Final Report

OPTN Pancreas Transplantation Committee | Descriptive Data Request

Eliminate Use of DSA and Region from Pancreas Allocation 2 Year Post-Implementation Monitoring Report

DHHS Contract No. 250-2019-00001C
Date Completed: July 10, 2023

Prepared for:
Pancreas Transplantation Committee
Committee Meeting
Date of Meeting: July 10, 2023

By:
Sarah Booker, MPH, Katrina Gauntt, MS,
Keighly Bradbrook, PhD, and Thomas Dolan, MS
UNOS Research Department

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Executive Summary

This report presents data describing the U.S. organ transplantation system before and after the removal of Donation Service Area (DSA) and OPTN region from deceased donor kidney-pancreas (KP) and pancreas (PA) allocation. The analyses include data on waiting list registrations, transplant recipients, and deceased donors submitted to the OPTN between March 16, 2019 and March 14, 2023. Data are as of June 23, 2023 and are subject to change based on future submission or correction.

Equity in Access to Transplant

KP and PA transplant volumes were lower in the post-policy era (KP: 1696 vs 1622; PA: 271 vs 244). The overall KP transplant rate decreased post-policy from 103 to 96 transplants per 100 active patient years (**Figure 1** & **Table 1**) and the overall PA transplant rate decreased from 63 to 60 transplants per 100 active patient years (**Figure 19** & **Table 17**); these changes were not statistically significant. There was a statistically significant decrease in the KP transplant rate for White, Non-Hispanic candidates from 103 to 87 transplants per 100 active patient years; there were no statistically significant changes in KP transplant rates for other racial/ethnic groups (**Figure 4** & **Table 4**). For PA, there were no statistically significant differences in transplant rates within racial/ethnic groups (**Figure 22** & **Table 20**). There were no statistically significant differences in transplant rates by candidate age group, gender, CPRA at listing, or blood type after policy implementation for KP (**Figures 2-3, 5-6** & **Tables 2-3, 5-6**) or PA (**Figures 20-21, 23-24** & **Tables 18-19, 21-22**). While not statistically significant, there was a notable increase in the transplant rate for KP candidates with CPRA 80-97% from 35 to 57 transplants per 100 active patient years (**Figure 5** & **Table 5**).

Geography

As expected, more transplants occurred at hospitals outside the recovering OPO's DSA after implementation (KP: 32.1% vs 57.3%; PA: 61.6% vs 69.3%) (**Figure 9** & **Table 9**; **Figure 27** & **Table 25**), but the majority stayed within 250 NM of the donor hospital (KP: 79.7% vs 85.0%; PA: 55.4% vs 61.5%) (**Figure 7** & **Table 7**; **Figure 25** & **Table 23**). Changes in transplant volume varied across OPTN region (**Figure 10** & **Table 10**; **Figure 28** & **Table 26**). Median distance from donor hospital to transplant hospital increased from 71 NM to 111 NM for KP (**Figure 8** & **Table 8**), while median distance decreased from 197 NM to 170 NM for PA (**Figure 26** & **Table 24**). Median pancreas preservation time increased from 9.5 to 10.3 hours for KP (**Figure 15** & **Table 12**); there was little change in median preservation time for PA (8.5 vs 8.6 hours) (**Figure 29** & **Table 30**).

Post-Transplant Outcomes

There were no statistically significant differences in the probability of patient, kidney graft, or pancreas graft survival for KP recipients at one year post-transplant after policy implementation (**Figures 16-18** & **Tables 13-15**). Similarly, there were no statistically significant differences in the probability of patient or pancreas graft survival for PA recipients at one year post-transplant (**Figures 30-31** & **Tables 31-32**).

Efficient Utilization and Allocation of Organs

The overall pancreas non-use rate (proportion of pancreata recovered for transplant that were not transplanted) increased from 24.8% to 26.9% after policy implementation (**Figure 32** & **Table 34**). The overall offer rate from pancreas/kidney-pancreas match runs increased from approximately 12 to 14 offers per active patient year (**Figure 33** & **Table 36**). The overall offer acceptance rate decreased from 82 to 66 acceptances per 1000 offers (**Table 36** & **Figure 34**). The median sequence number of final acceptor increased from 3 (IQR: 1-8) to 5 (IQR: 2-15) after implementation (**Figure 37** & **Table 39**).

Background

The OPTN implemented several policy changes on March 15, 2021 in order to remove DSA and region from pancreas 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. Since the DSA was no longer used to allocate pancreata, the policy for facilitated pancreas allocation was also changed.

Two supplemental policies went into effect the same day. The first 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 pancreata 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 second 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. The specific procedure is dependent on the organ in need of reallocation.

This report describes the impact of these policy changes in the 2 years since implementation.

Strategic Plan Goal

Increase equity in access to transplant.

Committee Request

These policies were 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 were applied, per typical OPTN conventions, to account for time delay in institutions reporting data to the OPTN Computer System and compared to an appropriate pre-policy cohort to assess performance before and after implementation of this policy.

Waiting List

1. Total kidney-pancreas and pancreas registrations on the waiting list (snapshot by month)
2. Kidney-pancreas and pancreas registrations added to the list, overall and by age, gender, ethnicity, cPRA, blood type, and insurance status at time of listing
3. % of candidates in active status
4. Waitlist mortality per 100 patient years, overall and by candidate age, gender, ethnicity, cPRA, blood type

Transplant

1. Donor, recipient and transplant characteristics: N and % of transplants by recipient age, ethnicity, waiting time (days on the waiting list), ABO, cPRA, HLA-ABDR mismatch level, diagnosis, DCD, inside/outside fixed circle, preservation time and cold ischemic time (CIT).
    - Distribution of kidney-pancreas and pancreas travel distance (NM), overall and by inside/outside fixed circle
2. Change in access by location: N and % of transplants by share type (local/regional/national), OPTN region, Donation Service Area (DSA), transplant hospital, state
3. Deceased donor transplants per 100 patient years by recipient age, ethnicity, ABO, cPRA, HLA-ABDR mismatch level, and DSA
4. Variance in deceased donor transplant rate across DSA
5. Rates of receiving kidney-pancreas and pancreas offers per 100 patient years by recipient age, ethnicity, ABO, cPRA, and HLA-ABDR mismatch level

Utilization and Efficiency of Allocation

1. Number pancreas donors recovered for transplantation
2. Number and percent of pancreas recovered for transplant but not transplanted, overall
3. Number and percent of pancreas recovered for transplant but not transplanted, by reason for non-use
4. Number and percent pancreas with a final acceptance
5. Offer acceptance per 100 patient years by recipient age, ethnicity, waiting time (days on the waiting list), ABO, cPRA, 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-pancreas and pancreas offers refused due to a positive cross-match

Outcomes

- One and two year post-transplant graft and patient survival rates, overall and stratified by recipient age, gender, ethnicity, cPRA, blood type, HLA-ABDR mismatch, CIT and preservation time.

Facilitated Pancreas Allocation

1. N and % of programs that qualify for facilitated pancreas allocation
2. Frequency of facilitated allocation use by OPOs
3. Transplant volumes that placed with facilitated pancreas allocation

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

1. Overall and by OPTN Region (and KDPI if KP)
    - N and % of organs with a final acceptance
    - N and % of organs for which an acceptance came from an import match run
2. For accepted organs (overall and stratified by OPTN region and accepting patient cPRA)
    - Transplanted with the accepting candidate
    - Transplanted with a different candidate at the accepting center
    - Transplanted at a different center
    - Recovered for transplant but not transplanted

Data and Methods

Data Sources

This analysis is based on OPTN data as of June 23, 2023. Candidate information were 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) and Transplant Recipient Follow-up (TRF). Donor data were submitted in the OPTN Donor Data and Matching System and on the Deceased Donor Registration (DDR). Match run data analyzed came from the OPTN Donor Data and Matching System. Data are subject to change based on future submission or correction.

Cohort

All kidney-pancreas and pancreas registrations listed, ever waiting, or transplanted between March 16, 2019 and March 14, 2023 were included in this analysis, as were all deceased kidney-pancreas or pancreas donors recovered during this time. These dates were chosen to ensure policy eras were of uniform length.

Policy eras were defined as:

- Pre-Policy: March 16, 2019 to March 14, 2021
- Post-Policy: March 15, 2021 to March 14, 2023

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 16, 2019 and March 14, 2023. 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 death data sources

Pancreas and kidney-pancreas transplant rates were defined as the number of waiting list removals due to deceased donor pancreas or kidney-pancreas transplant, respectively, divided by the total amount of time on the waiting list (active) for registrations ever waiting during the study period. These results are presented as transplants per 100 active patient years.

Non-use rate was defined as the number of deceased donor pancreata recovered for the purpose of transplant, but not transplanted, divided by the total number of pancreata recovered for transplant.

To determine the disposition of pancreata from pancreas matches with a final acceptance, we identified the first pancreas acceptance for each donor's pancreas. To determine the disposition of kidneys and pancreata from kidney-pancreas matches with a final acceptance, we identified the first kidney-pancreas or pancreas acceptance for each donor's pancreas and left or right kidney. 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 and pancreas were then classified as being transplanted with the initially accepting patient, a different patient at the accepting center, a patient at a different center, recovered for transplant but not transplanted, or not recovered.

