98.2	(97.6, 98.7)
21-34%	Pre-Policy	3153	105	2999	96.6	(96, 97.2)
	Post-Policy	1844	53	1272	97	(96.1, 97.7)
35-85%	Pre-Policy	8942	329	8392	96.3	(95.9, 96.6)
	Post-Policy	5655	185	3799	96.6	(96.1, 97)
86-100%	Pre-Policy	1023	55	935	94.6	(93, 95.8)
	Post-Policy	666	33	442	94.7	(92.6, 96.2)

Figure A62 and **Table A65** show six month post-transplant graft survival for deceased donor kidney transplants from March 15, 2020 to September 30, 2021 by donor KDPI. Graft survival did not change for any KDPI after policy implementation.

Figure A62: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Donor KDPI

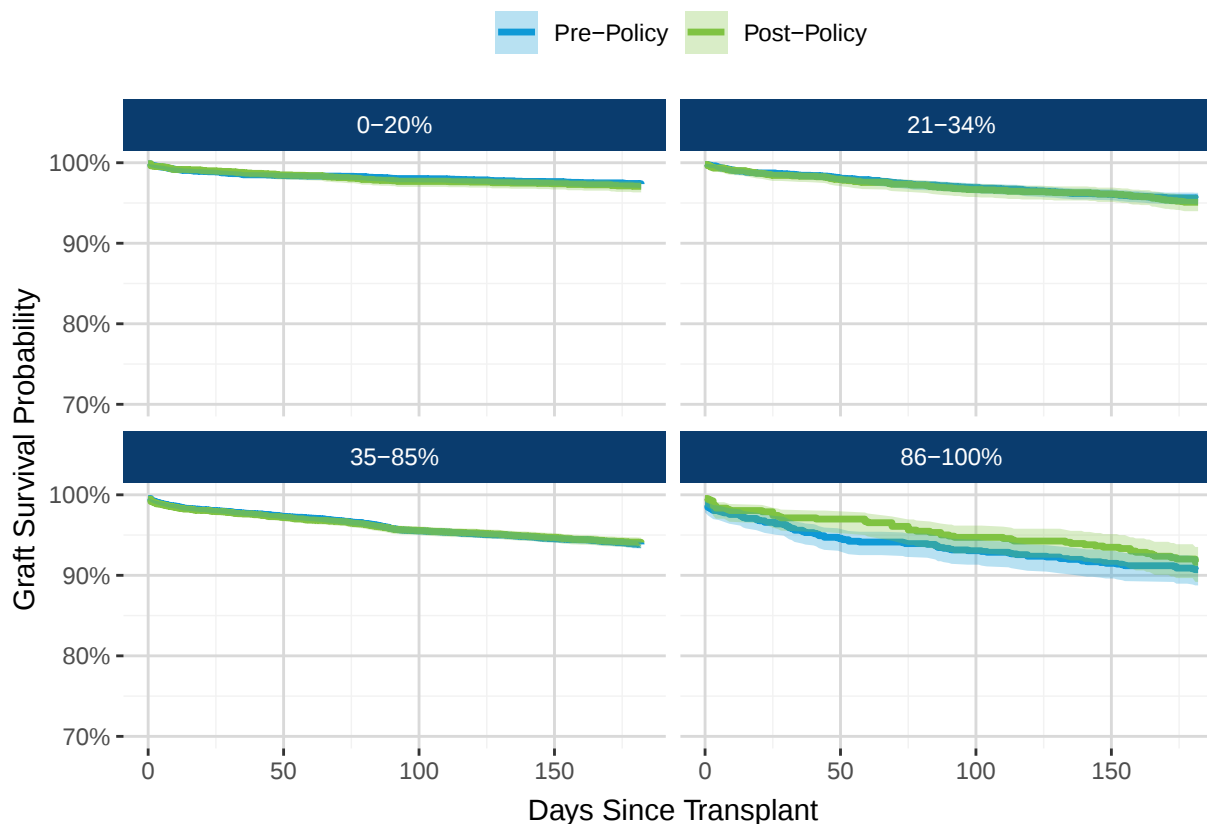


Table A63: Six Month Post-Transplant Graft Survival for Deceased Donor Kidney Transplants March 15, 2020 - September 30, 2021 by Donor KDPI

KDPI	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
0-20%	Pre-Policy	4280	113	4121	97.4	(96.8, 97.8)
	Post-Policy	2517	72	1682	97.1	(96.3, 97.7)
21-34%	Pre-Policy	3153	138	2983	95.6	(94.8, 96.3)
	Post-Policy	1844	88	1266	95.1	(94, 96)
35-85%	Pre-Policy	8942	548	8301	93.8	(93.3, 94.3)
	Post-Policy	5655	328	3757	94.1	(93.4, 94.7)
86-100%	Pre-Policy	1023	95	919	90.7	(88.8, 92.3)
	Post-Policy	666	54	438	91.6	(89.2, 93.5)

Utilization and Efficiency of Allocation

Figure A63 and **Table A66** show total deceased kidneys donors recovered from March 15, 2020 to March 14, 2022 by policy era. There were 11880 kidney donors recovered pre-policy, and another 13406 recovered post-policy.

Figure A63: Deceased Kidney Donors Recovered March 15, 2020 - March 14, 2022 by Policy Era

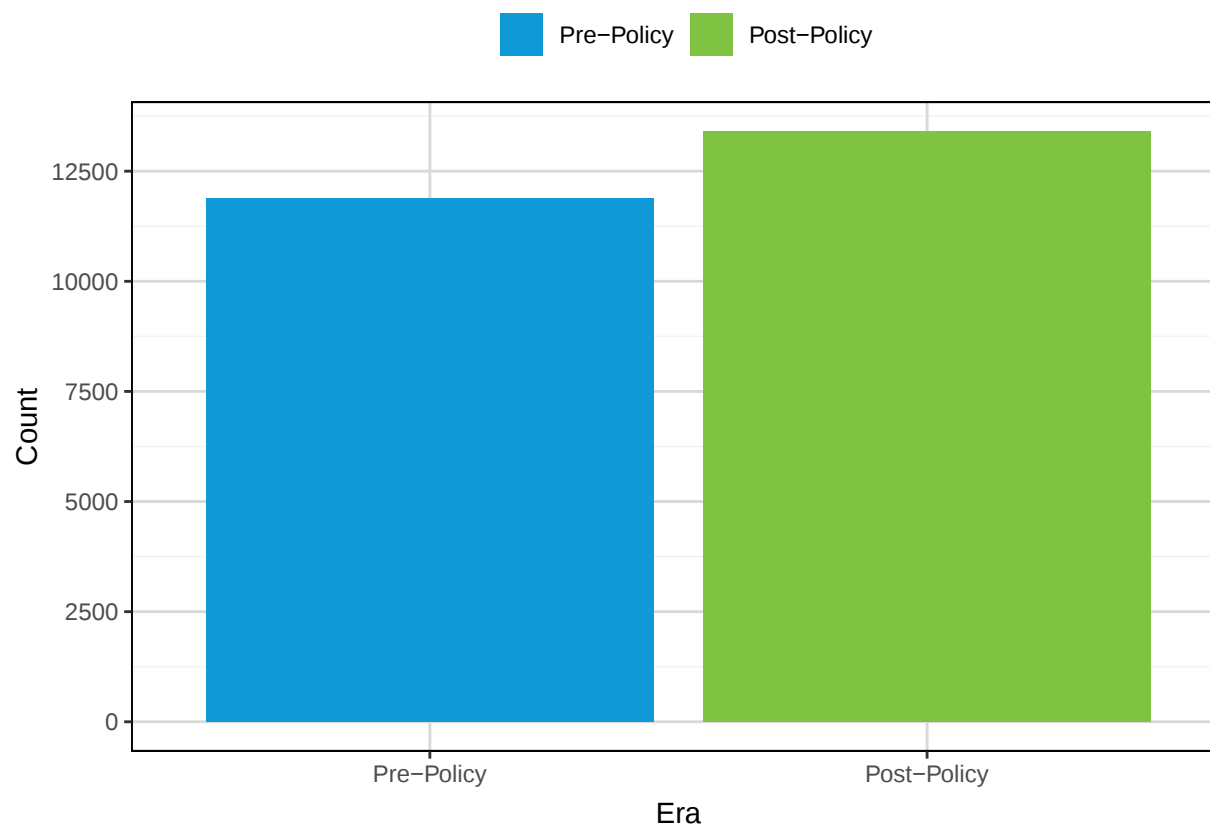


Table A66: Deceased Kidney Donors Recovered March 15, 2020 - March 14, 2022 by Policy Era

Era	Kidney Donors Recovered
Pre-Policy	11880
Post-Policy	13406

Figure A64 and **Table A67** show deceased kidney donors recovered from March 15, 2020 to March 14, 2022 by policy era and KDPI. The number of donors increased across all KDPI categories after policy implementation. The distribution of KDPI did not change pre- to post-policy.

Figure A64: Deceased Kidney Donors Recovered March 15, 2020 - March 14, 2022 by Policy Era and KDPI

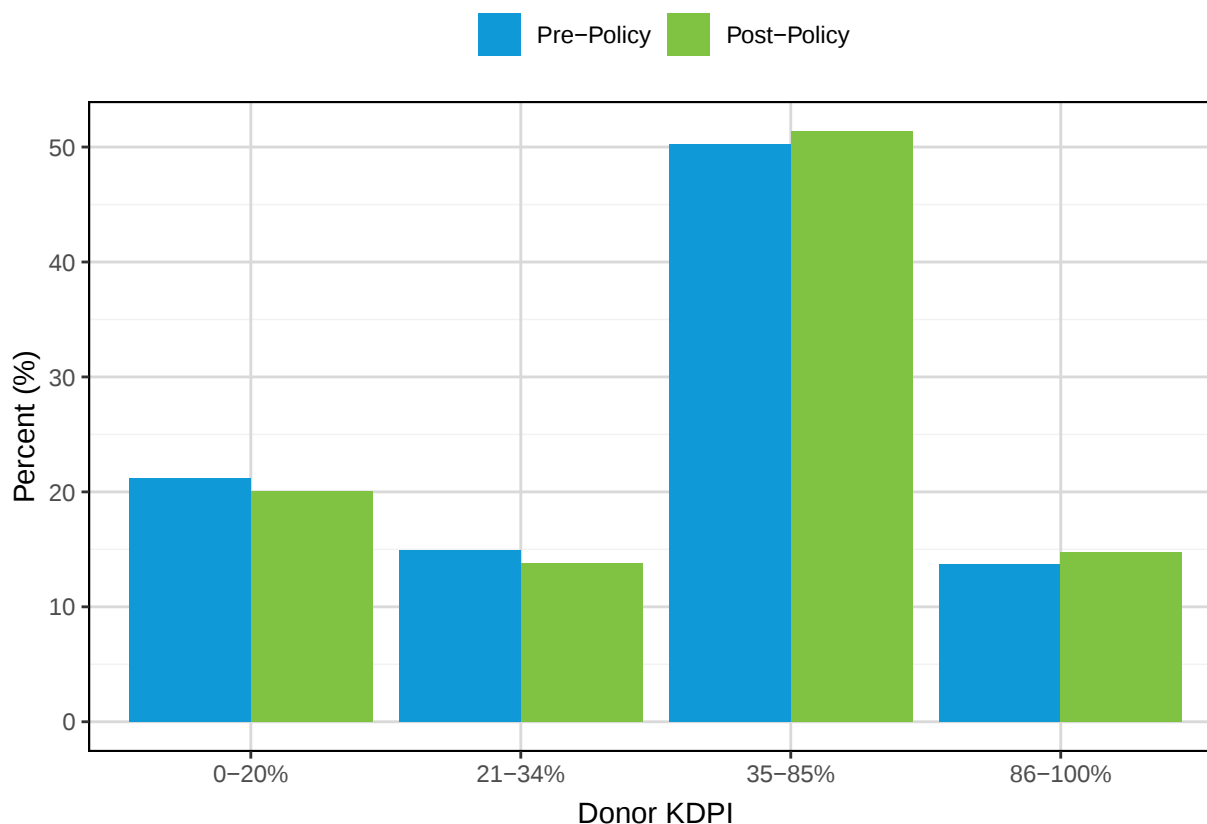


Table A67: Deceased Kidney Donors Recovered March 15, 2020 - March 14, 2022 by Policy Era and KDPI

KDPI	Pre-Policy		Post-Policy	
	N	%	N	%
0-20%	2512	21.14	2693	20.09
21-34%	1773	14.92	1845	13.76
35-85%	5972	50.27	6887	51.37
86-100%	1623	13.66	1981	14.78
Total	11880	100.00	13406	100.00

Figure A65 and **Table A68** show deceased kidney donors recovered from March 15, 2020 to March 14, 2022 by policy era and DCD status. The proportion of donors that were DCD increased from 27% to 32% after policy implementation.

Figure A65: Deceased Kidney Donors Recovered March 15, 2020 - March 14, 2022 by Policy Era and DCD Status

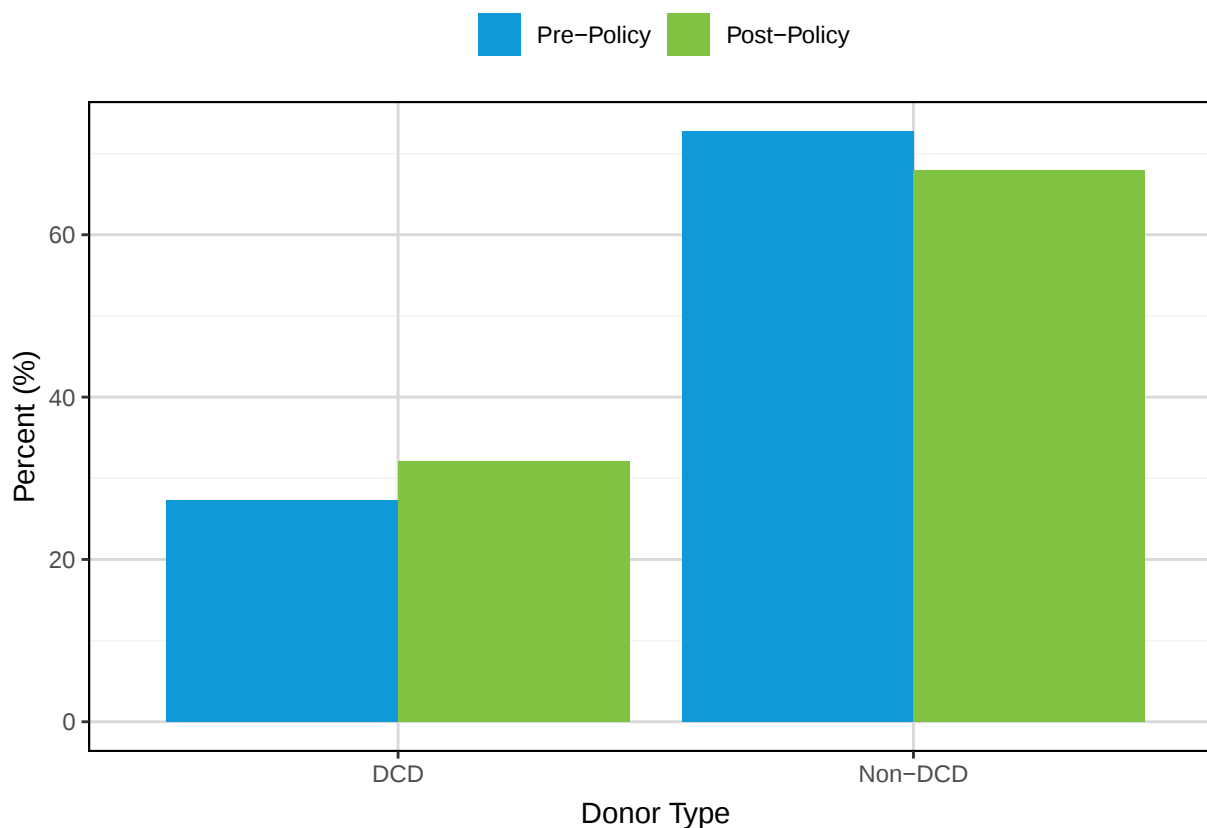


Table A68: Deceased Kidney Donors Recovered March 15, 2020 - March 14, 2022 by Policy Era and DCD Status

Donor Type	Pre-Policy		Post-Policy	
	N	%	N	%
DCD	3237	27.25	4298	32.06
Non-DCD	8643	72.75	9108	67.94
Total	11880	100.00	13406	100.00

Figure A66 and **Table A69** show deceased kidney donors recovered from March 15, 2020 to March 14, 2022 by policy era and age. The proportion of donors aged 18 to 34 decreased from 29% to 26% after policy implementation.