Offer rates were defined as the number of offers from pancreas/kidney-pancreas match runs divided by the total amount of time in active status on the waiting list for pancreas or kidney-pancreas registrations ever waiting during the study period. These results are presented as offers per active patient year. Offers include both pancreas and kidney-pancreas offers. 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 pancreas/kidney-pancreas match runs. These results are presented as acceptances per 1000 offers.

Unadjusted post-transplant patient and graft survival were examined using Kaplan-Meier methodology. The cohort for survival analyses was restricted to pancreas-alone and kidney-pancreas-alone transplant recipients (excluding recipients who received a pancreas or kidney-pancreas as part of a multiorgan transplant) with at least 1 year of follow-up time after applying lags to account for time delays in reporting per OPTN conventions (transplants performed on or before February 28, 2022).

On January 26, 2023, the CPRA calculator used in allocation was updated. As a result of this change, candidates with no unacceptable antigens reported, who were formerly assigned a CPRA of 0%, are now assigned a null value for CPRA. For the purpose of this report, any candidates with a NULL CPRA from January 26, 2023 through the end of the cohort on March 14, 2023 were recoded to have a 0% CPRA to mirror how candidates with no unacceptable antigens were reported in the previous calculation. The cohort for this monitoring report also includes candidates with "Unknown" CPRA. Candidates with "Unknown" CPRA were listed prior to October 1, 2009, when

CPRA was implemented in allocation. NULL CPRAs differ from Unknown CPRA in that there is no CPRA as an artifact of the calculation, whereas Unknown CPRA indicates that CPRA is truly missing due to the candidate being listed before CPRA was used in allocation.

Finally, with respect to equity in access it is important to note that race neutral EGFR was mandated and centers were allowed to submit wait time modifications for their candidates starting January 5, 2023 (https://unos.org/news/implementation-notice-race-neutral-egfr-formulas/). Any wait time modifications submitted on or after January 5, 2023 and before the end of policy monitoring cohort would be included in this report.

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 post-implementation data, and approximately half of the pre-implementation 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 challenging to determine.

Results

Kidney-Pancreas

This section describes key metrics for monitoring the removal of DSA and OPTN region from KP allocation. Additional KP waiting list, transplant, and post-transplant outcomes data may be found in the **Appendix**.

The overall KP transplant rate decreased post-policy (103 vs 96 transplants per 100 active patient years); this decrease was not statistically significant (**Figure 1** and **Table 1**). There was a statistically significant decrease in the transplant rate for White, Non-Hispanic candidates from 103 (95% CI: 95.98, 110.13) to 87 (95% CI: 80.93, 94.24) transplants per 100 active patient years; there were no statistically significant differences in transplant rates for other racial/ethnic groups (**Figure 4** and **Table 4**). There were no statistically significant differences in transplant rates by candidate age group, gender, CPRA at listing, or blood type after policy implementation (**Figures 2-3, 5-6** & **Tables 2-3, 5-6**). Changes in transplant volume varied across OPTN region (**Figure 10** & **Table 10**).

As expected, more KP transplants occurred at hospitals outside the recovering OPO's DSA after implementation (32.1% vs 57.3%) (**Figure 9** & **Table 9**), but the majority stayed within 250 NM of the donor hospital (79.7% vs 85.0%) (**Figure 7** & **Table 7**). Median distance from donor hospital to transplant hospital increased from 71 NM to 111 NM (**Figure 8** & **Table 8**). Median kidney cold ischemic time increased from 9.5 to 10.4 hours (**Figure 14** & **Table 11**) and median pancreas preservation time (time between procurement cross-clamp and recipient organ reperfusion) increased from 9.5 to 10.3 hours (**Figure 15** & **Table 12**).

There were no statistically significant differences in the probability of patient, kidney graft, or pancreas graft survival for KP recipients at 1 year post-transplant after policy implementation (**Figures 16-18** & **Tables 13-15**).

Equity in Access to Transplant

Figure 1 and **Table 1** show deceased donor transplants per 100 active patient years for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era. The overall deceased donor kidney-pancreas transplant rate decreased post-policy from 103 to 96 transplants per 100 active patient years. This change was not statistically significant.

Figure 1: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019-March 14, 2023 by Policy Era

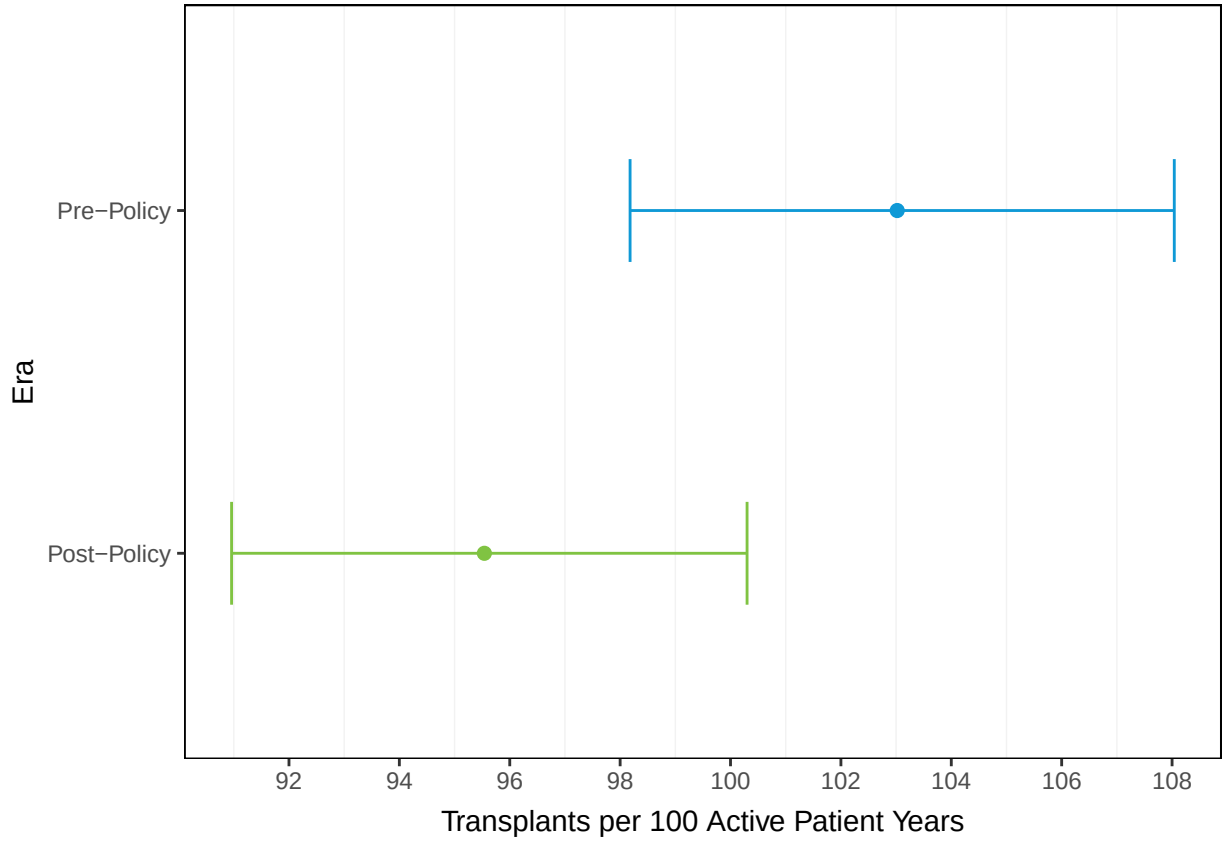
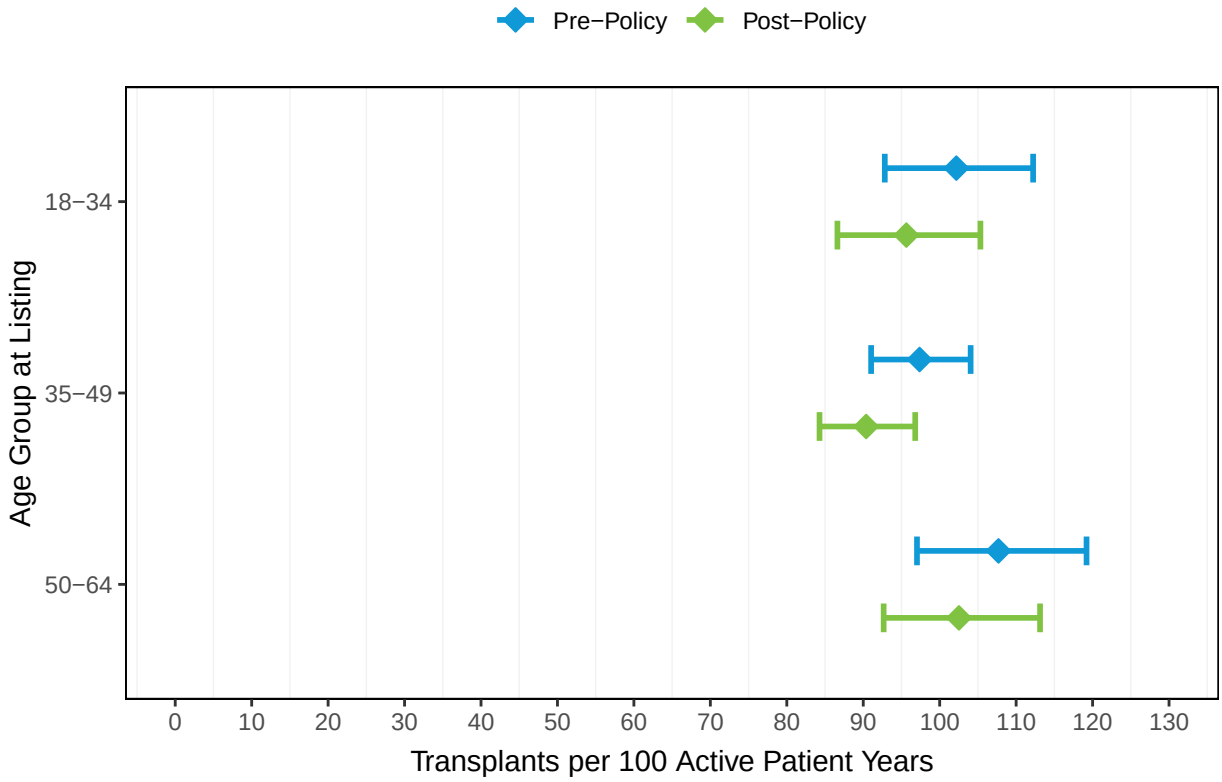


Table 1: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019-March 14, 2023 by Policy Era

Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
Pre-Policy	3273	1699	103.02	(98.18, 108.04)
Post-Policy	3405	1630	95.54	(90.96, 100.3)

Figure 2 and **Table 2** show deceased donor transplants per 100 active patient years for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and age at listing. Kidney-pancreas transplant rates decreased for all candidate age groups after policy implementation; these changes were not statistically significant.

Figure 2: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing



0−17 and 65+ age groups omitted from figure due to small number of events and wide confidence intervals.

Table 2: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing

Age at Listing	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
0-17	Pre-Policy	11	8	150.13	(64.81, 295.81)
	Post-Policy	5	3	82.89	(17.09, 242.24)
18-34	Pre-Policy	879	437	102.18	(92.82, 112.22)
	Post-Policy	874	412	95.64	(86.62, 105.33)
35-49	Pre-Policy	1759	875	97.37	(91.03, 104.05)
	Post-Policy	1781	815	90.38	(84.28, 96.8)
50-64	Pre-Policy	722	372	107.69	(97.03, 119.21)
	Post-Policy	832	396	102.52	(92.67, 113.13)
65+	Pre-Policy	9	7	305.26	(122.73, 628.95)
	Post-Policy	14	4	49.44	(13.47, 126.59)

Figure 3 and **Table 3** show deceased donor transplants per 100 active patient years for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and gender. The transplant rate for female registrations decreased post-policy from 88 to 83 transplants per 100 active patient years, and the transplant rate for male registrations decreased from 116 to 106 transplants per 100 active patient years. These changes were not statistically significant.

Figure 3: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019-March 14, 2023 by Policy Era and Gender

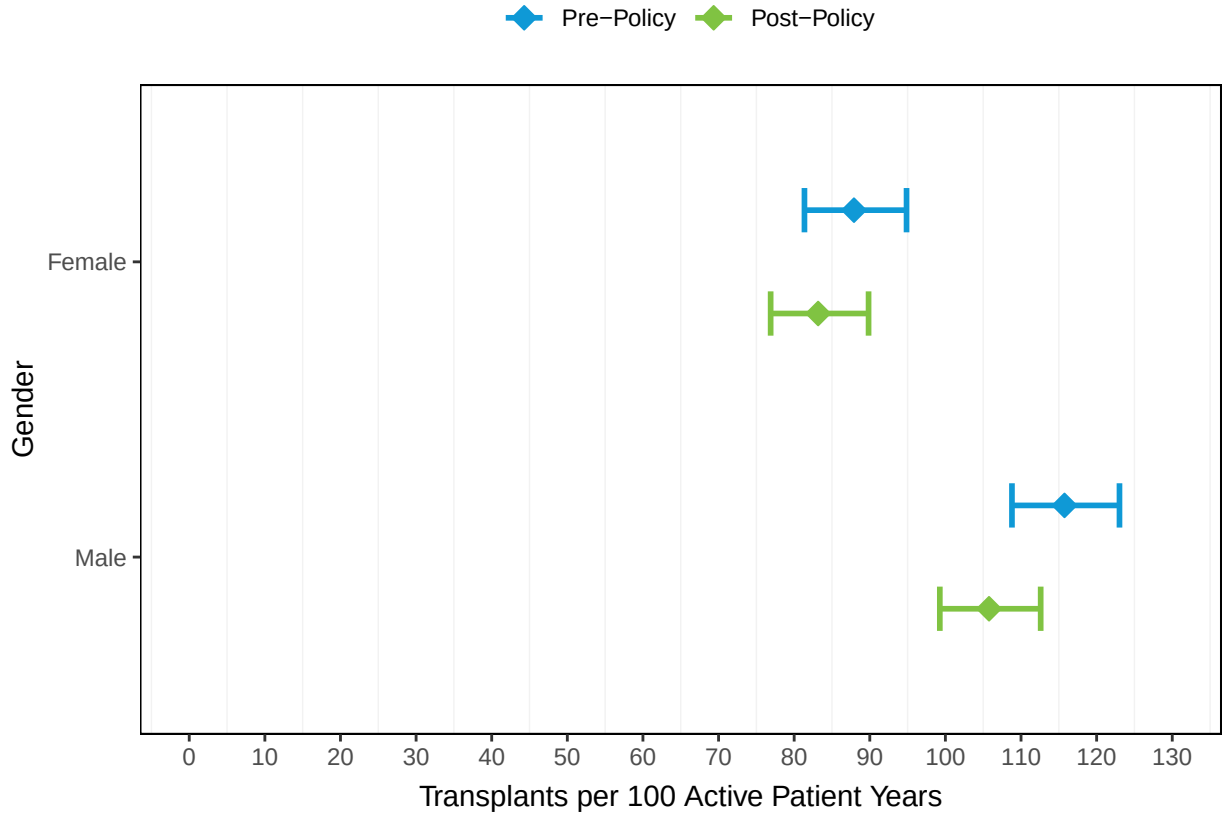


Table 3: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019-March 14, 2023 by Policy Era and Gender

Gender	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
Female	Pre-Policy	1396	665	87.91	(81.36, 94.86)
	Post-Policy	1448	647	83.17	(76.89, 89.84)
Male	Pre-Policy	1879	1034	115.75	(108.8, 123.02)
	Post-Policy	1959	983	105.77	(99.26, 112.6)

Figure 4 and **Table 4** show deceased donor transplants per 100 active patient years for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and candidate race/ethnicity. The transplant rate for White, Non-Hispanic candidates decreased from 103 to 87 transplants per 100 active patient years after policy implementation and this change was statistically significant. There were no statistically significant changes in the transplant rates for candidates of Black, Non-Hispanic; Hispanic/Latino; Asian, Non-Hispanic; or Other, Non-Hispanic race/ethnicity after implementation.