Figure A66: Deceased Kidney Donors Recovered March 15, 2020 - March 14, 2022 by Policy Era and Donor Age

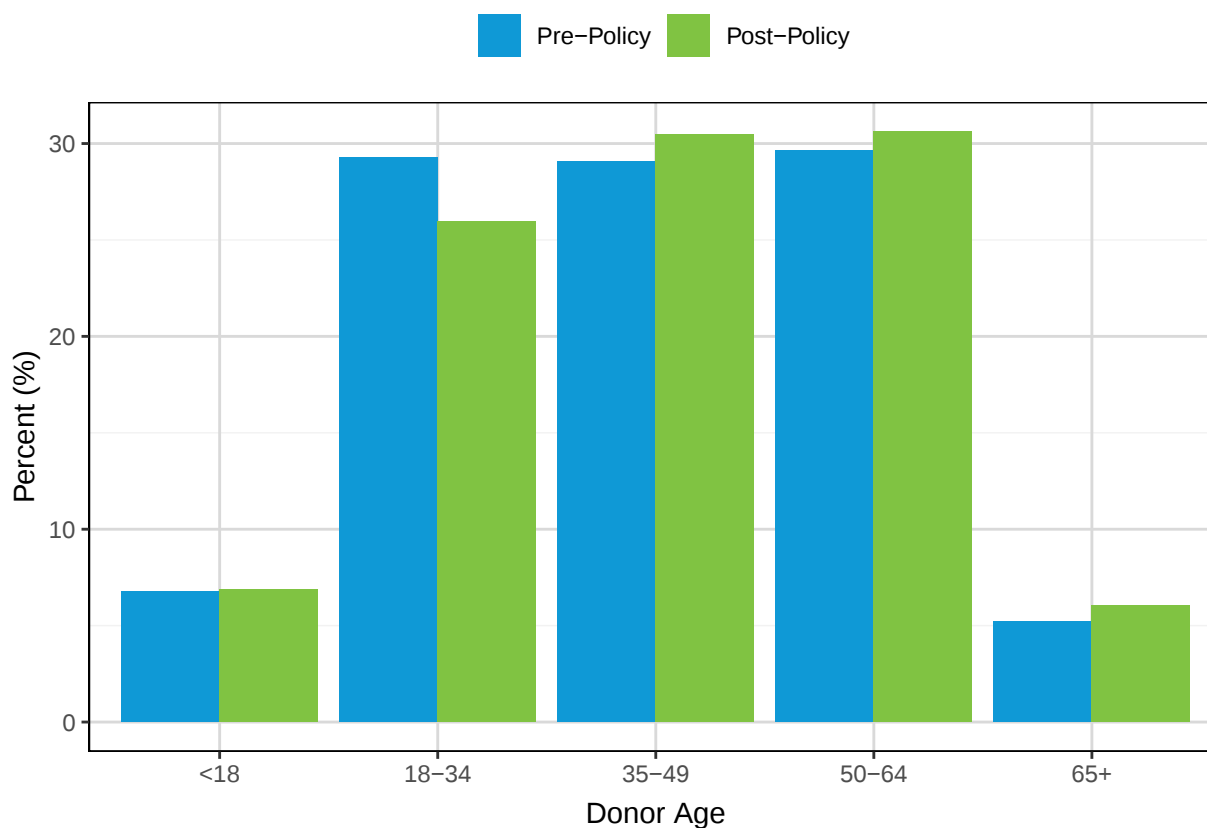


Table A69: Deceased Kidney Donors Recovered March 15, 2020 - March 14, 2022 by Policy Era and Donor Age

Donor Age	Pre-Policy		Post-Policy	
	N	%	N	%
<18	806	6.78	924	6.89
18-34	3478	29.28	3478	25.94
35-49	3454	29.07	4086	30.48
50-64	3521	29.64	4105	30.62
65+	621	5.23	813	6.06
Total	11880	100.00	13406	100.00

Table A70 shows deceased donor kidneys recovered but not transplanted from March 15, 2020 to March 14, 2022 by policy era and discard reason. The most common reason for discard both pre- and post-policy implementation was “No recipient located - list exhausted,” increasing from 54% to 62% after the policy change.

Table A70: Deceased Donor Kidneys Recovered but Not Transplanted March 15, 2020 - March 14, 2022 by Policy Era and Discard Reason

Discard Reason	Pre-Policy		Post-Policy	
	N	%	N	%
Anatomical abnormalities	189	3.67	191	2.88
Biopsy findings	955	18.54	954	14.39
Diseased organ	91	1.77	79	1.19
Donor Medical history	45	0.87	71	1.07
Donor social history	4	0.08	0	0.00
Inadequate urine output	2	0.04	2	0.03
Infection	5	0.10	15	0.23
No recipient located - list exhausted	2763	53.64	4112	62.02
Organ not as described	12	0.23	11	0.17
Organ trauma	45	0.87	35	0.53
Other, specify	620	12.04	640	9.65
Poor organ function	255	4.95	269	4.06
Positive Hepatitis	13	0.25	15	0.23
Positive HIV	0	0.00	3	0.05
Recipient determined to be unsuitable for TX in OR	17	0.33	14	0.21
Too old on ice	40	0.78	93	1.40
Too old on pump	12	0.23	17	0.26
Ureteral damage	12	0.23	23	0.35
Vascular damage	45	0.87	43	0.65
Warm ischemic time too long	24	0.47	43	0.65
Missing	2	0.04	0	0.00
Total	5151	100.00	6630	100.00

Table A71 shows the disposition of kidneys with a final acceptance from March 15, 2020 to March 14, 2022 by policy era and OPTN region. The majority of kidneys with an acceptance were transplanted to the same patient that accepted the organ both pre- and post-policy across all regions.

Table A71: Disposition of Kidneys with a Final Acceptance March 15, 2020 - March 14, 2022 by Policy Era and OPTN Region

Era	Region	N	Accepting Patient	Accepting Center	Different Center	Discard	Non-Recovery
Pre-Policy	1	535	444 (83.0%)	43 (8.0%)	24 (4.5%)	24 (4.5%)	0 (0.0%)
	2	2012	1712 (85.1%)	141 (7.0%)	68 (3.4%)	89 (4.4%)	2 (0.1%)
	3	2809	2178 (77.5%)	302 (10.8%)	94 (3.3%)	232 (8.3%)	3 (0.1%)
	4	1702	1372 (80.6%)	121 (7.1%)	111 (6.5%)	97 (5.7%)	1 (0.1%)
	5	2750	2324 (84.5%)	209 (7.6%)	93 (3.4%)	119 (4.3%)	5 (0.2%)
	6	839	703 (83.8%)	73 (8.7%)	23 (2.7%)	40 (4.8%)	0 (0.0%)
	7	1211	1045 (86.3%)	79 (6.5%)	41 (3.4%)	46 (3.8%)	0 (0.0%)
	8	1427	1169 (81.9%)	143 (10.0%)	53 (3.7%)	58 (4.1%)	4 (0.3%)
	9	641	525 (81.9%)	58 (9.0%)	34 (5.3%)	22 (3.4%)	2 (0.3%)
	10	1703	1348 (79.2%)	198 (11.6%)	57 (3.3%)	100 (5.9%)	0 (0.0%)
	11	2337	1691 (72.4%)	268 (11.5%)	158 (6.8%)	189 (8.1%)	31 (1.3%)
	Total	17966	14511 (80.8%)	1635 (9.1%)	756 (4.2%)	1016 (5.7%)	48 (0.3%)
Post-Policy	1	695	536 (77.1%)	49 (7.1%)	84 (12.1%)	26 (3.7%)	0 (0.0%)
	2	2156	1705 (79.1%)	177 (8.2%)	137 (6.4%)	137 (6.4%)	0 (0.0%)
	3	3094	2409 (77.9%)	281 (9.1%)	189 (6.1%)	210 (6.8%)	5 (0.2%)
	4	1970	1559 (79.1%)	168 (8.5%)	143 (7.3%)	97 (4.9%)	3 (0.2%)
	5	2969	2441 (82.2%)	222 (7.5%)	141 (4.7%)	142 (4.8%)	23 (0.8%)
	6	869	727 (83.7%)	67 (7.7%)	44 (5.1%)	31 (3.6%)	0 (0.0%)
	7	1332	1096 (82.3%)	83 (6.2%)	68 (5.1%)	85 (6.4%)	0 (0.0%)
	8	1581	1283 (81.2%)	141 (8.9%)	73 (4.6%)	81 (5.1%)	3 (0.2%)
	9	832	654 (78.6%)	67 (8.1%)	72 (8.7%)	39 (4.7%)	0 (0.0%)
	10	1813	1361 (75.1%)	202 (11.1%)	132 (7.3%)	114 (6.3%)	4 (0.2%)
	11	2283	1672 (73.2%)	206 (9.0%)	216 (9.5%)	161 (7.1%)	28 (1.2%)
	Total	19594	15443 (78.8%)	1663 (8.5%)	1299 (6.6%)	1123 (5.7%)	66 (0.3%)

Table A72 shows the disposition of kidneys with a final acceptance from March 15, 2020 to March 14, 2022 by policy era and KDPI. The proportion of kidneys transplanted to same patient accepting the organ was highest for KDPI 0-20% kidneys (~88% pre- and post-policy) and lowest for KDPI 86-100% kidneys 65% pre-policy and 70% post-policy).

Table A72: Disposition of Kidneys with a Final Acceptance March 15, 2020 - March 14, 2022 by Policy Era and KDPI

Era	KDPI	N	Accepting Patient	Accepting Center	Different Center	Discard	Non-Recovery
Pre-Policy	0-20	3629	3267 (90.0%)	178 (4.9%)	151 (4.2%)	32 (0.9%)	1 (0.0%)
	21-34	2692	2278 (84.6%)	207 (7.7%)	128 (4.8%)	72 (2.7%)	7 (0.3%)
	35-85	10007	7902 (79.0%)	1017 (10.2%)	431 (4.3%)	629 (6.3%)	28 (0.3%)
	86-100	1632	1059 (64.9%)	233 (14.3%)	46 (2.8%)	283 (17.3%)	11 (0.7%)
	Not Reported	6	5 (83.3%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (16.7%)
	Total	17966	14511 (80.8%)	1635 (9.1%)	756 (4.2%)	1016 (5.7%)	48 (0.3%)
Post-Policy	0-20	3920	3355 (85.6%)	213 (5.4%)	300 (7.7%)	48 (1.2%)	4 (0.1%)
	21-34	2928	2420 (82.7%)	218 (7.4%)	205 (7.0%)	71 (2.4%)	14 (0.5%)
	35-85	11041	8480 (76.8%)	1056 (9.6%)	737 (6.7%)	731 (6.6%)	37 (0.3%)
	86-100	1702	1185 (69.6%)	176 (10.3%)	57 (3.3%)	273 (16.0%)	11 (0.6%)
	Not Reported	3	3 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
	Total	19594	15443 (78.8%)	1663 (8.5%)	1299 (6.6%)	1123 (5.7%)	66 (0.3%)

Table A73 shows the disposition of kidneys with a final acceptance from March 15, 2020 to March 14, 2022 by policy era and CPRA of the accepting patient. The proportion of kidneys transplanted to the same patient accepting the organ was lowest for CPRA 80-97% patients both pre- and post-policy (75% and 76%).

Table A73: Disposition of Kidneys with a Final Acceptance March 15, 2020 - March 14, 2022 by Policy Era and Accepting Patient CPRA

Era	CPRA	N	Accepting Patient	Accepting Center	Different Center	Discard	Non-Recovery
Pre-Policy	0%	9919	8159 (82.3%)	839 (8.5%)	313 (3.2%)	586 (5.9%)	22 (0.2%)
	1-19%	1987	1631 (82.1%)	181 (9.1%)	80 (4.0%)	90 (4.5%)	5 (0.3%)
	20-79%	3136	2506 (79.9%)	311 (9.9%)	127 (4.0%)	187 (6.0%)	5 (0.2%)
	80-98%	1506	1113 (73.9%)	187 (12.4%)	98 (6.5%)	100 (6.6%)	8 (0.5%)
	99-100%	1348	1048 (77.7%)	117 (8.7%)	138 (10.2%)	39 (2.9%)	6 (0.4%)
	Not Reported	70	54 (77.1%)	0 (0.0%)	0 (0.0%)	14 (20.0%)	2 (2.9%)
	Total	17966	14511 (80.8%)	1635 (9.1%)	756 (4.2%)	1016 (5.7%)	48 (0.3%)
Post-Policy	0%	10128	8113 (80.1%)	818 (8.1%)	549 (5.4%)	624 (6.2%)	24 (0.2%)
	1-19%	2073	1631 (78.7%)	189 (9.1%)	128 (6.2%)	110 (5.3%)	15 (0.7%)
	20-79%	3330	2560 (76.9%)	322 (9.7%)	236 (7.1%)	203 (6.1%)	9 (0.3%)
	80-98%	2524	1930 (76.5%)	225 (8.9%)	235 (9.3%)	124 (4.9%)	10 (0.4%)
	99-100%	1462	1158 (79.2%)	109 (7.5%)	150 (10.3%)	37 (2.5%)	8 (0.5%)
	Not Reported	77	51 (66.2%)	0 (0.0%)	1 (1.3%)	25 (32.5%)	0 (0.0%)
	Total	19594	15443 (78.8%)	1663 (8.5%)	1299 (6.6%)	1123 (5.7%)	66 (0.3%)

Figure A67 and **Table A74** show offers per active patient year for kidney matches from March 15, 2020 to March 14, 2022 by policy era and age at listing. Offer rates increased for all age groups after policy implementation.

Figure A67: Offers per Active Patient Year for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

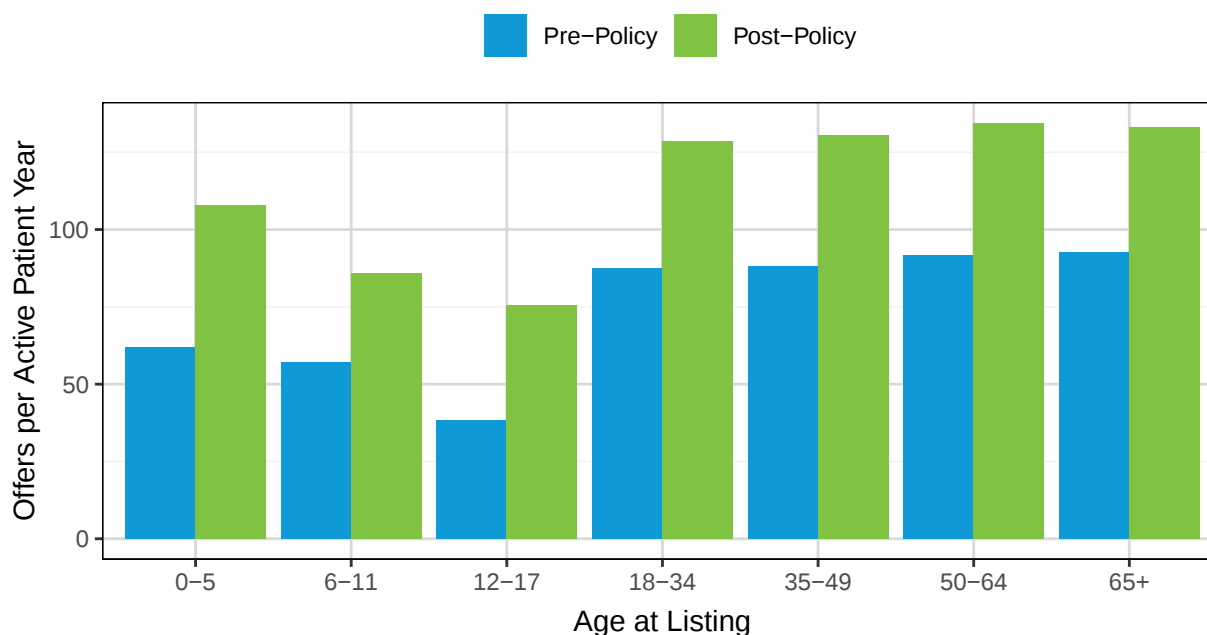


Table A74: Offer and Acceptance Rates for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

Era	Age	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	0-5	99.06	6147	125	62.05	20.34
	6-11	84.89	4855	124	57.19	25.54
	12-17	243.33	9303	354	38.23	38.05
	18-34	6385.49	559341	2440	87.60	4.36
	35-49	16280.73	1435204	5005	88.15	3.49
	50-64	24897.22	2280439	7205	91.59	3.16
	65+	10035.84	930255	3121	92.69	3.35
Post-Policy	0-5	80.03	8627	143	107.80	16.58
	6-11	66.55	5707	140	85.75	24.53
	12-17	175.95	13273	414	75.44	31.19
	18-34	5798.38	745233	2369	128.52	3.18
	35-49	15112.59	1973969	4965	130.62	2.52
	50-64	23295.45	3133388	7134	134.51	2.28
	65+	9512.52	1266910	3053	133.18	2.41

Figure A68 shows acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and age at listing. Acceptance rates decreased after policy implementation across all candidate age groups. Candidates less than 18 years old had the highest acceptance rates both pre- and post-policy.