Figure 4: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

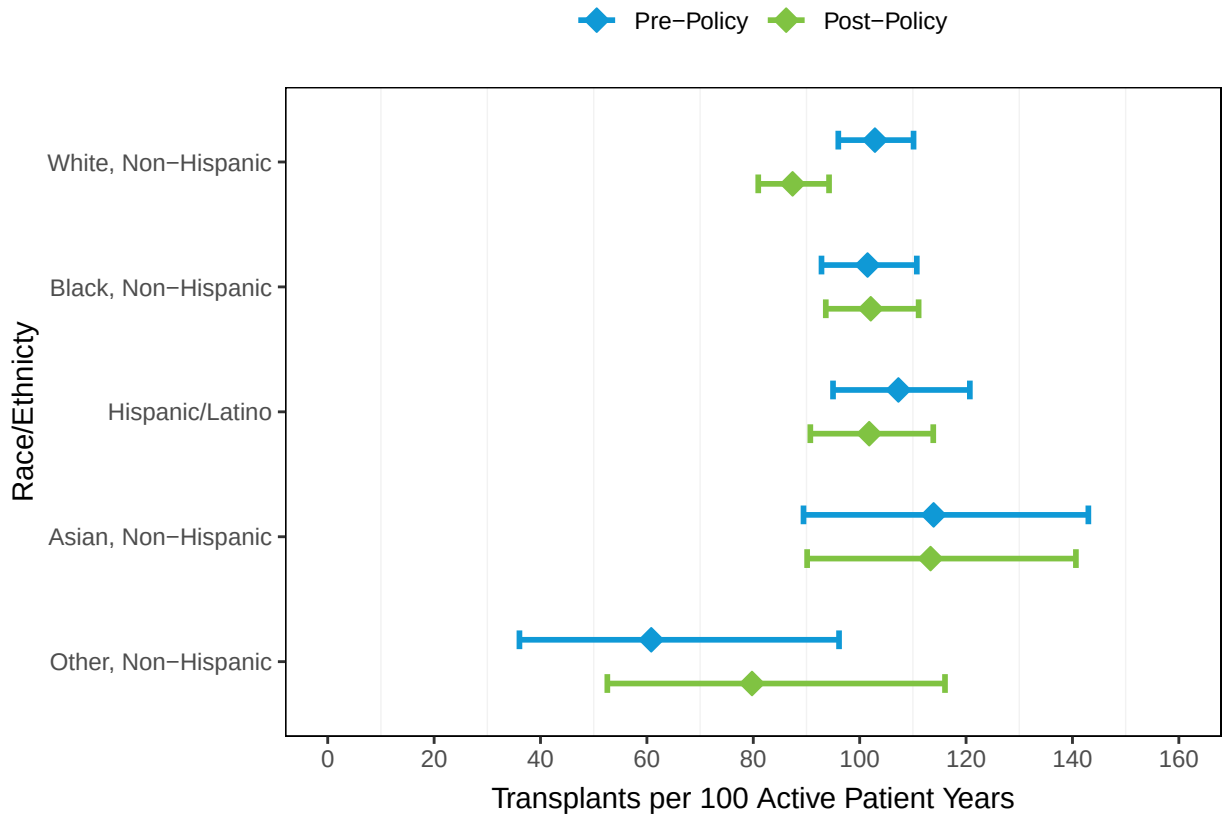
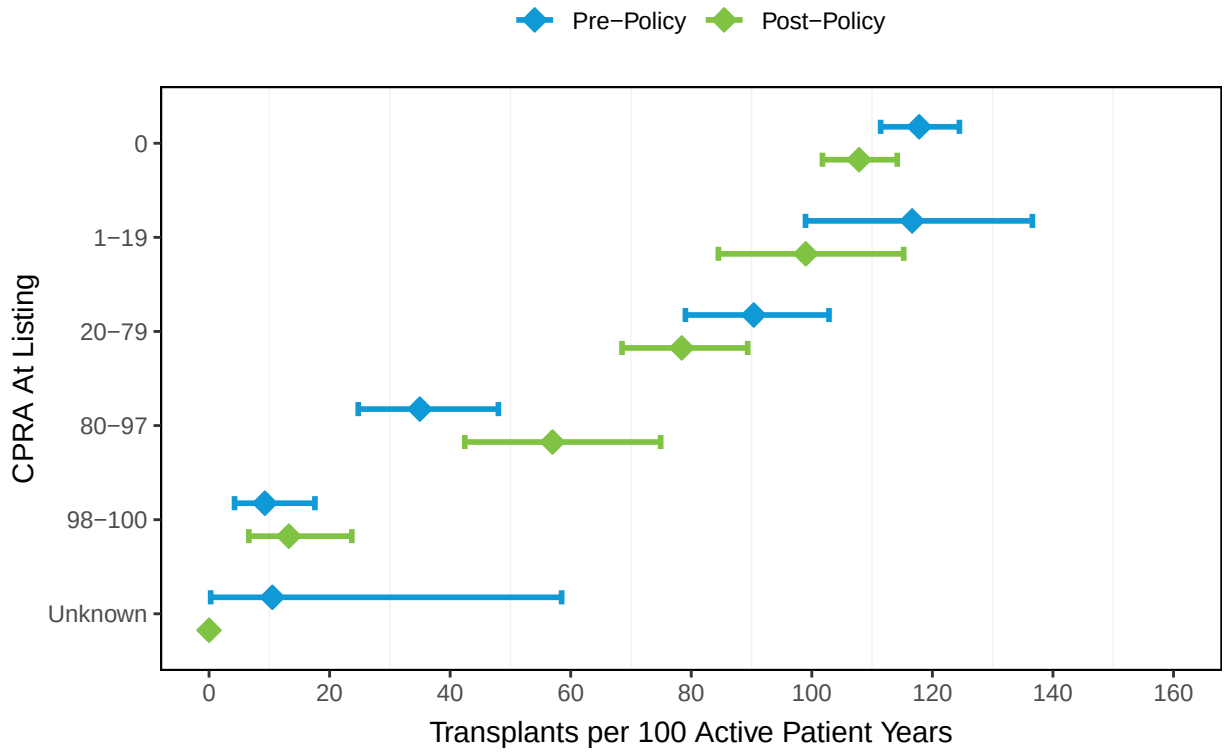


Table 4: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

Race/Ethnicity	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
White, Non-Hispanic	Pre-Policy	1606	827	102.87	(95.98, 110.13)
	Post-Policy	1473	676	87.39	(80.93, 94.24)
Black, Non-Hispanic	Pre-Policy	974	504	101.48	(92.82, 110.74)
	Post-Policy	1112	538	102.08	(93.63, 111.08)
Hispanic/Latino	Pre-Policy	512	276	107.28	(94.99, 120.71)
	Post-Policy	615	307	101.79	(90.72, 113.83)
Asian, Non-Hispanic	Pre-Policy	139	74	113.90	(89.44, 142.99)
	Post-Policy	150	82	113.32	(90.12, 140.65)
Other, Non-Hispanic	Pre-Policy	50	18	60.82	(36.04, 96.12)
	Post-Policy	66	27	79.76	(52.56, 116.04)

Figure 5 and **Table 5** show deceased donor transplants per 100 active patient years for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and CPRA at listing. The transplant rate increased post-policy for registrations in the CPRA 80-97% and 98-100% groups, and decreased for registrations in the 0%, 1-19%, and 20-79% groups. These changes were not statistically significant.

Figure 5: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing



Candidates with unknown CPRA were listed prior to October 1st, 2009, when CPRA was implemented in allocation. Registrations listed on or after January 26th, 2023 with a NULL CPRA due to not reporting unacceptable antigens were recoded to have a CPRA of 0%.

Table 5: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing

CPRA (%)	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
0	Pre-Policy	2309	1268	117.81	(111.42, 124.48)
	Post-Policy	2284	1177	107.83	(101.76, 114.17)
1-19	Pre-Policy	280	154	116.64	(98.95, 136.59)
	Post-Policy	364	166	98.99	(84.5, 115.24)
20-79	Pre-Policy	489	229	90.36	(79.03, 102.85)
	Post-Policy	534	225	78.42	(68.51, 89.36)
80-97	Pre-Policy	152	38	34.97	(24.75, 48)
	Post-Policy	176	51	56.98	(42.43, 74.92)
98-100	Pre-Policy	108	9	9.26	(4.23, 17.57)
	Post-Policy	107	11	13.24	(6.61, 23.69)
Unknown	Pre-Policy	6	1	10.50	(0.27, 58.49)
	Post-Policy	4	0	0.00	-

Figure 6 and **Table 6** show deceased donor transplants per 100 active patient years for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and candidate blood type. There was little change in the transplant rate for blood type B candidates after policy implementation, while transplant rates for candidates with blood types A, AB, and O decreased. These changes were not statistically significant.

Figure 6: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

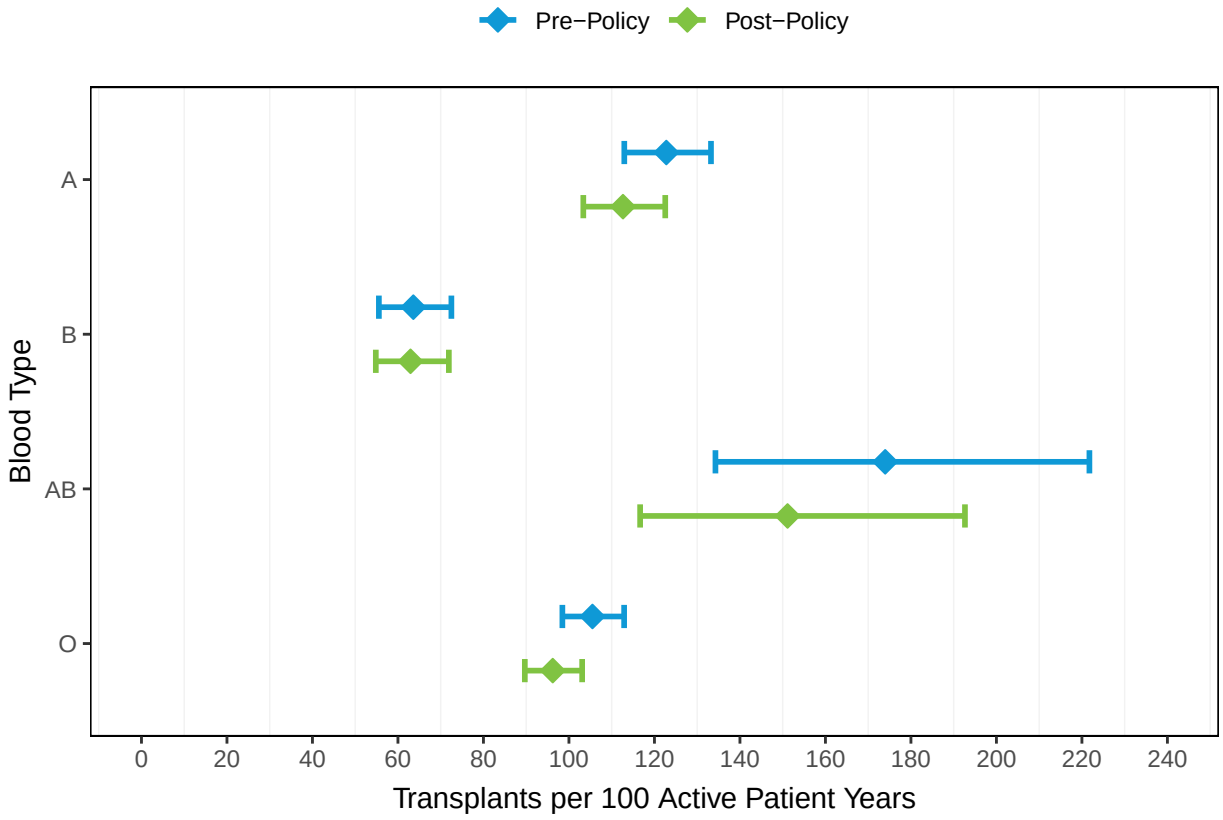


Table 6: Transplants per 100 Active Patient Years for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

Blood Type	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
A	Pre-Policy	1042	576	122.78	(112.95, 133.23)
	Post-Policy	1065	543	112.64	(103.36, 122.53)
B	Pre-Policy	541	224	63.60	(55.54, 72.5)
	Post-Policy	558	216	62.94	(54.82, 71.91)
AB	Pre-Policy	100	65	173.98	(134.27, 221.75)
	Post-Policy	125	65	151.14	(116.65, 192.64)
O	Pre-Policy	1590	834	105.50	(98.46, 112.91)
	Post-Policy	1657	806	96.21	(89.68, 103.09)

Geography

Figure 7 and **Table 7** show the number of deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and distance from donor hospital to the transplant hospital. The proportion of transplants within 250 NM of the donor hospital increased from 79.7% to 85% after policy implementation.

Figure 7: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Distance from Donor Hospital

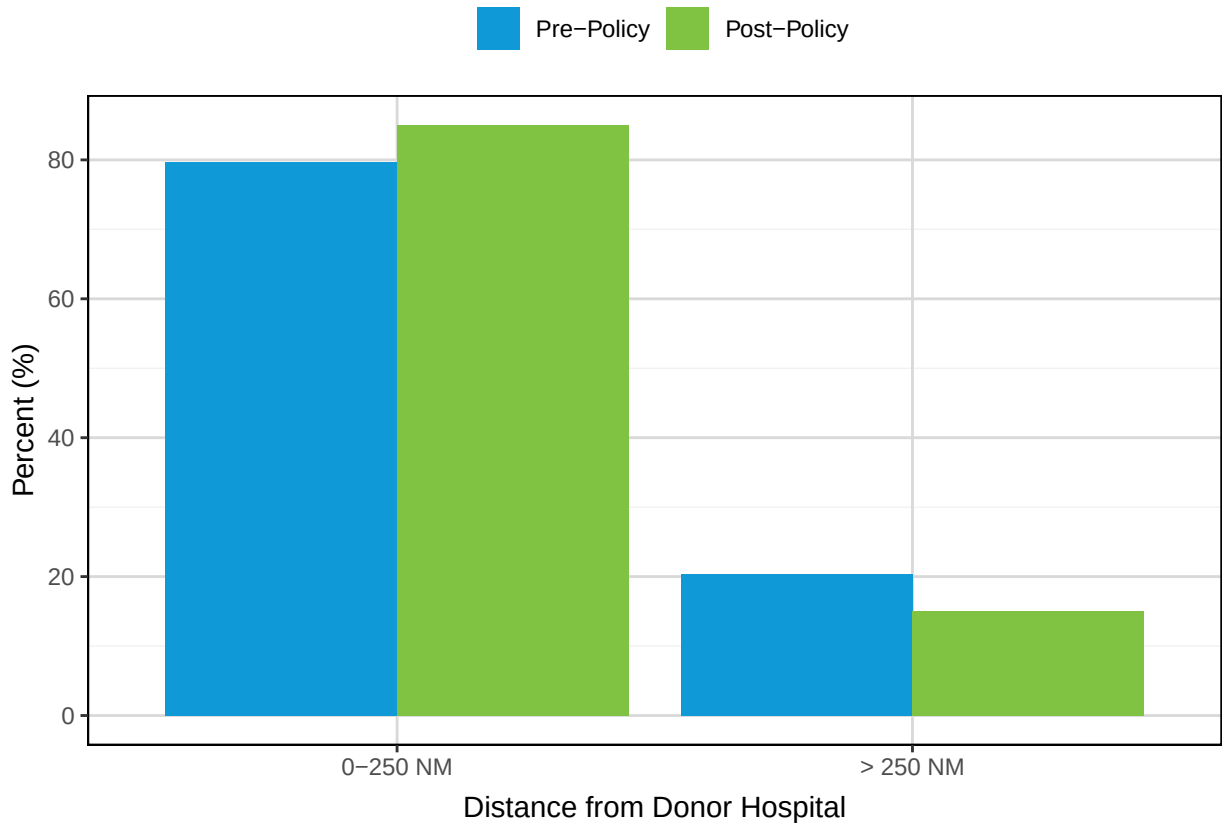


Table 7: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Distance from Donor Hospital

	Pre-Policy		Post-Policy	
Distance	N	%	N	%
0-250 NM	1351	79.66	1379	85.02
> 250 NM	345	20.34	243	14.98
Total	1696	100.00	1622	100.00

Figure 8 and **Table 8** show the distribution of distance in NM from the donor hospital to the transplant hospital for deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. Median distance from donor hospital increased from 71 NM to 111 NM after policy implementation.

Figure 8: Distribution of Distance from Donor Hospital for Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

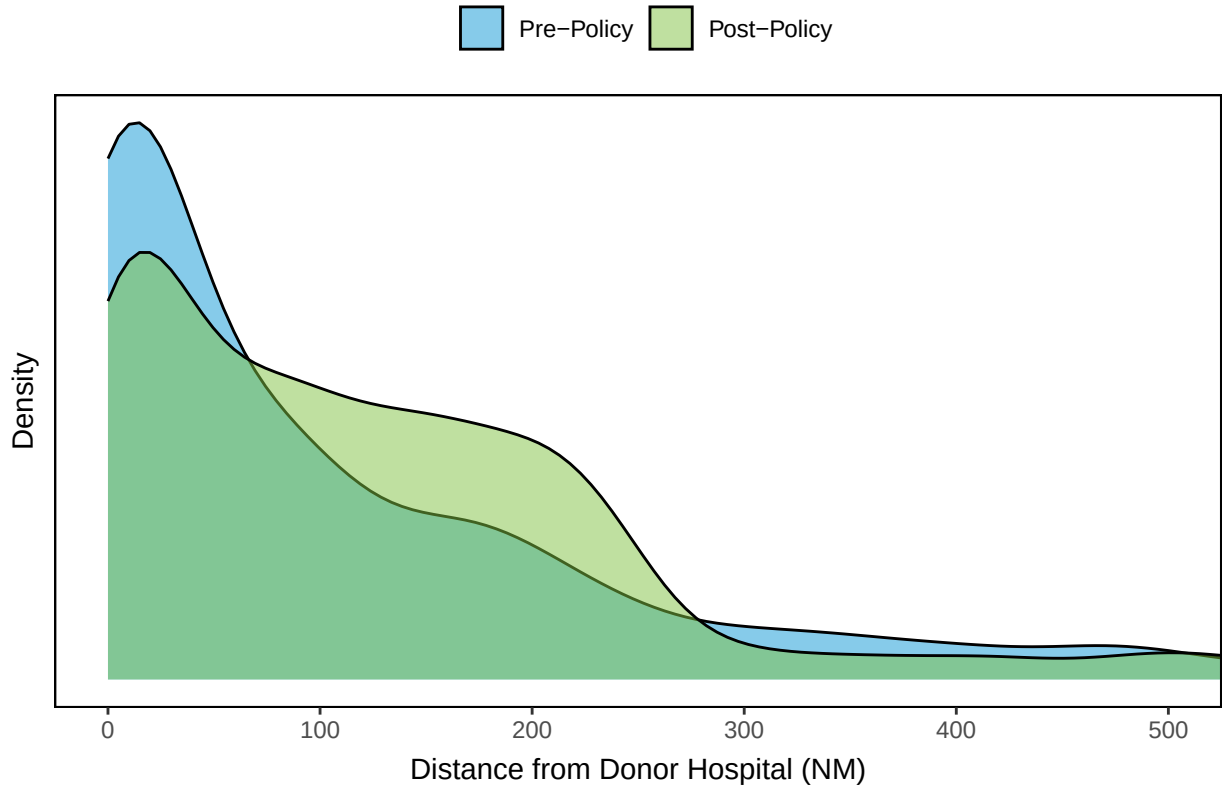


Table 8: Distribution of Distance from Donor Hospital for Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	1696	0	0	8.00	71	175.7	204.0	2530
Post-Policy	1622	0	0	28.25	111	172.4	205.8	1897

Figure 9 and **Table 9** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and share type. The proportion of transplants using organs procured in the same DSA as the transplant hospital decreased from 67.9% to 42.7% after the policy change. The proportion of regional and national shares increased from 18.2% to 26.9% and from 14% to 30.5%, respectively.