Figure A68: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

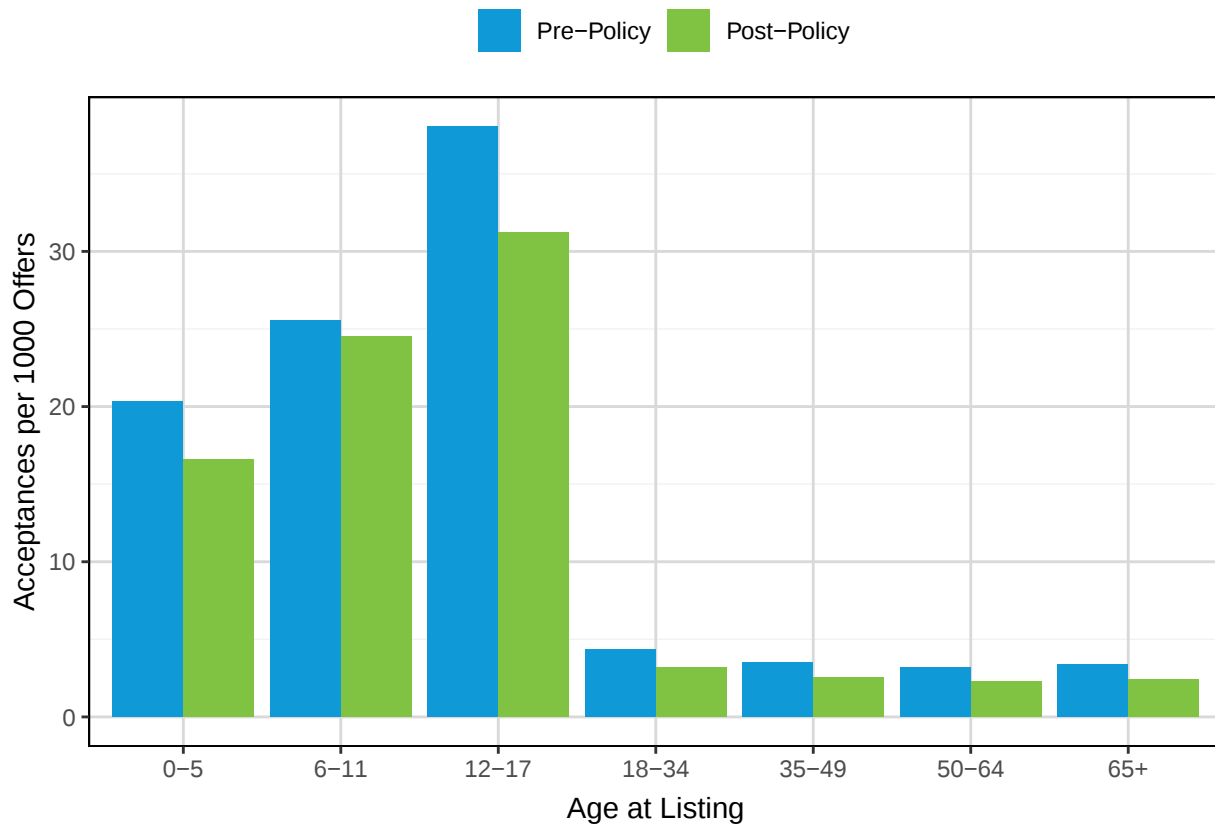


Figure A69 and **Table A75** show offers per active patient year for kidney matches from March 15, 2020 to March 14, 2022 by policy era and time on dialysis at listing. Groupings are based on the 25th, 50th, and 75th percentiles of dialysis time (see **Table 12**). Offer rates increased for pre-emptively listed patients as well as those on dialysis after policy implementation.

Figure A69: Offers per Active Patient Year for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Time at Listing

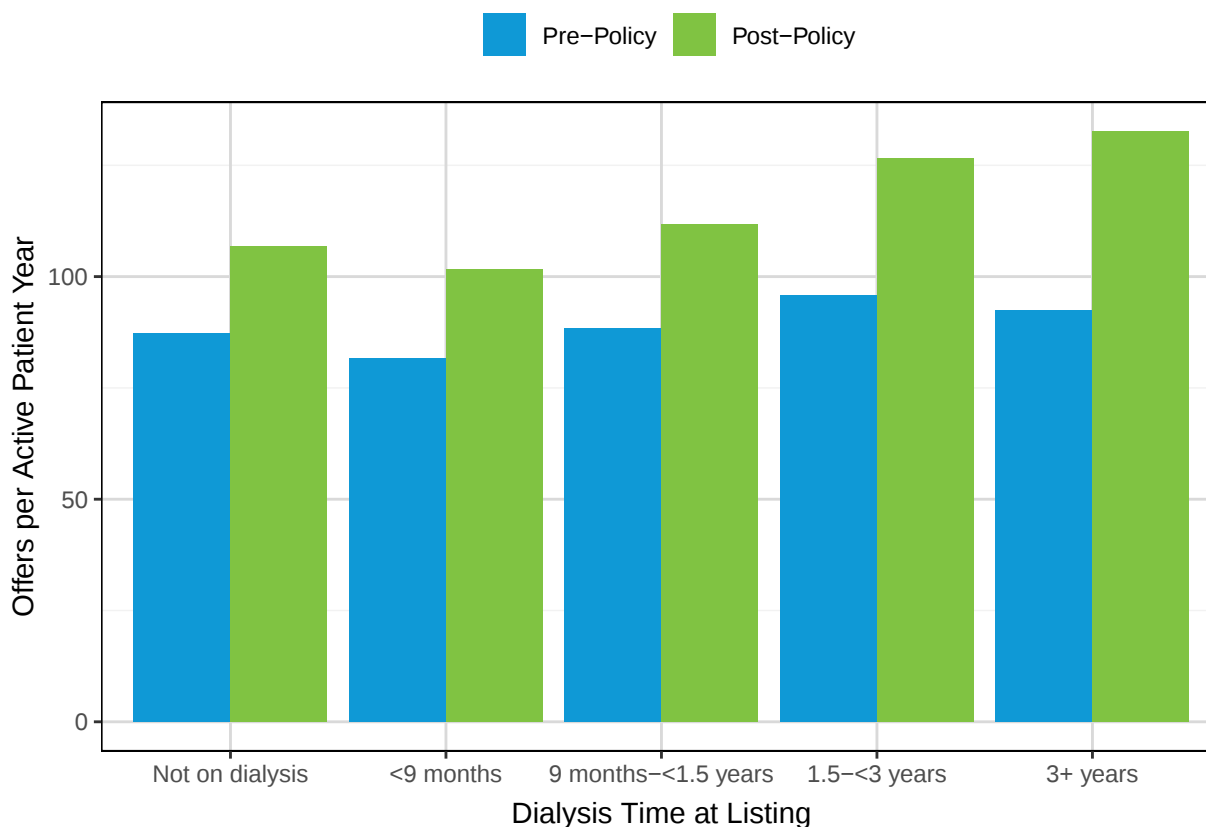


Table A75: Offer and Acceptance Rates for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Time at Listing

Era	Dialysis Time	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	Not on dialysis	19788.22	1728982	6623	87.37	3.83
	<9 months	11849.32	967186	2411	81.62	2.49
	9 months-<1.5 years	11503.73	1017805	2514	88.48	2.47
	1.5-<3 years	9593.80	918194	2641	95.71	2.88
	3+ years	6423.16	593377	4185	92.38	7.05
Post-Policy	Not on dialysis	22060.47	2356138	6470	106.80	2.75
	<9 months	12483.64	1269638	2289	101.70	1.80
	9 months-<1.5 years	12189.97	1363400	2416	111.85	1.77
	1.5-<3 years	10366.17	1312341	2592	126.60	1.98
	3+ years	6375.48	845590	4451	132.63	5.26

Figure A70 shows acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and time on dialysis at listing. Groupings are based on the 25th, 50th, and 75th percentiles of dialysis time (see **Table 12**). Acceptance rates decreased for all patients regardless of dialysis status or time after policy implementation. Candidates on dialysis for three or more years at the time of listing had the highest rate of offer acceptance both before and after policy implementation.

Figure A70: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Time at Listing

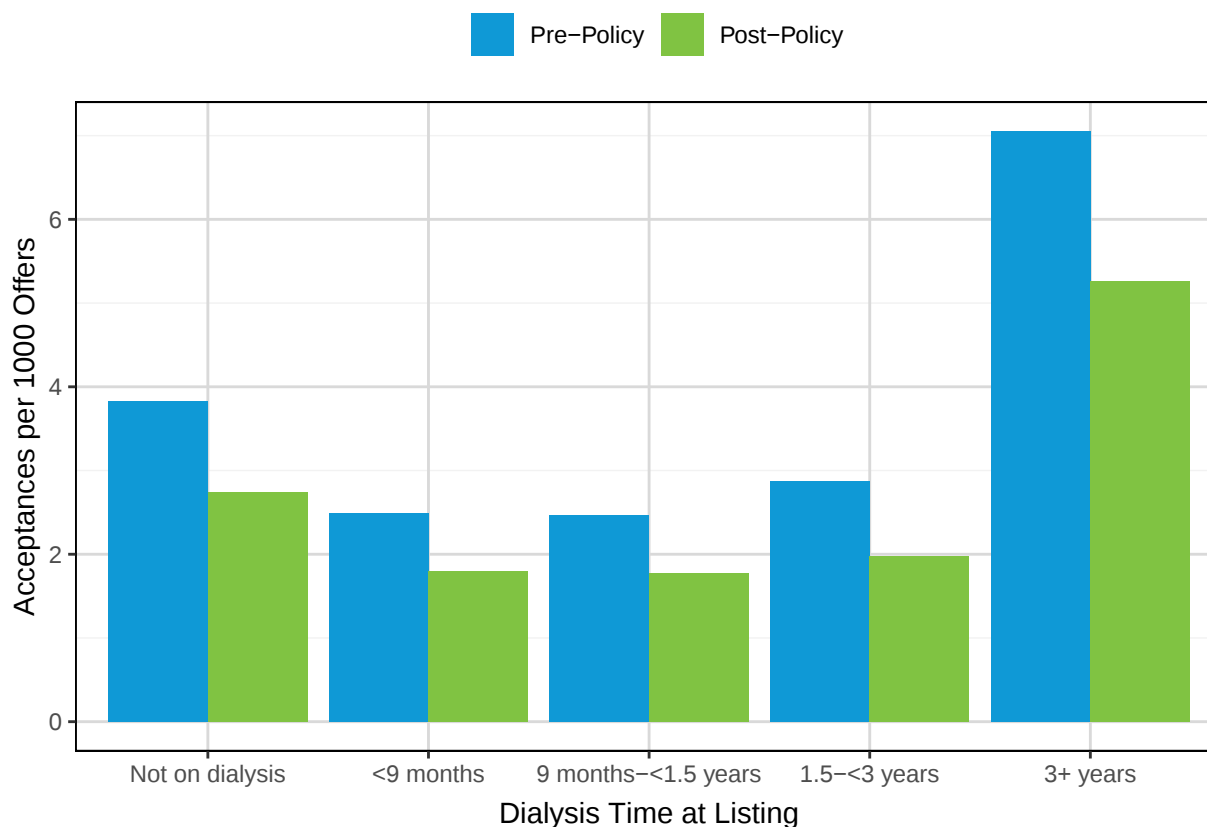


Figure A71 and **Table A76** show offers per active patient year for kidney matches from March 15, 2020 to March 14, 2022 by policy era and ethnicity. Offer rates increased for candidates of all ethnicities after policy implementation.

Figure A71: Offers per Active Patient Year for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

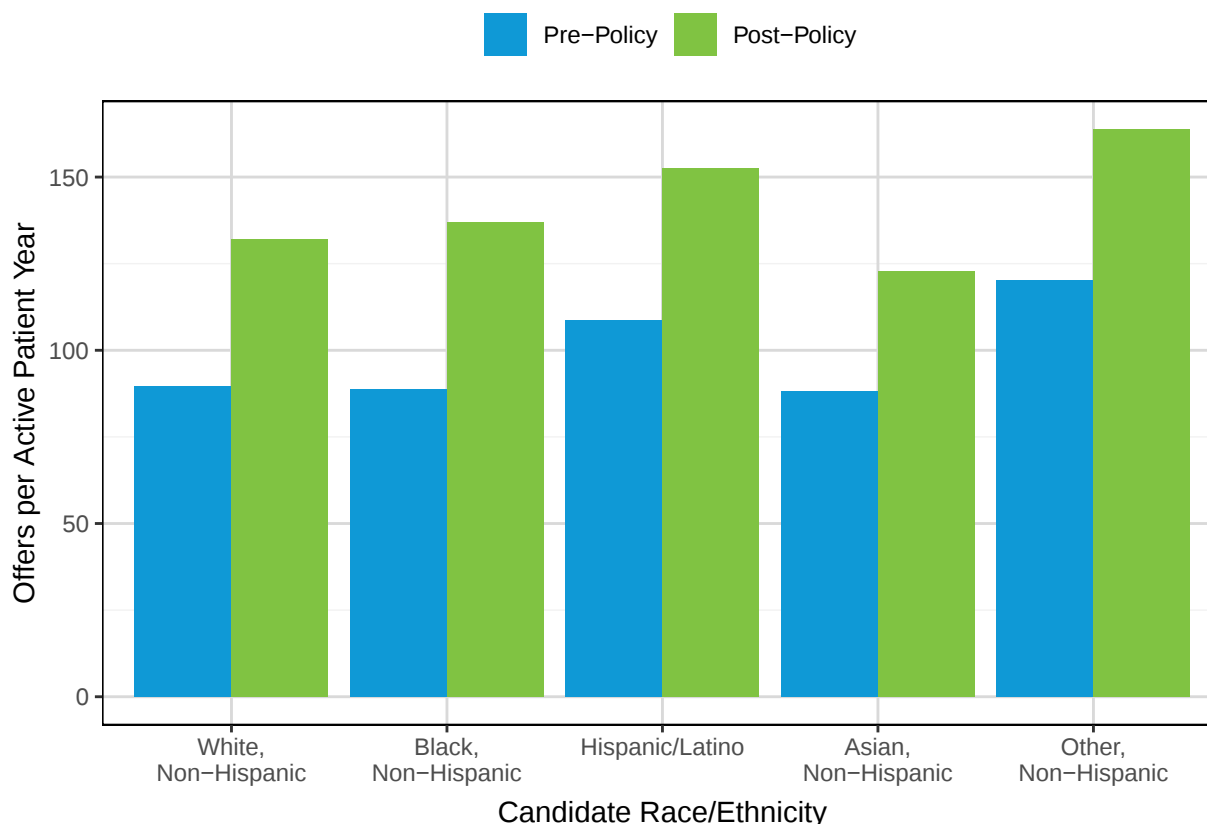


Table A76: Offer and Acceptance Rates for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

Era	Ethnicity	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	White, Non-Hispanic	18244.57	1635564	6697	89.65	4.09
	Black, Non-Hispanic	18332.02	1629431	6202	88.88	3.81
	Hispanic/Latino	12532.17	1363586	3538	108.81	2.59
	Asian, Non-Hispanic	5217.20	460023	1329	88.17	2.89
	Other, Non-Hispanic	1138.38	136940	608	120.29	4.44
Post-Policy	White, Non-Hispanic	17142.90	2262477	6106	131.98	2.70
	Black, Non-Hispanic	16897.96	2312665	6239	136.86	2.70
	Hispanic/Latino	11688.20	1783358	3885	152.58	2.18
	Asian, Non-Hispanic	5026.31	617949	1421	122.94	2.30
	Other, Non-Hispanic	1041.95	170658	567	163.79	3.32

Figure A72 shows acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and ethnicity. Acceptance rates decreased for all ethnicities after policy implementation.

Figure A72: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Ethnicity

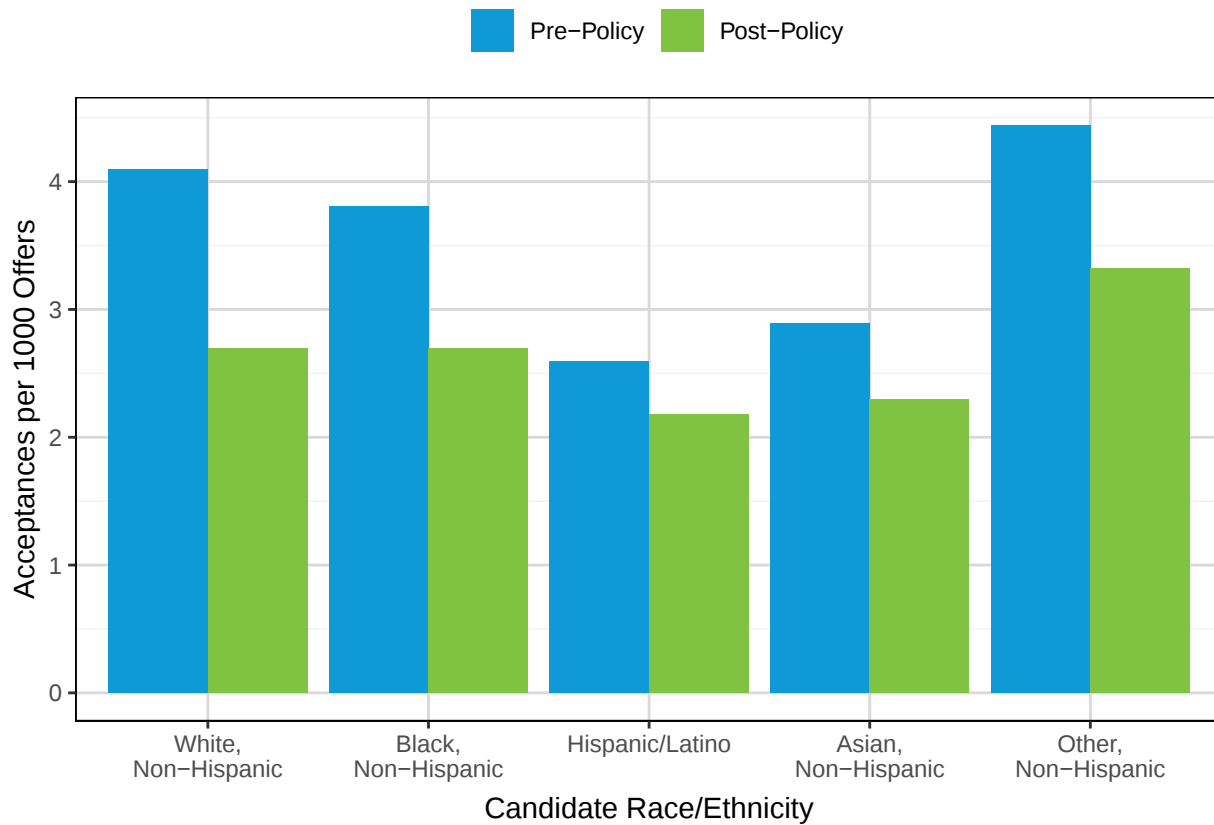


Figure A73 and **Table A77** show offers per active patient year for kidney matches from March 15, 2020 to March 14, 2022 by policy era and blood type. Offer rates increased for all blood types after policy implementation.

Figure A73: Offers per Active Patient Year for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

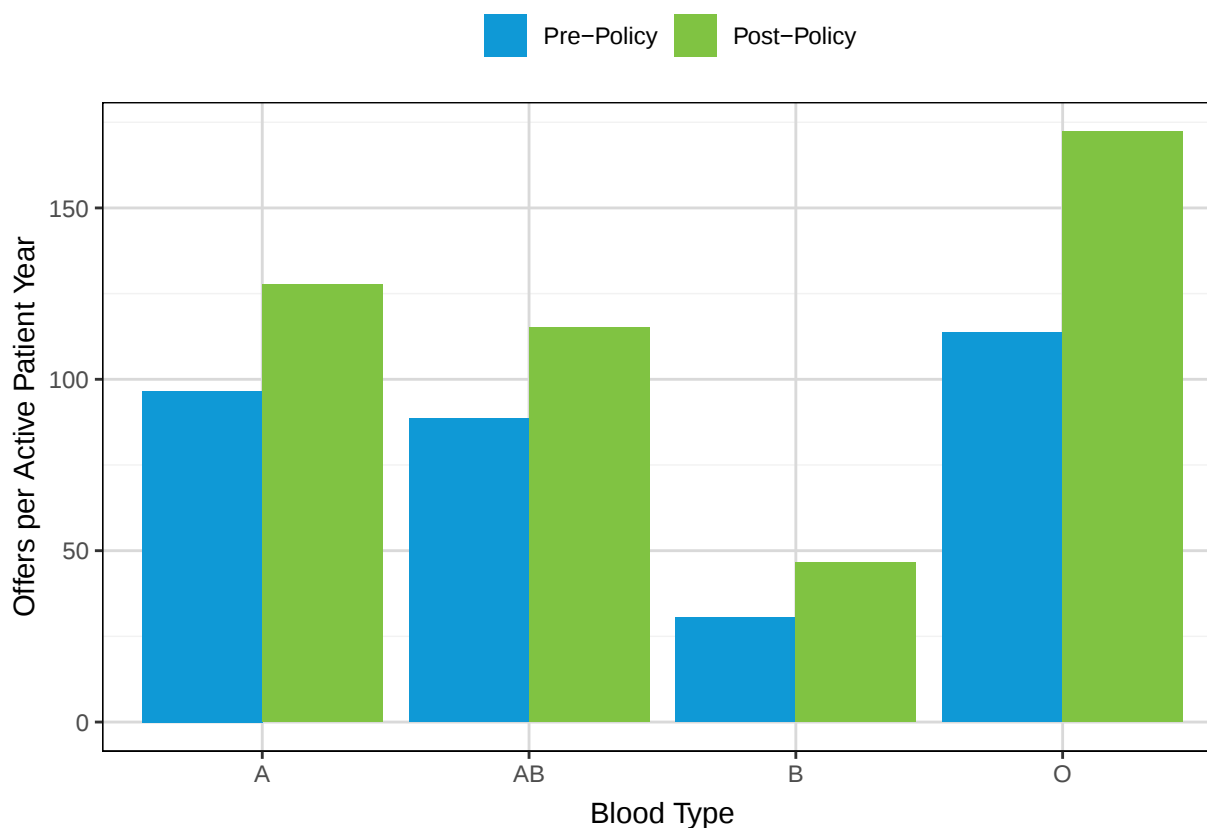


Table A77: Offer and Acceptance Rates for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

Era	Blood Type	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	A	14256.32	1376979	6436	96.59	4.67
	AB	1111.92	98472	896	88.56	9.10
	B	9355.07	284213	2476	30.38	8.71
	O	30526.77	3465880	8566	113.54	2.47
Post-Policy	A	13027.02	1664529	6160	127.78	3.70
	AB	1064.46	122593	814	115.17	6.64
	B	8748.40	408191	2674	46.66	6.55
	O	28742.39	4951794	8570	172.28	1.73

Figure A74 shows acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and blood type. Acceptance rates decreased for all blood types after policy implementation.

Figure A74: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Blood Type

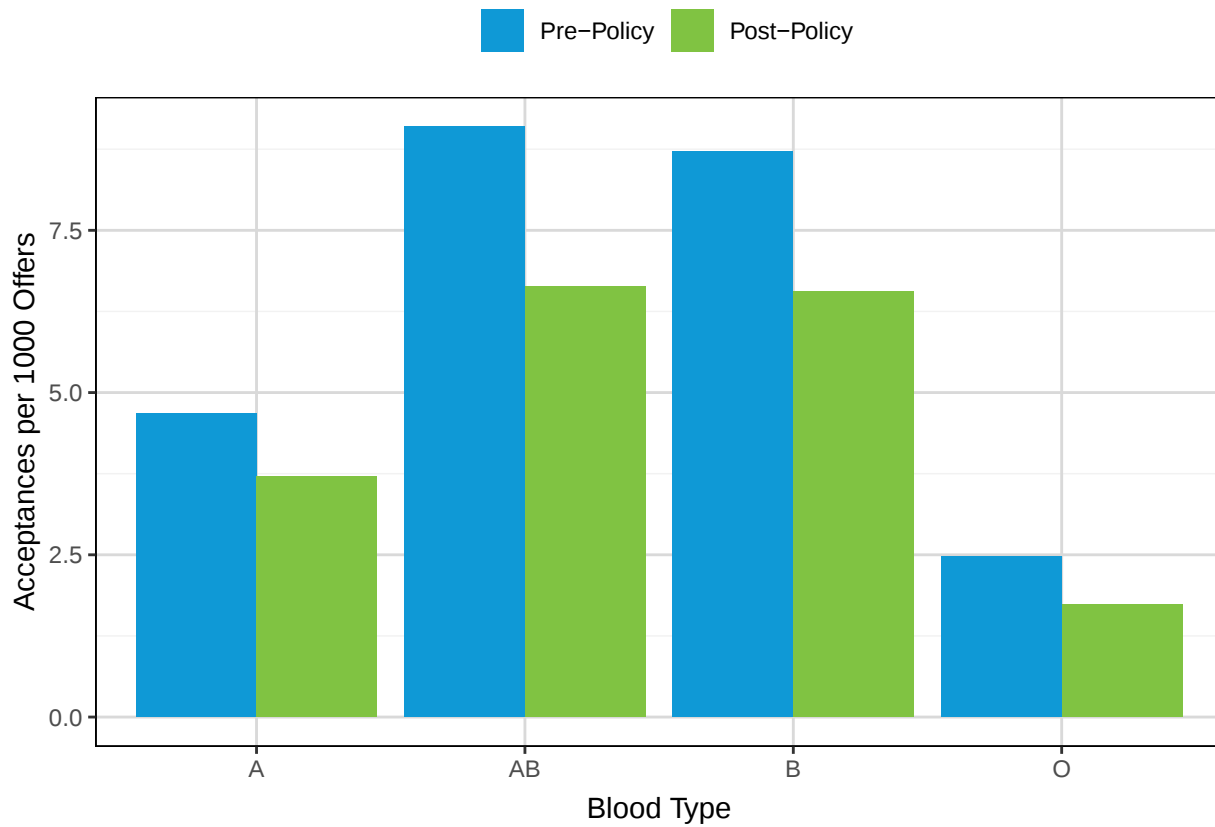


Figure A75 and **Table A78** show offers per active patient year for kidney matches from March 15, 2020 to March 14, 2022 by policy era and CPRA at listing. Offer rates increased for all CPRA groups after policy implementation.

Figure A75: Offers per Active Patient Year for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing

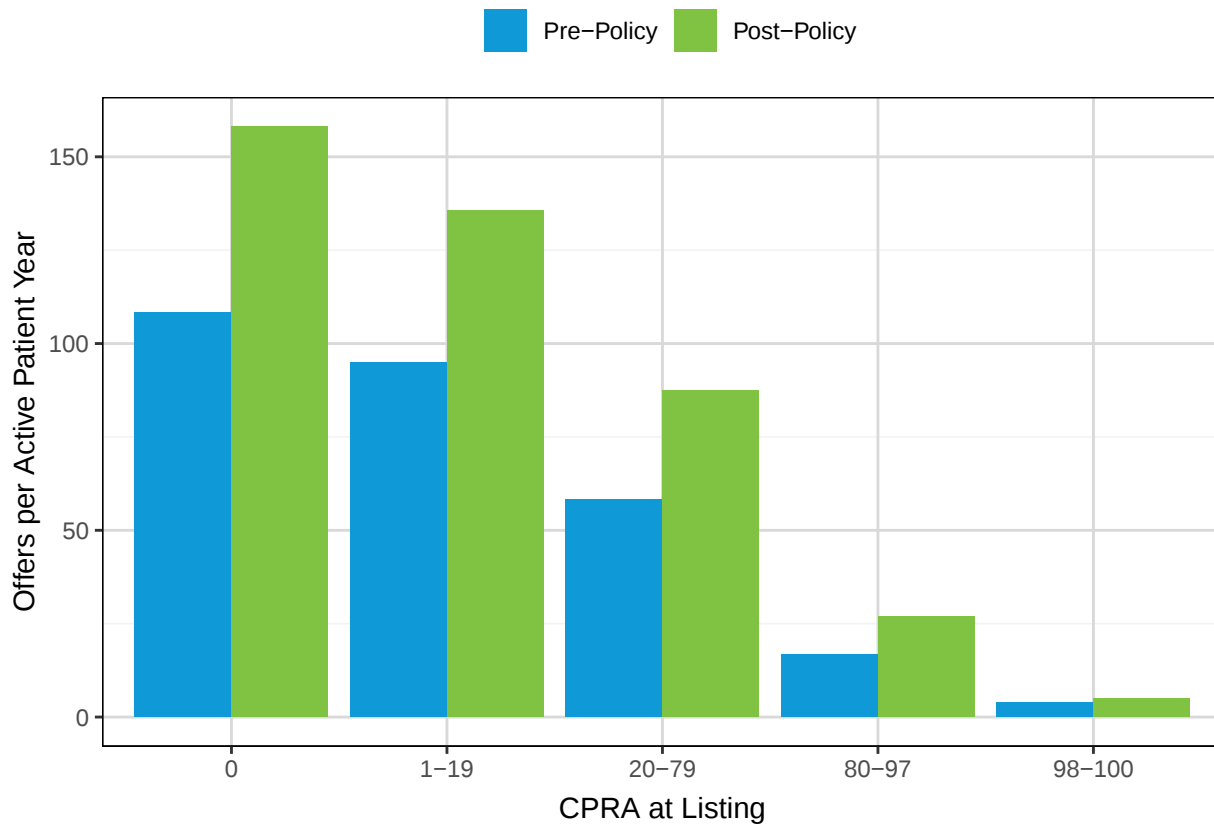


Table A78: Offer and Acceptance Rates for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing

Era	CPRA	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	0	40139.53	4342844	12696	108.19	2.92
	1-19	4167.96	395446	1249	94.88	3.16
	20-79	7483.02	435962	2469	58.26	5.66
	80-97	2498.59	41670	1072	16.68	25.73
	98-100	2178.65	8364	847	3.84	101.27
Post-Policy	0	37318.95	5899962	12218	158.10	2.07
	1-19	4092.45	554853	1270	135.58	2.29
	20-79	7125.44	623295	2515	87.47	4.04
	80-97	2142.28	57708	1425	26.94	24.69
	98-100	2037.07	10318	768	5.07	74.43

Figure A76 shows acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and CPRA at listing. Acceptance rates decreased for all CPRA groups after policy implementation.

Figure A76: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Listing

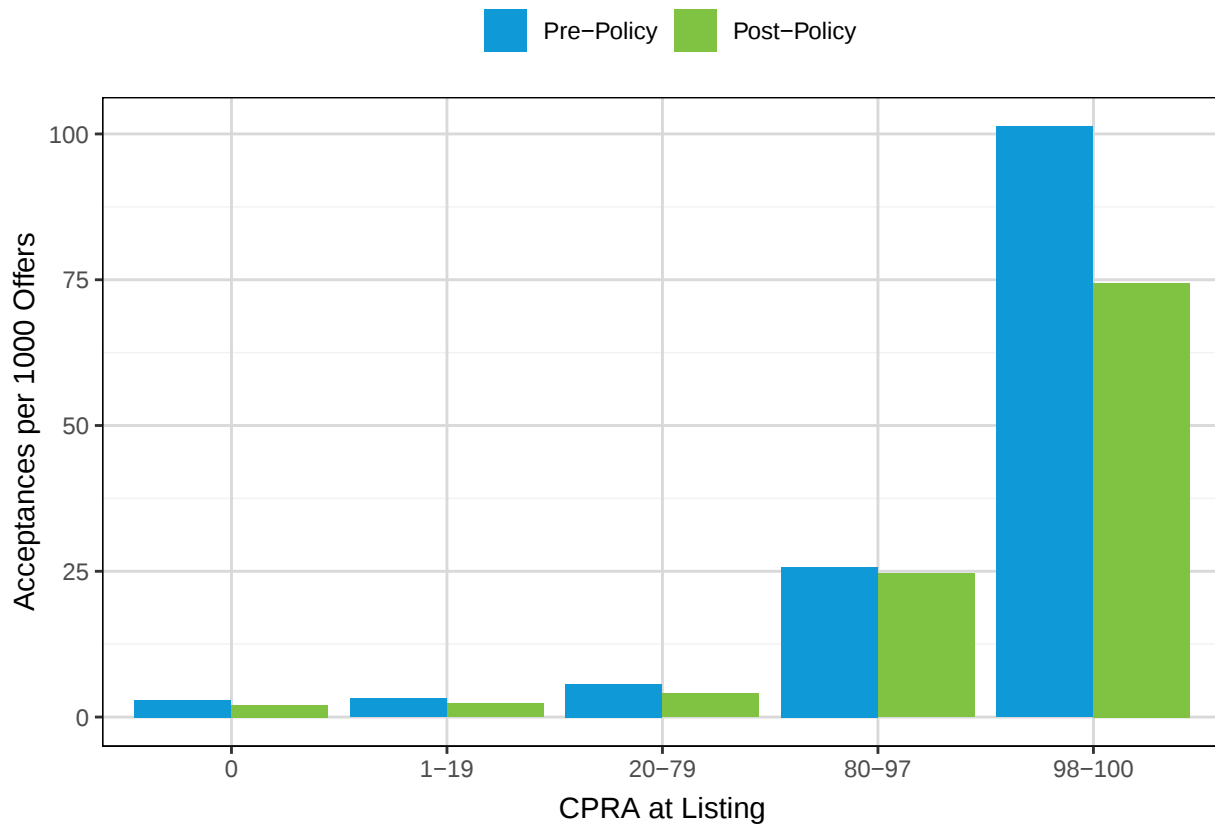


Figure A77 and **Table A79** show offers per active patient year for kidney matches from March 15, 2020 to March 14, 2022 by policy era and EPTS at listing. Offer rates increased for all EPTS groups after policy implementation.