Figure 9: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Share Type

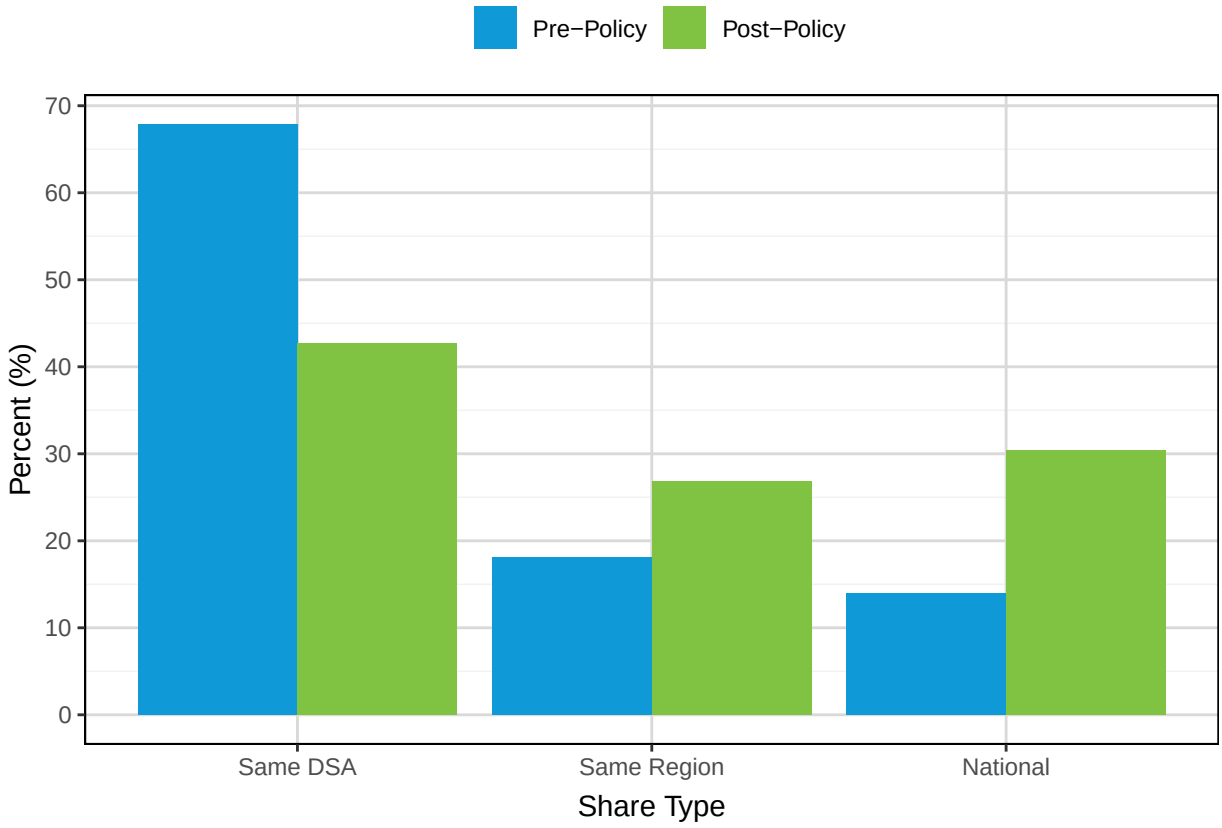


Table 9: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Share Type

	Pre-Policy		Post-Policy	
Share Type	N	%	N	%
Same DSA	1151	67.87	692	42.66
Same Region	308	18.16	436	26.88
National	237	13.97	494	30.46
Total	1696	100.00	1622	100.00

Figure 10 and **Table 10** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and OPTN region. Transplant volume increased in 4 regions, and decreased in 7 regions.

Figure 10: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Region

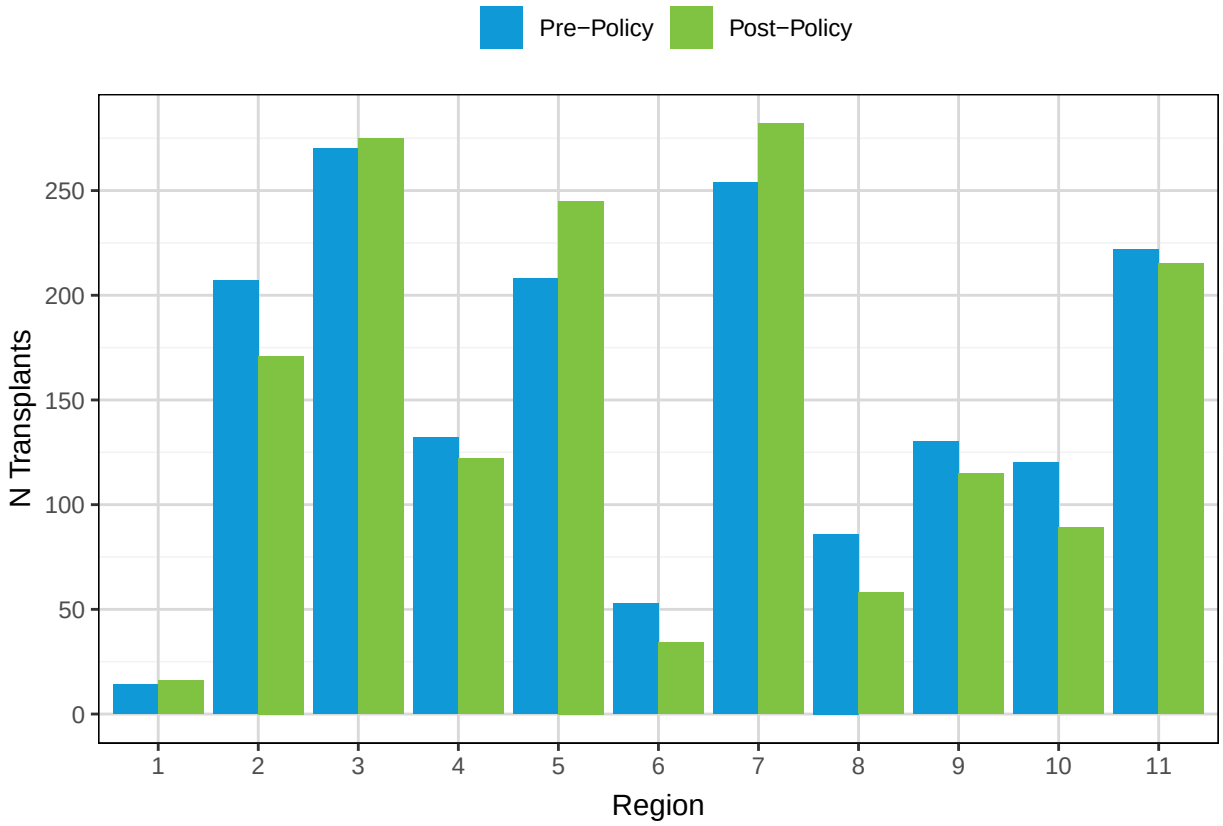


Table 10: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Region

	Pre-Policy		Post-Policy	
Region	N	%	N	%
1	14	0.83	16	0.99
2	207	12.21	171	10.54
3	270	15.92	275	16.95
4	132	7.78	122	7.52
5	208	12.26	245	15.10
6	53	3.12	34	2.10
7	254	14.98	282	17.39
8	86	5.07	58	3.58
9	130	7.67	115	7.09
10	120	7.08	89	5.49
11	222	13.09	215	13.26
Total	1696	100.00	1622	100.00

Figure 11 shows deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and DSA. Of 53 DSAs with at least one kidney-pancreas transplant during the cohort, transplant volume increased in 17 DSAs and decreased in 36 DSAs. The **Appendix** includes a table with the number of transplants performed in each DSA by policy era.