Figure A77: Offers per Active Patient Year for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Listing

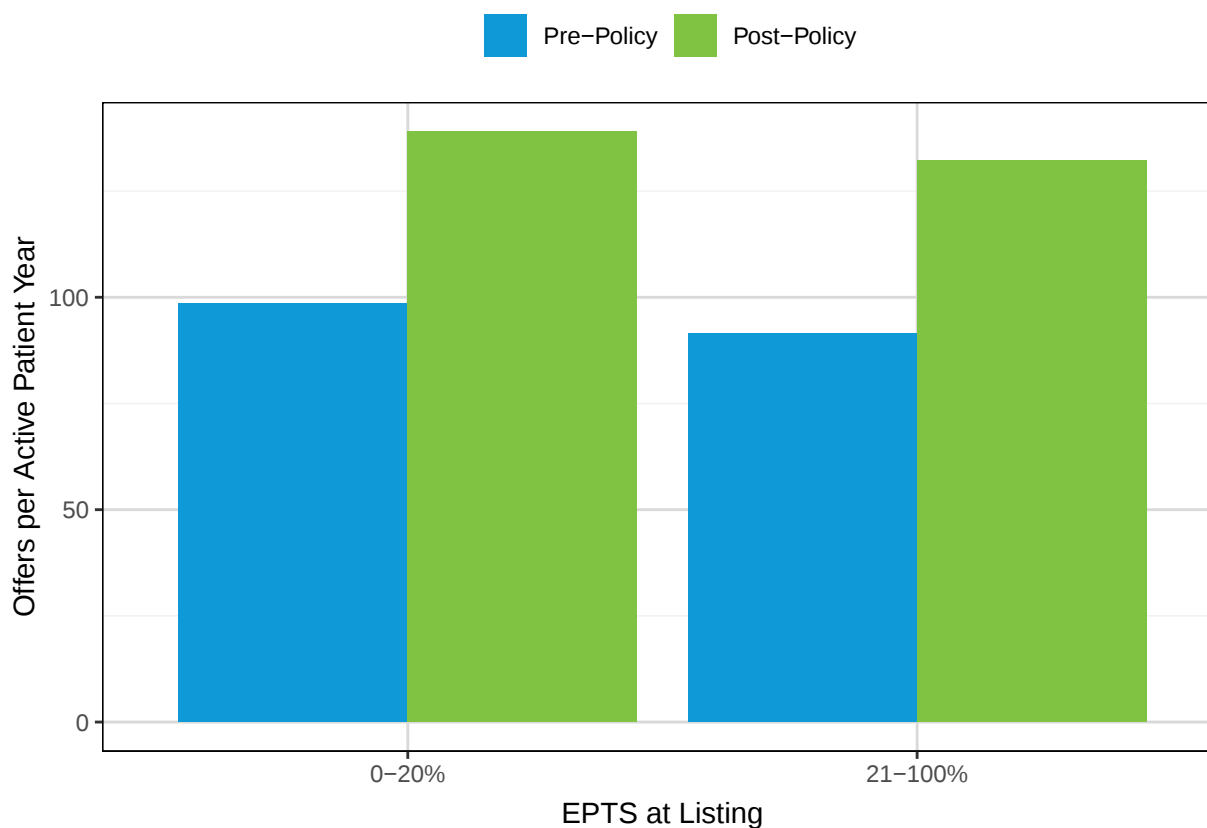


Table A79: Offer and Acceptance Rates for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Listing

Era	EPTS	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	0-20%	15655.73	1541666	6207	98.47	4.03
	21-100%	40259.05	3683720	12166	91.50	3.30
Post-Policy	0-20%	14972.82	2081366	6179	139.01	2.97
	21-100%	38321.26	5065126	12037	132.18	2.38

Figure A78 shows acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and EPTS at listing. Acceptance rates decreased for all EPTS groups after policy implementation.

Figure A78: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and EPTS at Listing

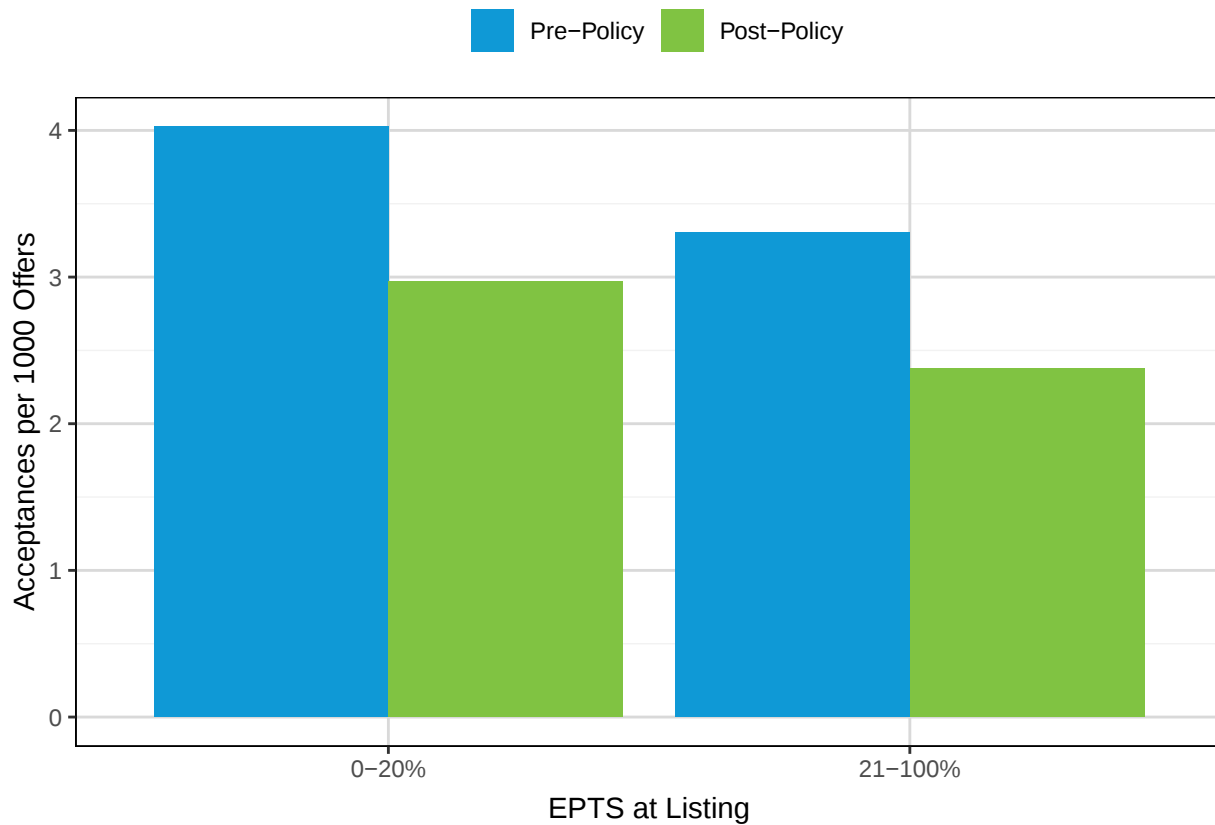


Figure A79 and **Table A80** show offers per active patient year for kidney matches from March 15, 2020 to March 14, 2022 by policy era and diagnosis. Offer rates increased for all diagnoses after policy implementation.

Figure A79: Offers per Active Patient Year for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis

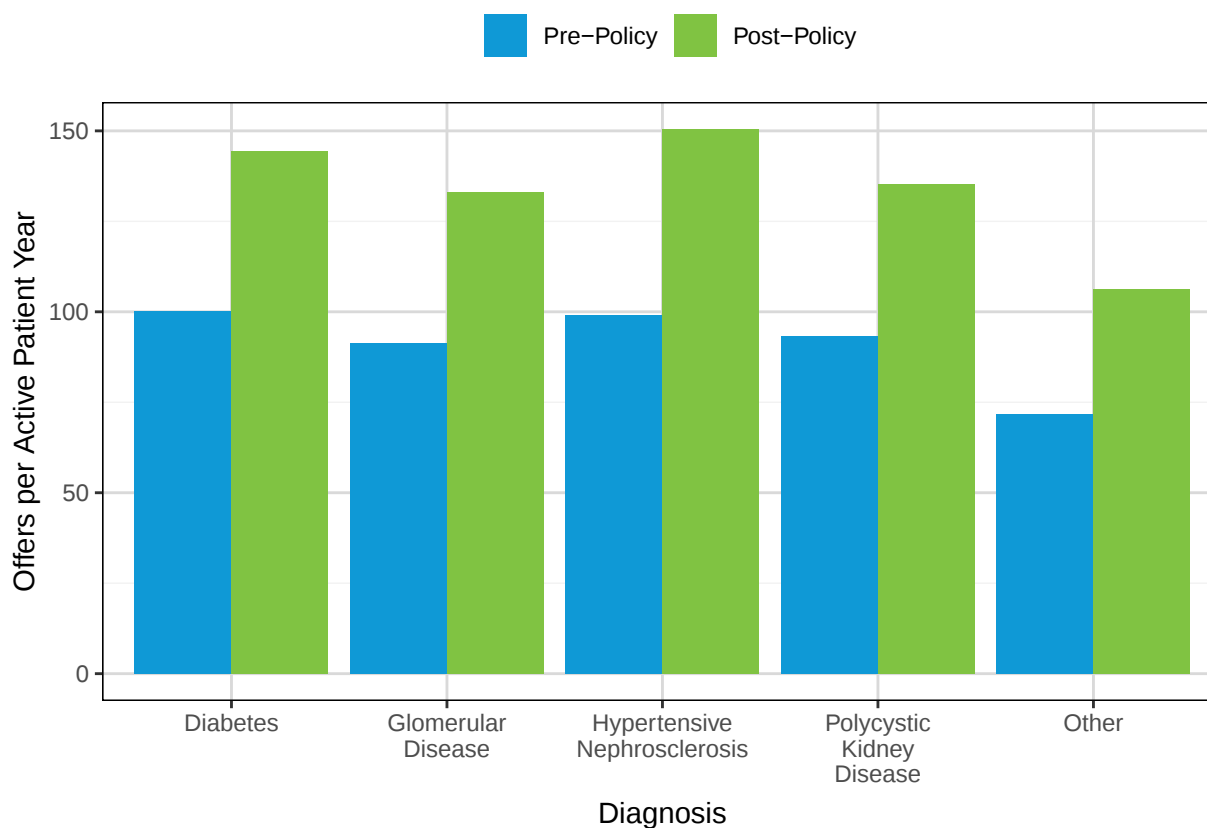


Table A80: Offer and Acceptance Rates for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis

Era	Diagnosis	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	Diabetes	20401.28	2045023	5255	100.24	2.57
	Glomerular Disease	9654.87	882761	3496	91.43	3.96
	Hypertensive Nephrosclerosis	11623.27	1150764	4012	99.01	3.49
	Polycystic Kidney Disease	3719.13	347341	1243	93.39	3.58
	Other	11155.05	799655	4368	71.69	5.46
Post-Policy	Diabetes	19068.41	2755746	5327	144.52	1.93
	Glomerular Disease	9002.32	1198483	3313	133.13	2.76
	Hypertensive Nephrosclerosis	10608.79	1596080	4063	150.45	2.55
	Polycystic Kidney Disease	3504.45	474040	1156	135.27	2.44
	Other	10563.27	1122758	4359	106.29	3.88

Figure A80 shows acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and diagnosis. Acceptance rates decreased for all diagnoses after policy implementation.

Figure A80: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Diagnosis

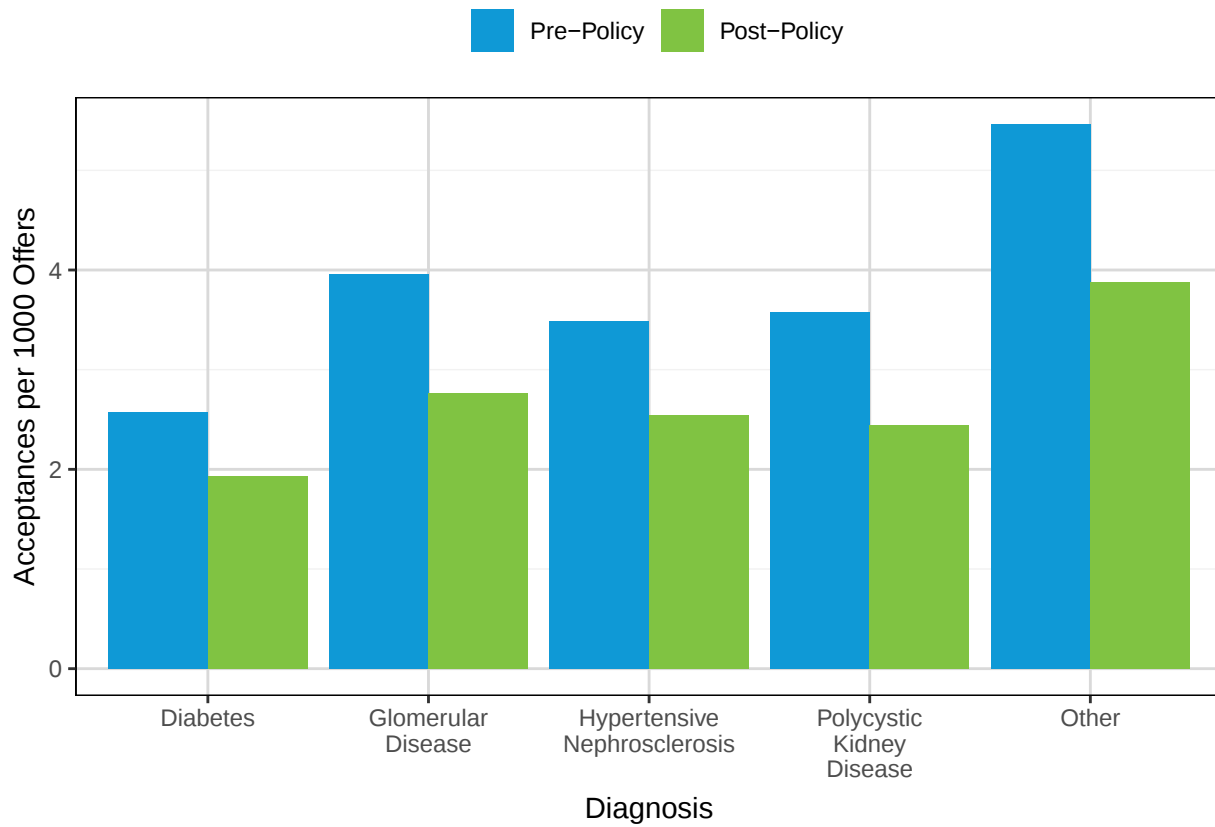


Figure A81 and **Table A81** show acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and share type. The acceptance rate for organs recovered in the same DSA as the potential transplant recipient's transplant center decreased from 14 to 10 acceptances per 1000 offers after policy implementation. The acceptance rate for organs recovered outside the same DSA as the potential transplant recipient increased from 1 to 2 acceptances per 1000 offers.

Figure A81: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Share Type

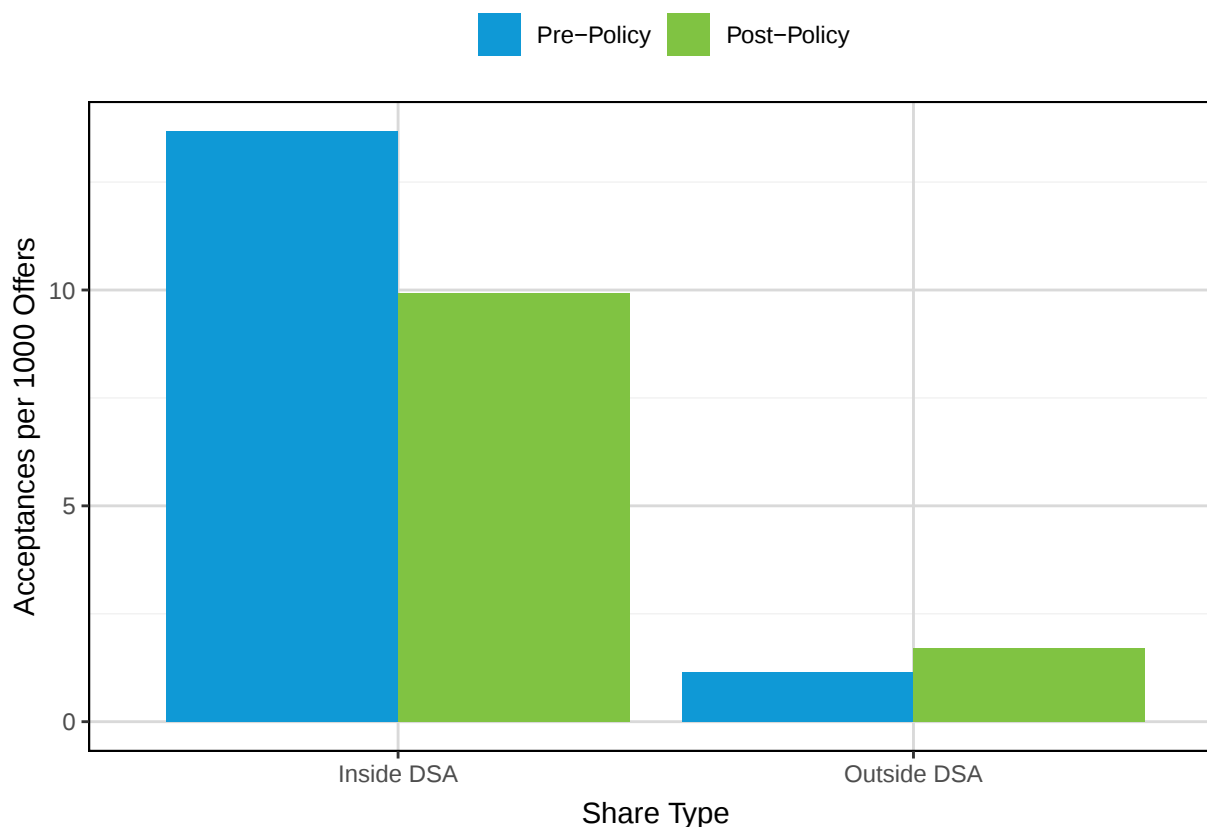


Table A81: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Share Type

Share Type	Pre-Policy			Post-Policy		
	Offers	Acceptances	Acceptances per 1000 Offers	Offers	Acceptances	Acceptances per 1000 Offers
Inside DSA	984169	13462	13.68	730264	7256	9.94
Outside DSA	4241375	4912	1.16	6416843	10962	1.71

Figure A82 and **Table A82** show acceptances per 1000 offers for kidney match runs from March 15, 2020 to March 14, 2022 by policy era and distance from the donor hospital. Acceptance rates decreased for both distance groups after policy implementation.

Figure A82: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Distance

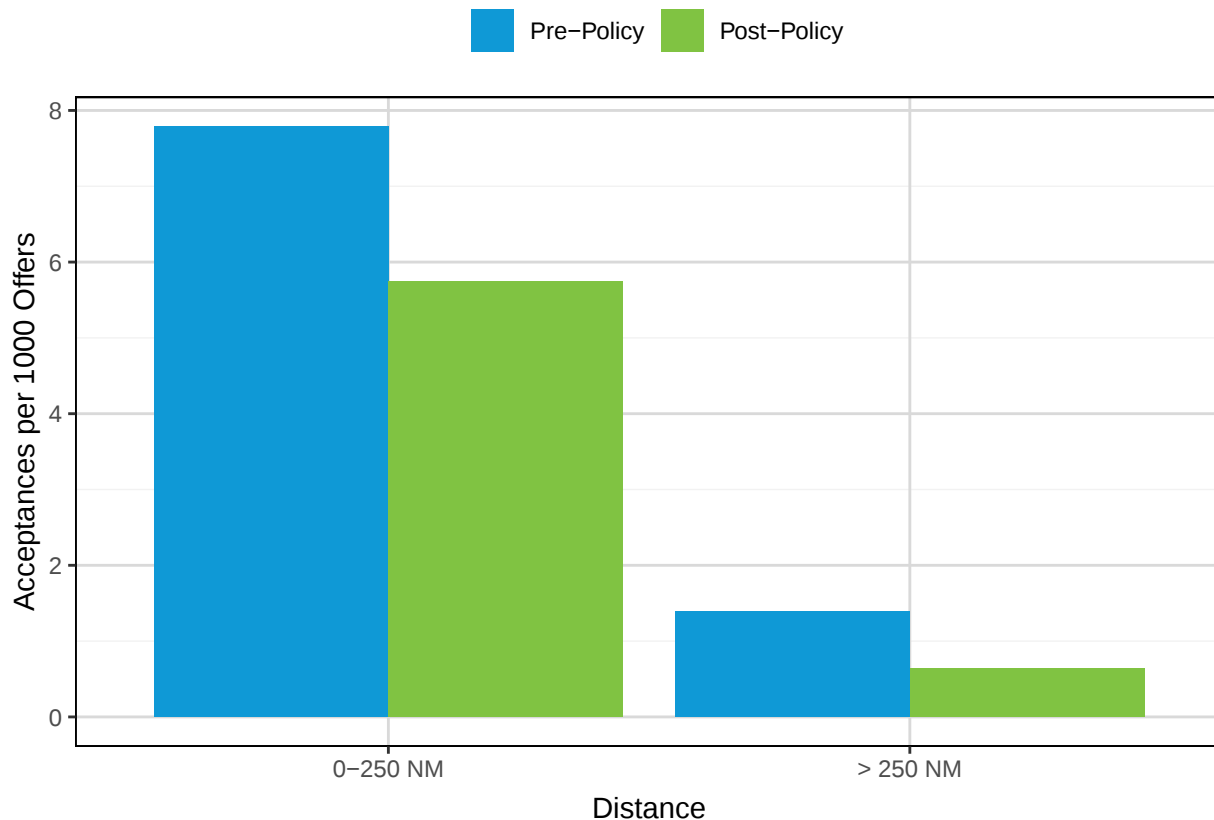


Table A82: Acceptances per 1000 Offers for Kidney Match Runs March 15, 2020 - March 14, 2022 by Policy Era and Distance

Distance	Pre-Policy			Post-Policy		
	Offers	Acceptances	Acceptances per 1000 Offers	Offers	Acceptances	Acceptances per 1000 Offers
0-250 NM	1735395	13517	7.79	2672749	15358	5.75
> 250 NM	3490149	4857	1.39	4474358	2860	0.64

Figure A83 and **Table A83** show refusals due to positive crossmatch for kidney matches from March 15, 2020 to March 14, 2022 by policy era and CPRA. Roughly 0.1% of all refusals were due to positive crossmatch across policy eras. Candidates with CPRA 98-100% were the most likely to refuse an offer due to positive crossmatch (18% pre-policy and 12% post-policy).

Figure A83: Refusals Due to Positive Crossmatch for Kidney Matches March 15, 2020-March 14, 2022 by Policy Era and CPRA

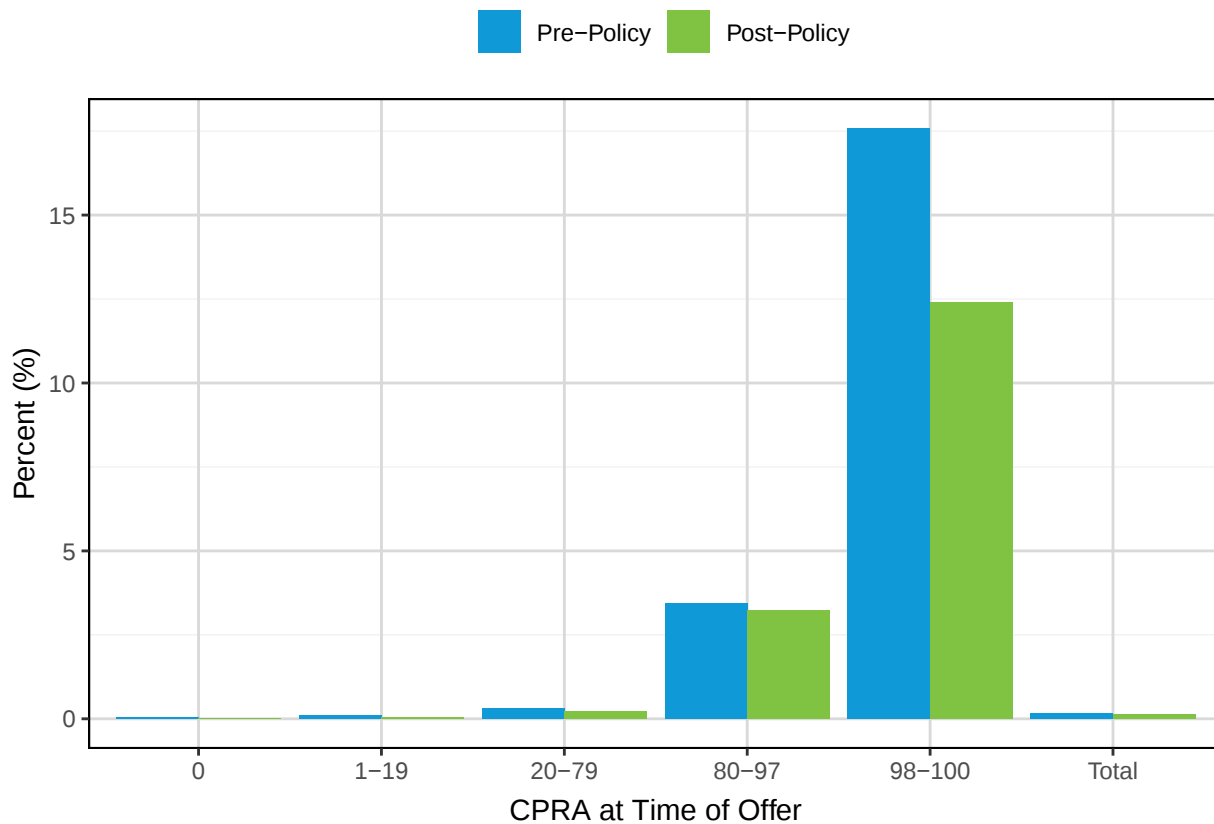


Table A83: Refusals Due to Positive Crossmatch for Kidney Matches March 15, 2020-March 14, 2022 by Policy Era and CPRA

CPRA	Pre-Policy			Post-Policy		
	Refusals	Due to Xmatch	%	Refusals	Due to Xmatch	%
0	1474585	665	0.05	2188751	616	0.03
1-19	212978	202	0.09	324496	186	0.06
20-79	229946	723	0.31	362717	774	0.21
80-97	22732	783	3.44	37530	1217	3.24
98-100	5909	1039	17.58	6401	794	12.40
Total	1946150	3412	0.18	2919895	3587	0.12

Pediatrics

Figure A84 and **Table A84** show deceased donor transplants per 100 active patient years for pediatric kidney registrations ever waiting between March 15, 2020 and March 14, 2022 by policy era and age at listing. Transplant rates did not change for registrations aged 10 years or younger at listing after policy implementation. The transplant rate for registrations aged 11 to 17 years at listing increased from 145 to 263 transplants per 100 active patient years.

Figure A84: Transplants per 100 Active Patient Years for Pediatric Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

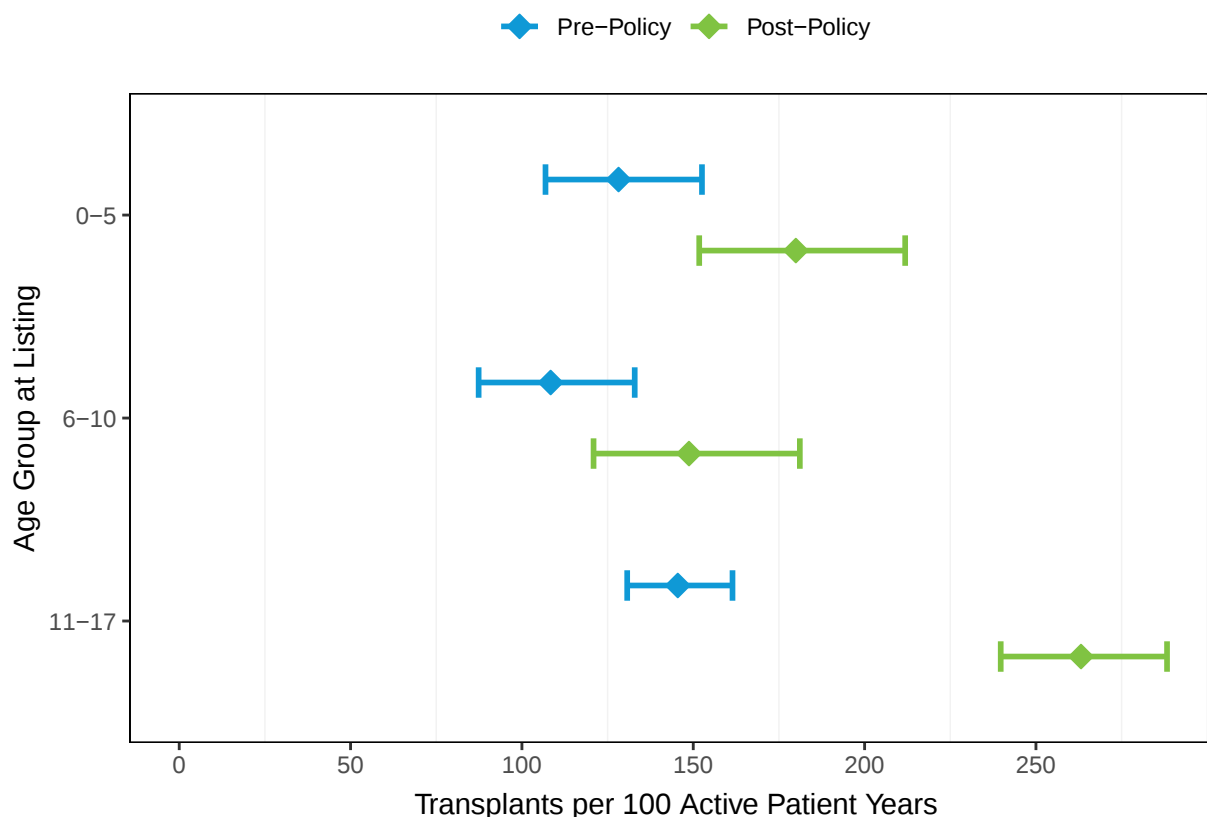


Table A84: Transplants per 100 Active Patient Years for Pediatric Kidney Registrations Ever Waiting March 15, 2020 - March 14, 2022 by Policy Era and Age at Listing

Age at Listing	Era	Registrations	Transplants	Transplants per 100 Active Patient Years	95% CI
0-5	Pre-Policy	280	127	128.20	(106.88, 152.54)
	Post-Policy	276	144	179.93	(151.74, 211.84)
6-10	Pre-Policy	215	92	108.38	(87.37, 132.92)
	Post-Policy	195	99	148.75	(120.9, 181.1)
11-17	Pre-Policy	734	354	145.48	(130.72, 161.45)
	Post-Policy	741	463	263.15	(239.72, 288.25)

Figure A85 and **Table A85** show pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and recipient ethnicity. The distribution of ethnicity for pediatric recipients did not change after policy implementation.