Figure 11: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and DSA

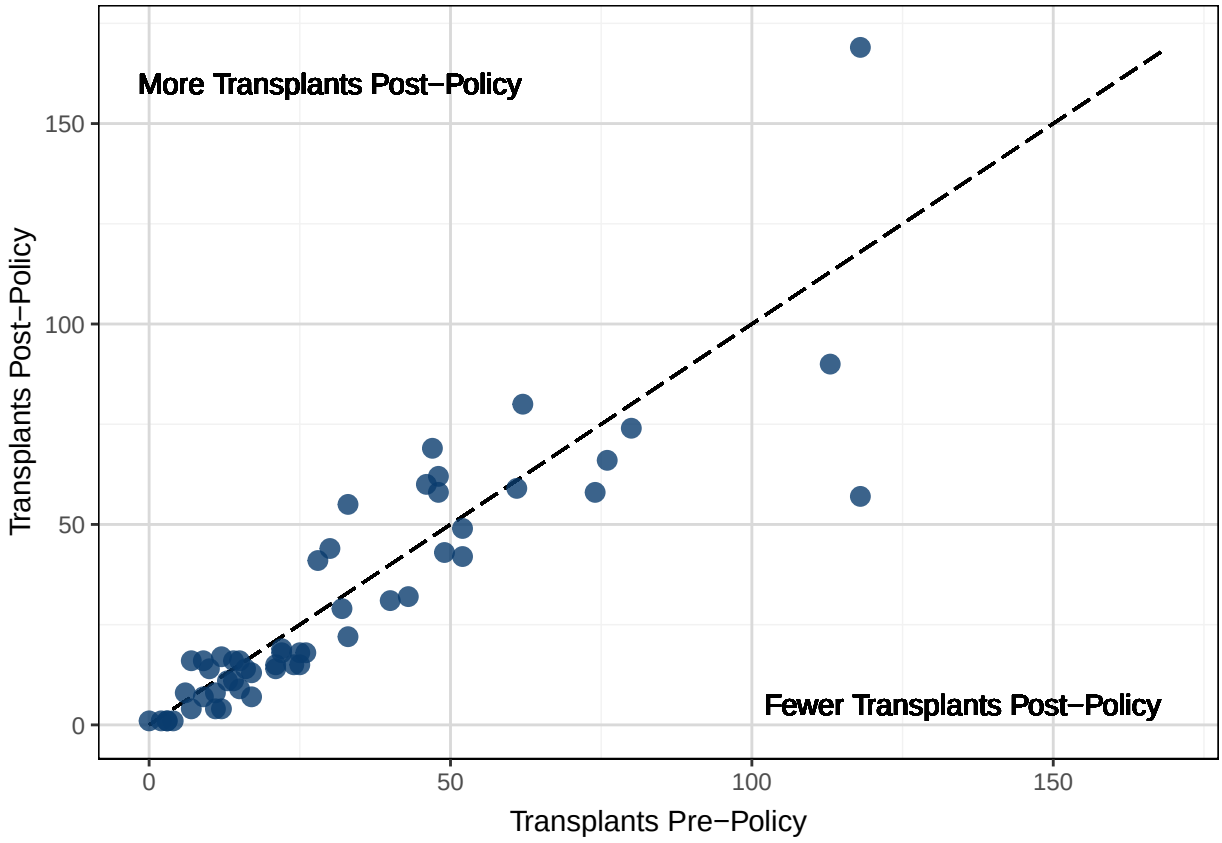


Figure 12 shows deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and transplant hospital. Of 120 hospitals with at least one kidney-pancreas transplant during the cohort, the number of transplants increased at 47 hospitals after policy implementation, and decreased at 67 hospitals; 6 hospitals saw no change in transplant volume. The **Appendix** includes a table with the number of transplants performed by each transplant hospital by policy era.

Figure 12: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Transplant Hospital

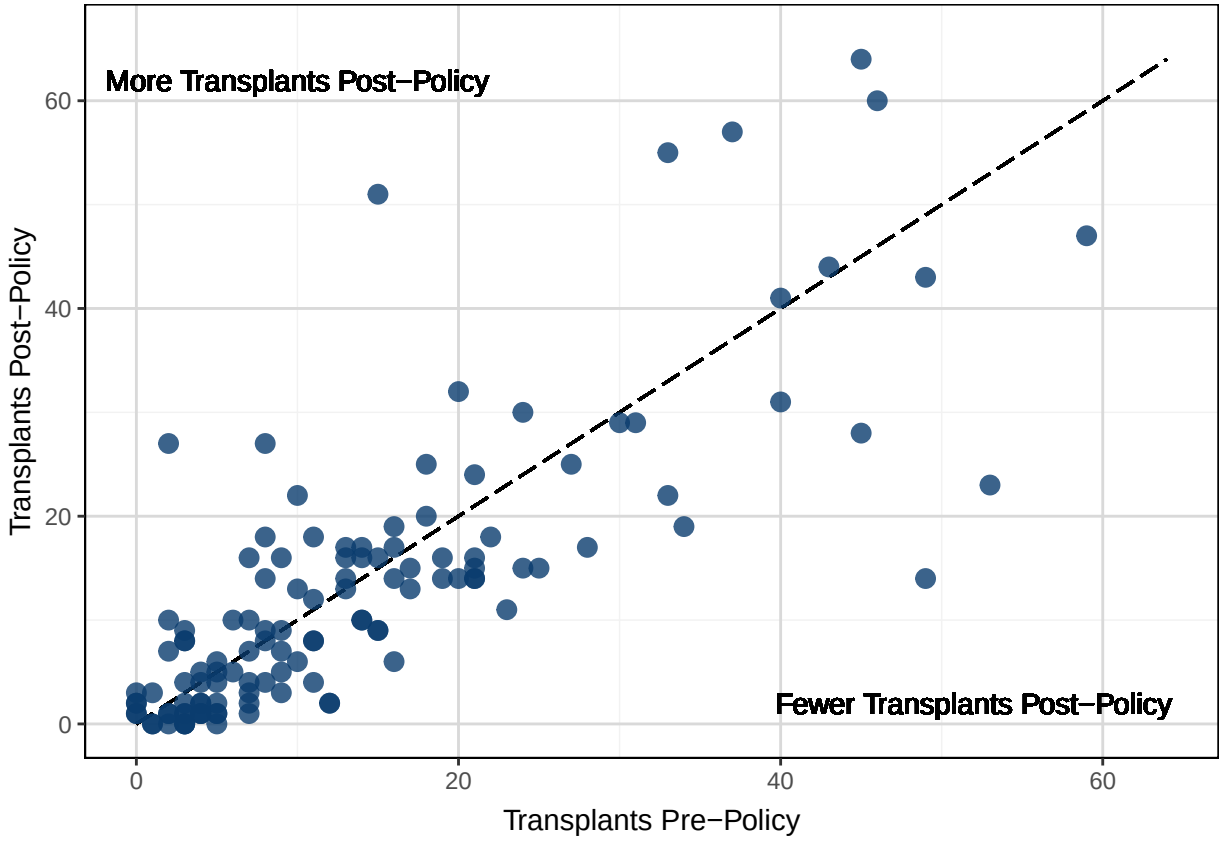


Figure 13 shows deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and state. Of 39 states with at least one kidney-pancreas transplant during the cohort, the number of transplants increased in 12 states after policy implementation, and decreased in 27 states. The **Appendix** includes a table with the specific number of transplants performed in each state by policy era.

Figure 13: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and State

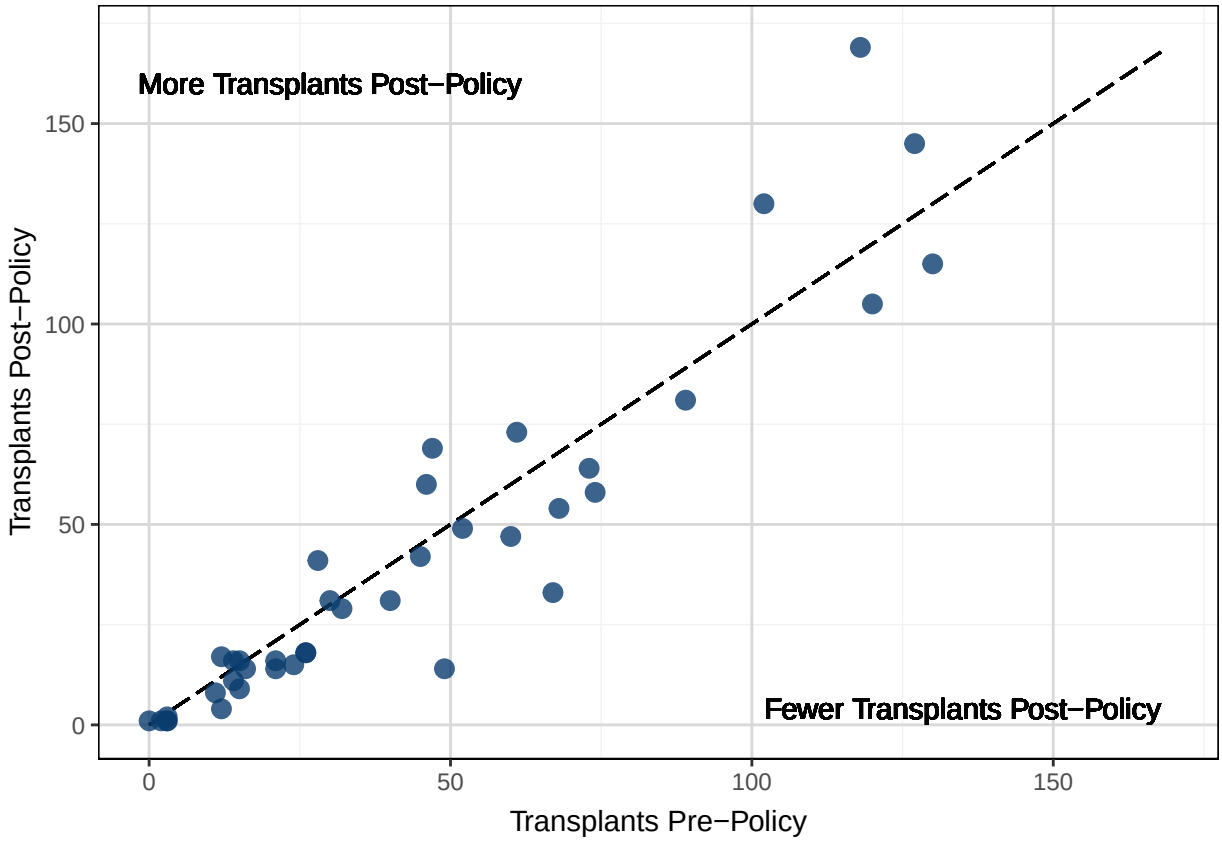


Figure 14 and **Table 11** show the distribution of kidney cold ischemic time in hours for deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. Median cold ischemic time increased from 9.5 to 10.4 hours after policy implementation.