Figure A85: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Recipient Ethnicity

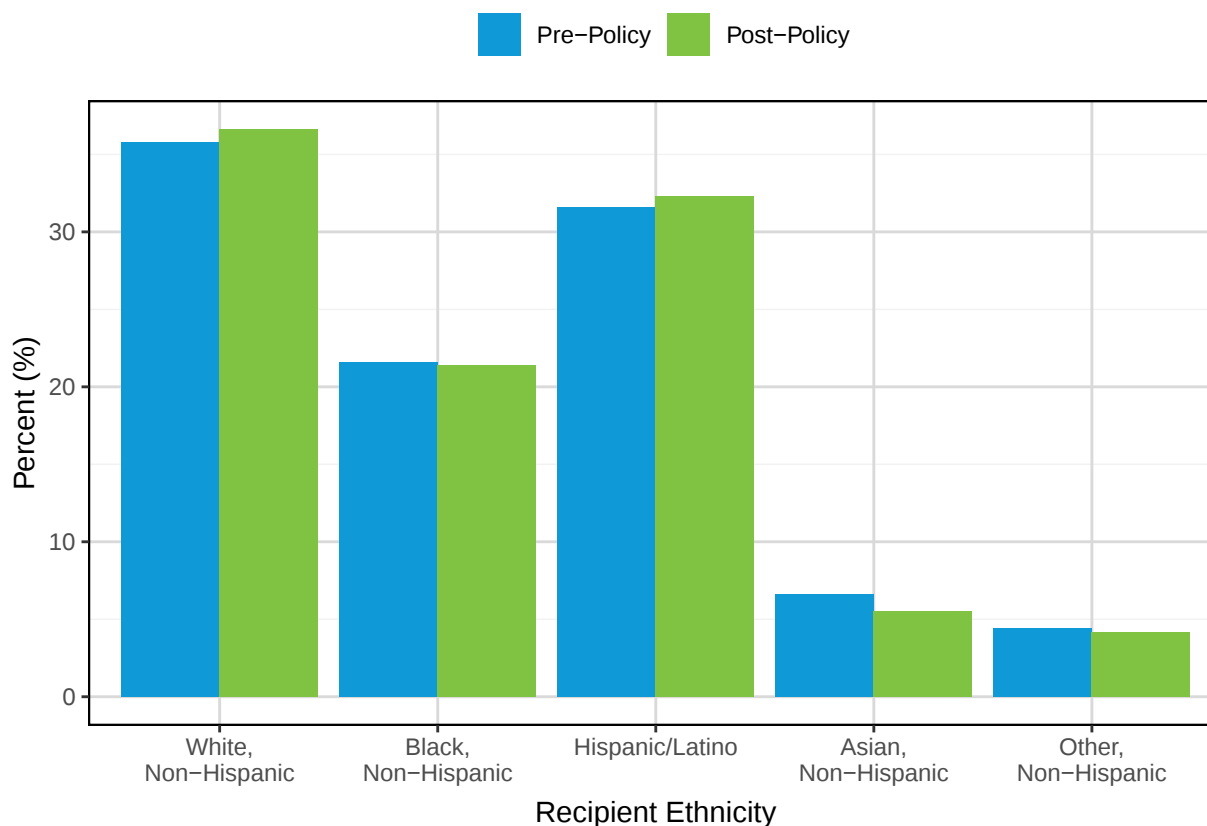


Table A85: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Recipient Ethnicity

Ethnicity	Pre-Policy		Post-Policy	
	N	%	N	%
White, Non-Hispanic	179	35.80	219	36.62
Black, Non-Hispanic	108	21.60	128	21.40
Hispanic/Latino	158	31.60	193	32.27
Asian, Non-Hispanic	33	6.60	33	5.52
Other, Non-Hispanic	22	4.40	25	4.18
Total	500	100.00	598	100.00

Figure A86 and **Table A86** show pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and CPRA at transplant. The proportion of pediatric recipients with CPRA 0% decreased from 76% to 70% after policy implementation, while the proportion of recipients with CPRA 20-79% increased from 10% to 15%.

Figure A86: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Transplant

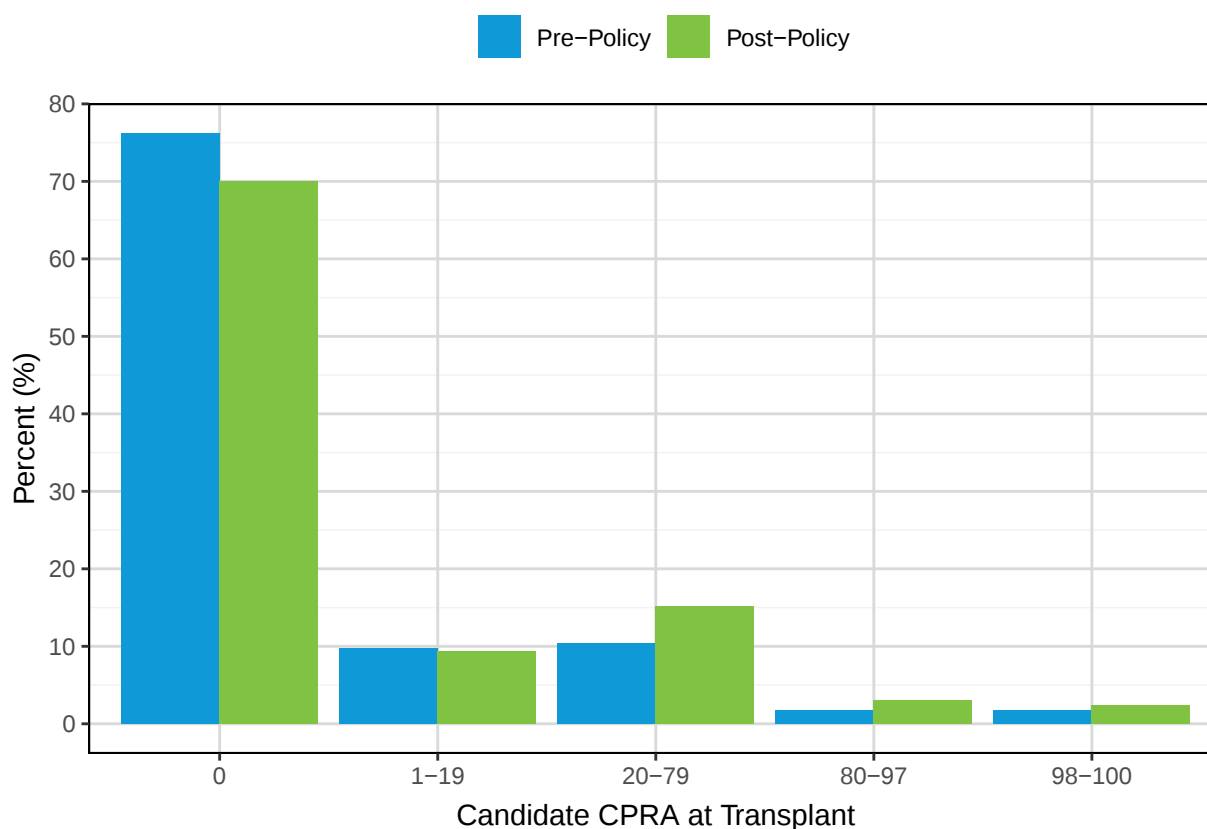


Table A86: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and CPRA at Transplant

CPRA %	Pre-Policy		Post-Policy	
	N	%	N	%
0	381	76.20	419	70.07
1-19	49	9.80	56	9.36
20-79	52	10.40	91	15.22
80-97	9	1.80	18	3.01
98-100	9	1.80	14	2.34
Total	500	100.00	598	100.00

Figure A87 and **Table A87** show pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and dialysis status at the time of transplant as reported to the OPTN. Roughly 70% of pediatric transplant recipients were on dialysis both pre- and post-policy.

Figure A87: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Status at Transplant

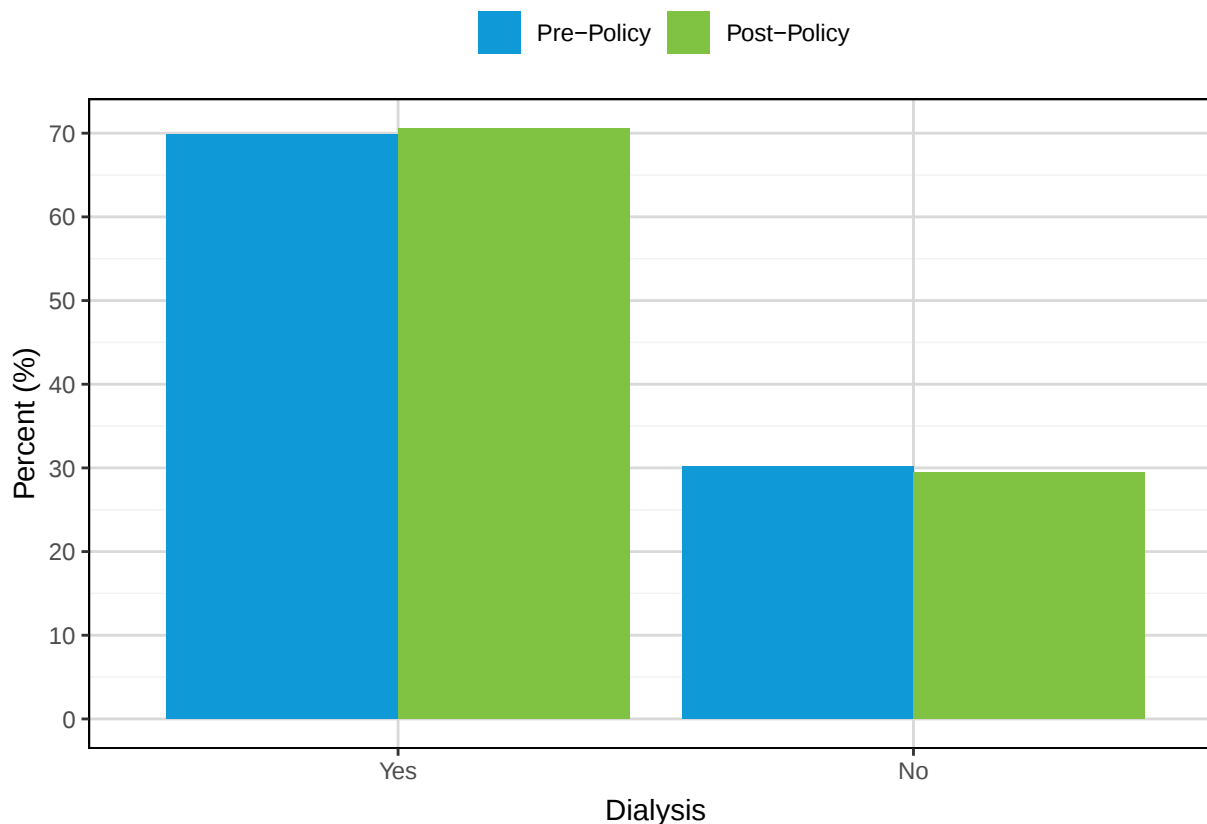


Table A87: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Dialysis Status at Transplant

Dialysis	Pre-Policy		Post-Policy	
	N	%	N	%
Yes	349	69.80	422	70.57
No	151	30.20	176	29.43
Total	500	100.00	598	100.00

Figure A88 and **Table A88** show pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and time on dialysis at transplant as reported to the OPTN. Median dialysis time at transplant for pediatric recipients was roughly 1.6 years both pre- and post-policy.

Figure A88: Distribution of Time on Dialysis (Years) at Transplant for Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

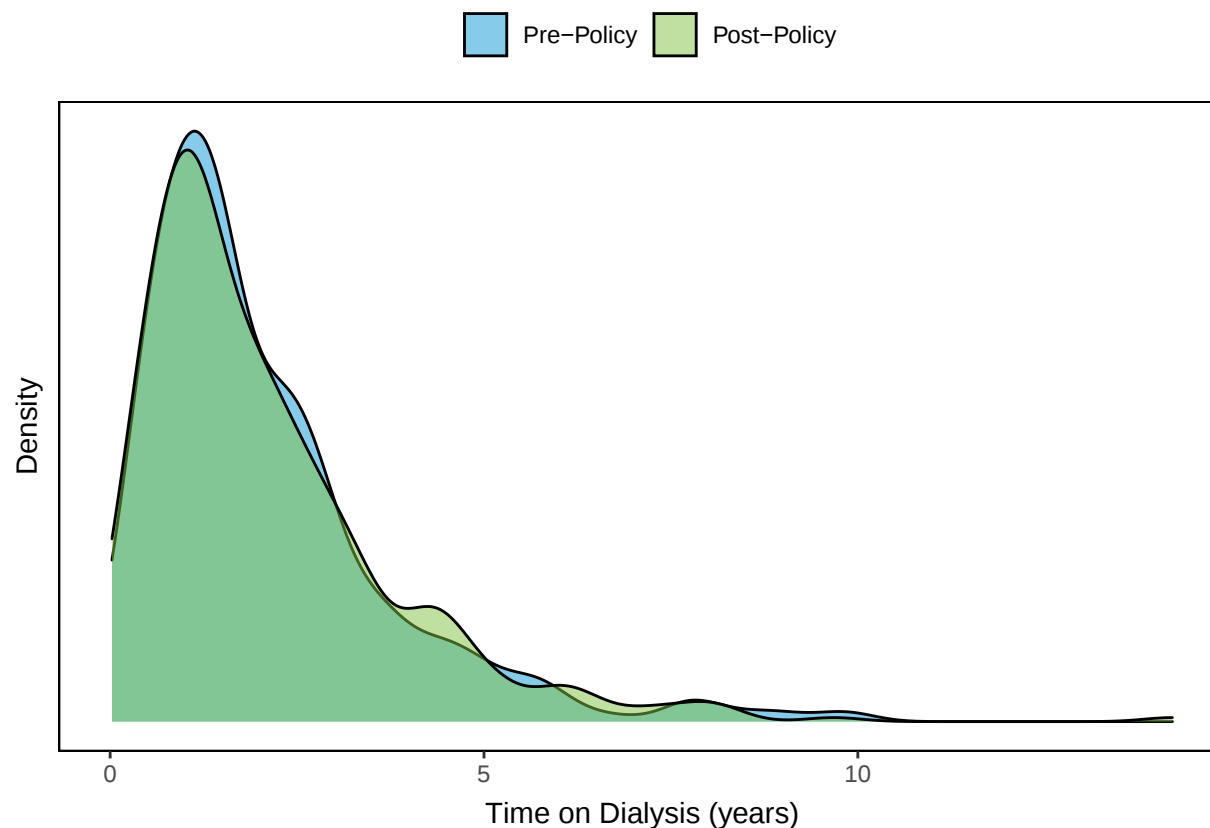


Table A88: Distribution of Time on Dialysis (Years) at Transplant for Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Era	Total	Min	25th Percentile	Median	Mean	75th Percentile	Max
Pre-Policy	349	0.08	0.97	1.55	2.09	2.73	9.94
Post-Policy	422	0.02	0.93	1.65	2.10	2.80	14.21

Figure A89 and **Table A89** show pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and KDPI. Over 95% of pediatric transplants both pre- and post-policy utilized kidneys recovered from KDPI 0-34% donors.

Figure A89: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and KDPI

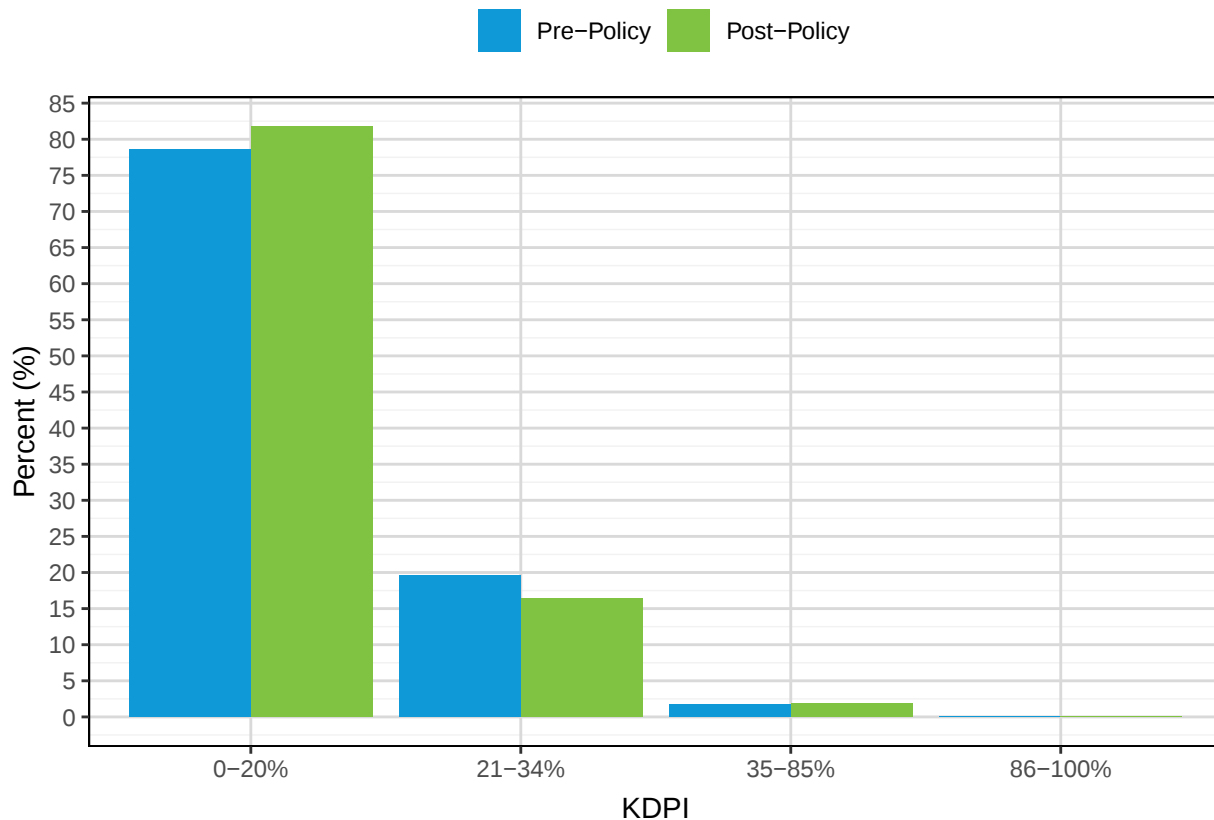


Table A89: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and KDPI

KDPI	Pre-Policy		Post-Policy	
	N	%	N	%
0-20%	393	78.60	489	81.77
21-34%	98	19.60	98	16.39
35-85%	9	1.80	11	1.84
86-100%	0	0.00	0	0.00
Total	500	100.00	598	100.00

Figure A90 and **Table A90** show pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era and distance from donor hospital. 91% of pediatric transplants were performed at transplant hospitals within 250 NM of the donor hospital pre-policy, compared to 95% post-policy.

Figure A90: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Distance from Donor Hospital

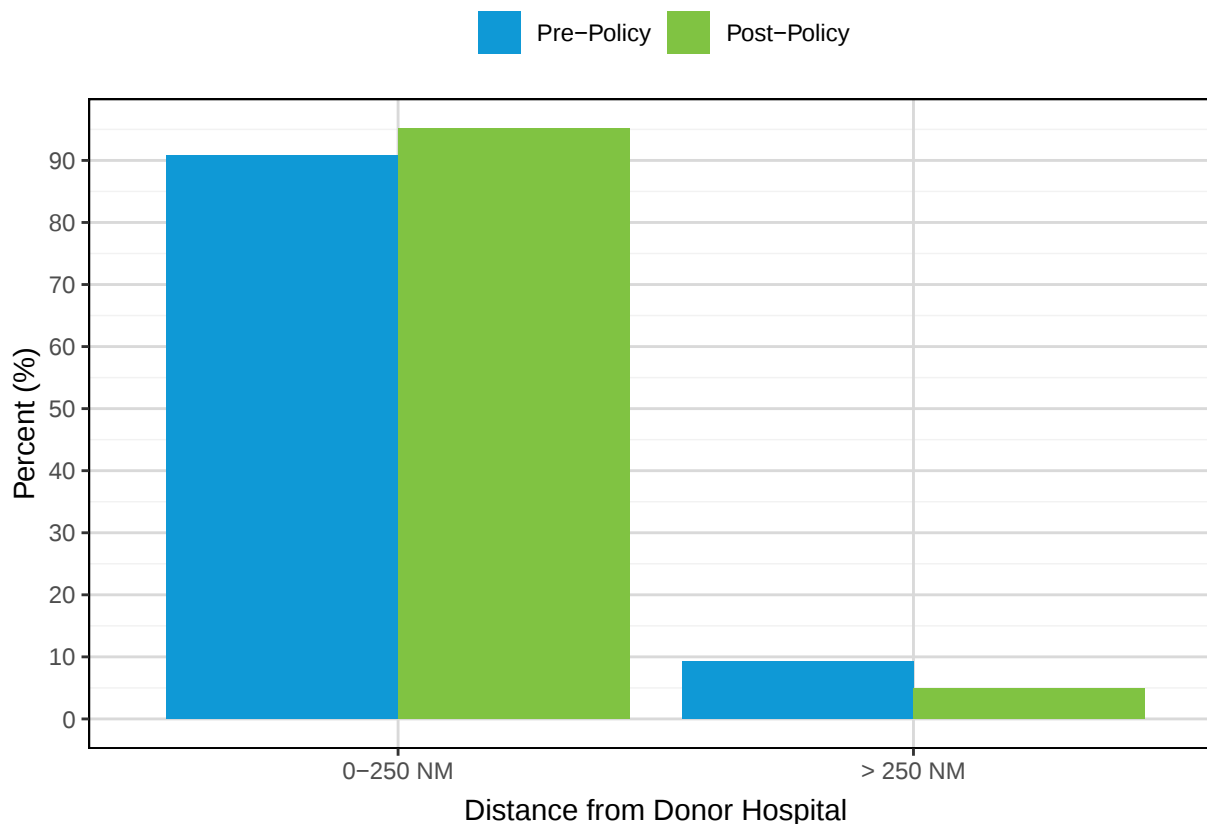


Table A90: Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era and Distance from Donor Hospital

Distance	Pre-Policy		Post-Policy	
	N	%	N	%
0-250 NM	454	90.80	569	95.15
> 250 NM	46	9.20	29	4.85
Total	500	100.00	598	100.00

Figure A91 and **Table A91** show the distribution of distance in NM from donor hospital for pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era. Median distance from then donor hospital increased from 28 NM to 130 NM after policy implementation.

Figure A91: Distribution of Distance from Donor Hospital for Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

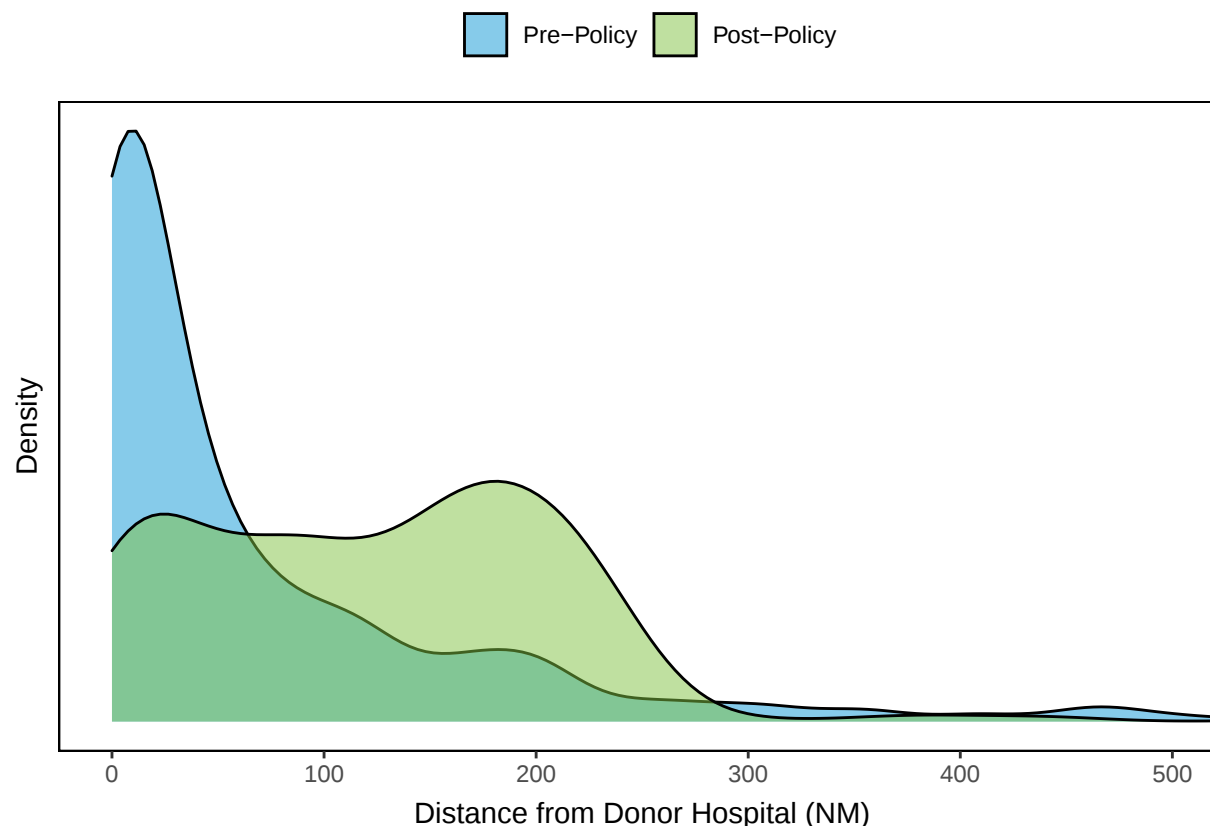
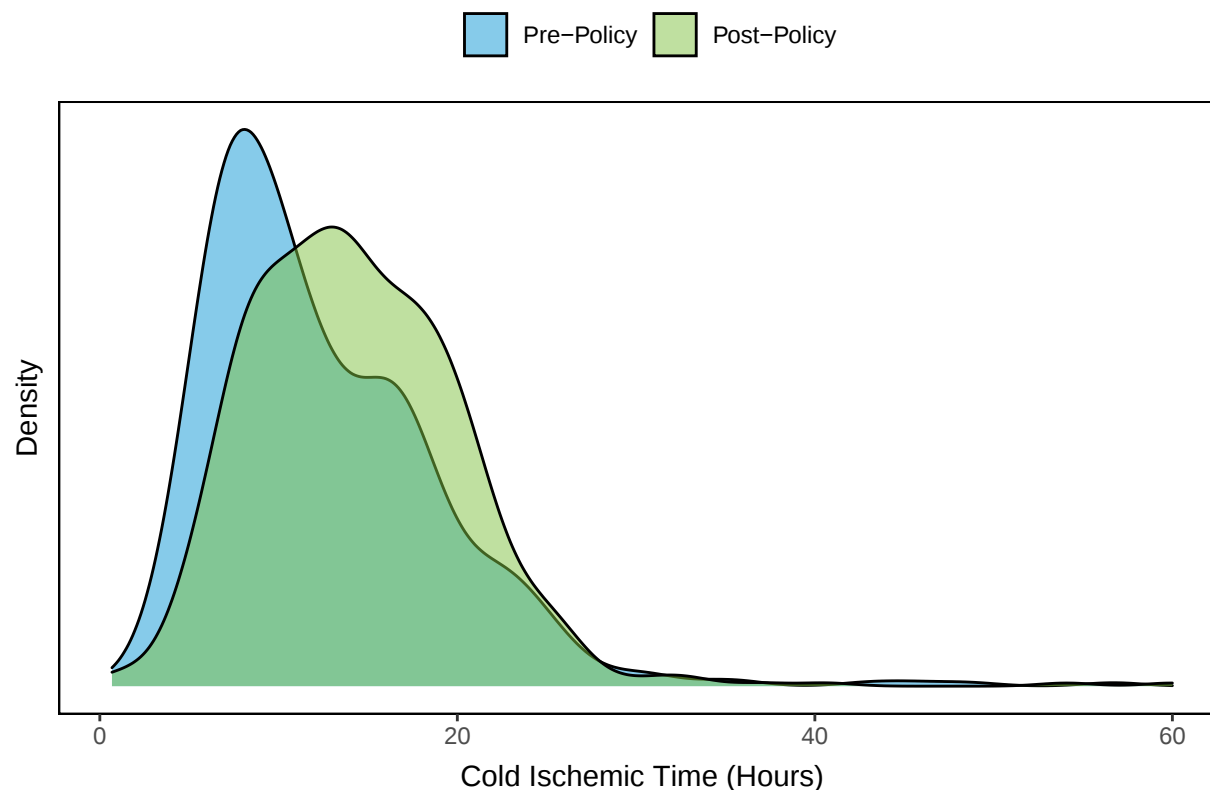


Table A91: Distribution of Distance from Donor Hospital for Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	500	0	0	4	28	97	106	1938
Post-Policy	598	0	0	50	130	153	196	1702

Figure A92 and **Table A92** show the distribution of cold ischemic time in hours for pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era. Median cold ischemic time increased from 11 to 14 hours after policy implementation. Missing values were excluded.

Figure A92: Distribution of Cold Ischemic Time (Hours) for Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era



Cold ischemic time was missing for 2% of transplants.

Table A92: Distribution of Cold Ischemic Time (Hours) for Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	500	11	1.48	7.59	10.97	12.55	16.30	56.7
Post-Policy	598	12	0.68	10.00	13.89	14.39	18.22	60.0

Figure A93 and **Table A93** show rate of delayed graft function for pediatric deceased donor kidney transplants from March 15, 2020 to March 14, 2022 by policy era. The rate of delayed graft function for pediatric recipients was 6% pre-policy and 7% post-policy.

Figure A93: Rate of Delayed Graft Function for Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

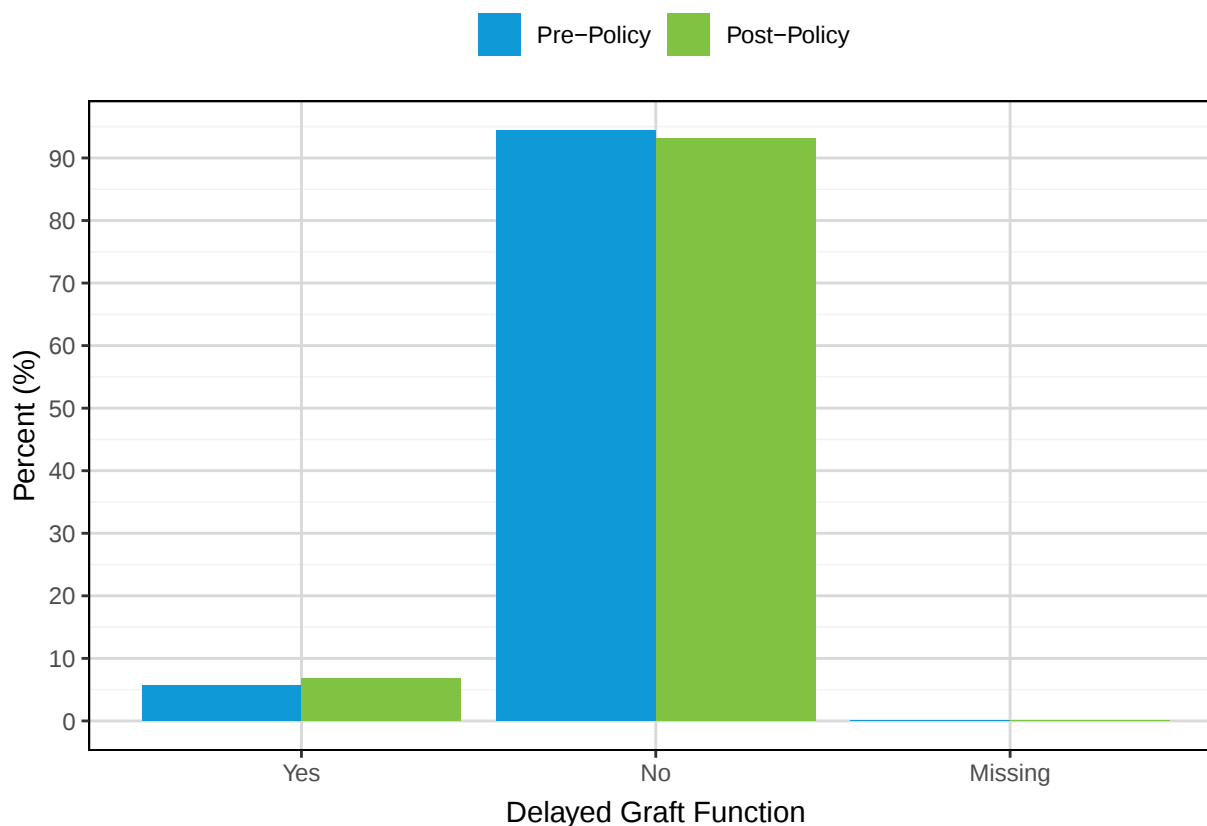


Table A93: Rate of Delayed Graft Function for Pediatric Deceased Donor Kidney Transplants from March 15, 2020 - March 14, 2022 by Policy Era

Delayed Graft Function	Pre-Policy		Post-Policy	
	N	%	N	%
Yes	28	5.60	41	6.86
No	472	94.40	557	93.14
Missing	0	0.00	0	0.00
Total	500	100.00	598	100.00