Figure 14: Distribution of Kidney Cold Ischemic Time for Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

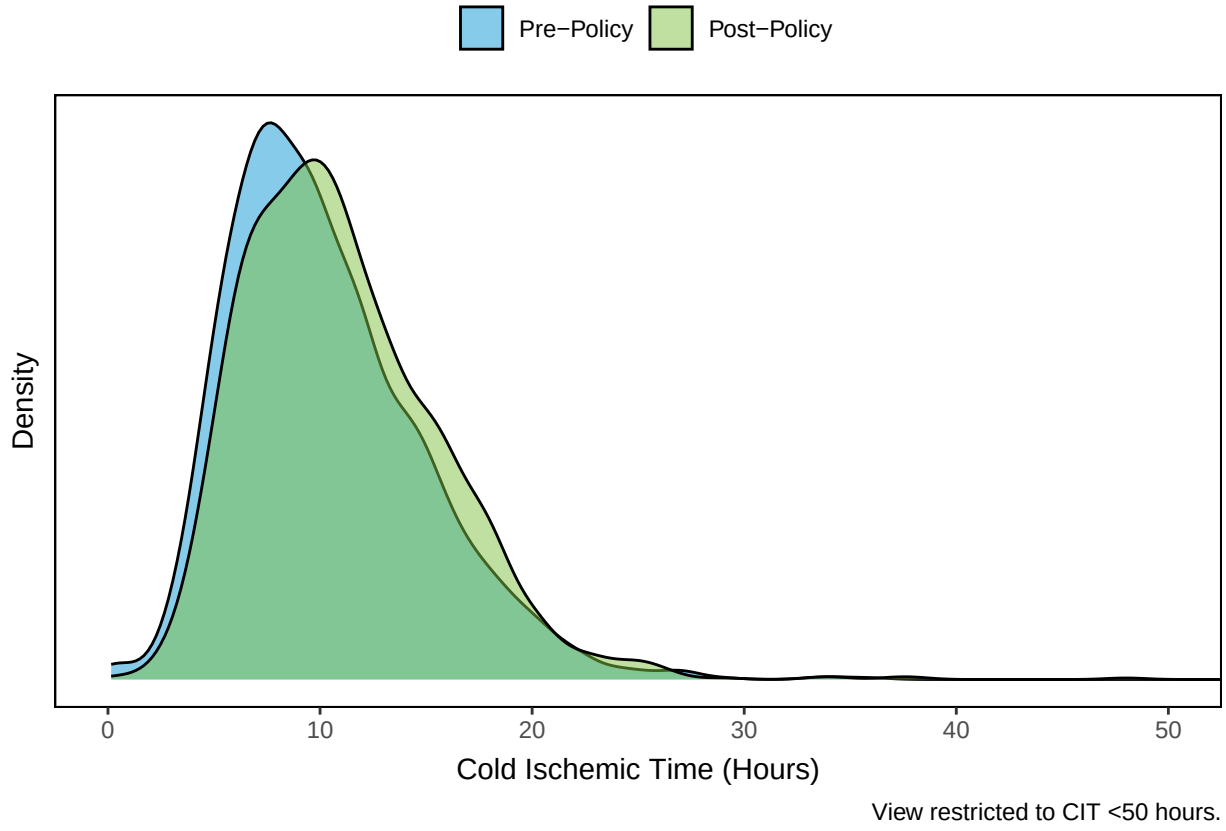


Table 11: Distribution of Kidney Cold Ischemic Time (Hours) for Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	1696	14	0.1	7.0	9.5	10.3	12.9	66.63
Post-Policy	1622	36	0.5	7.6	10.4	11.2	13.8	99.00

Figure 15 and **Table 12** show the distribution of pancreas preservation time (time between procurement cross-clamp and recipient organ reperfusion) in hours for deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. Median preservation time increased from 9.5 to 10.3 hours after policy implementation.

Figure 15: Distribution of Pancreas Preservation Time for Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

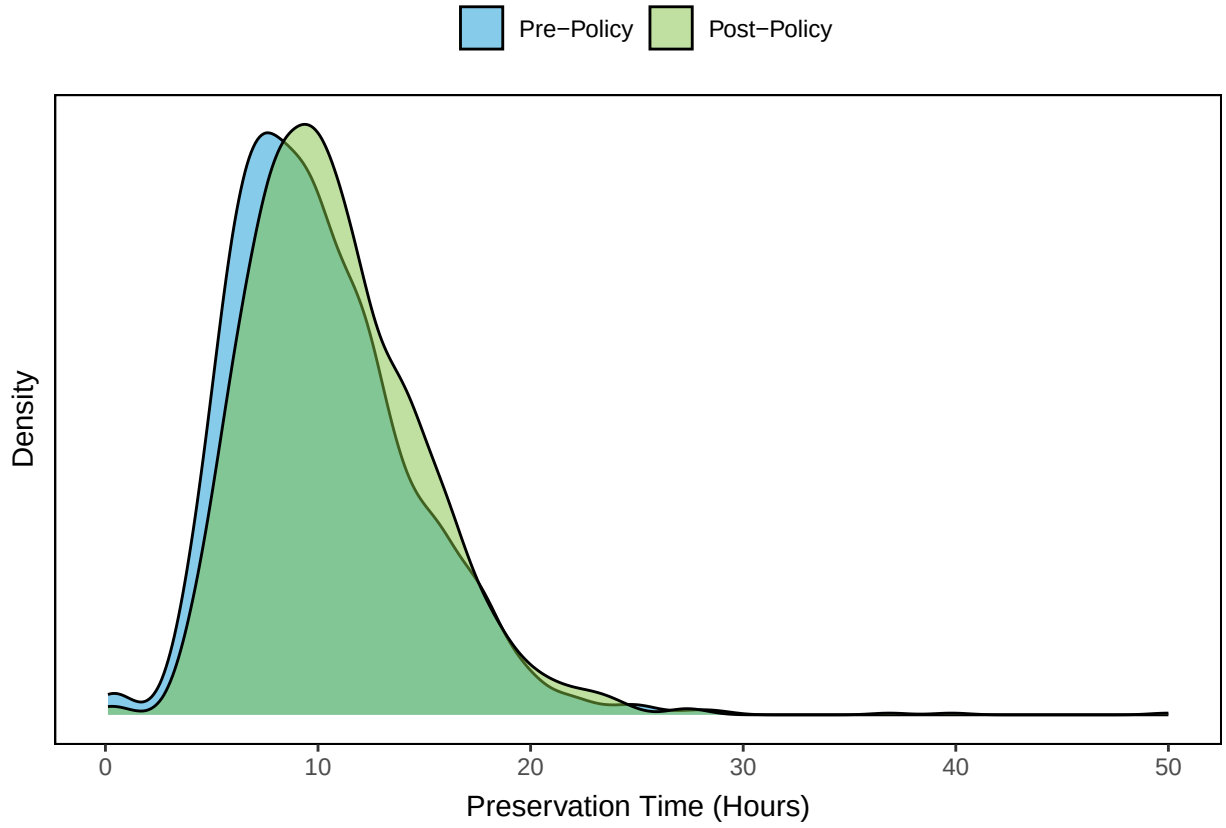


Table 12: Distribution of Pancreas Preservation Time (Hours) for Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	1696	20	0.1	7.1	9.5	10.2	12.5	29
Post-Policy	1622	42	0.1	7.9	10.3	10.9	13.3	50

Post-Transplant Outcomes

This section presents unadjusted one year post-transplant patient and graft survival estimates for kidney-pancreas alone transplants by policy era. The cohort for survival analyses was restricted to transplant recipients with at least 1 year of follow-up time after factoring in the 90-day reporting lag for Transplant Recipient Follow-up (TRF) forms (transplants performed on or before February 28, 2022).

Patient Survival

Figure 16 and **Table 13** show one year post-transplant patient survival for deceased donor kidney-pancreas alone transplants by policy era. There was little change in the probability of patient survival at one year post-transplant after policy implementation (96.4% vs 96.8%). Additional information about post-transplant patient survival, including stratifications by recipient characteristics, is provided in the **Appendix**.

Figure 16: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

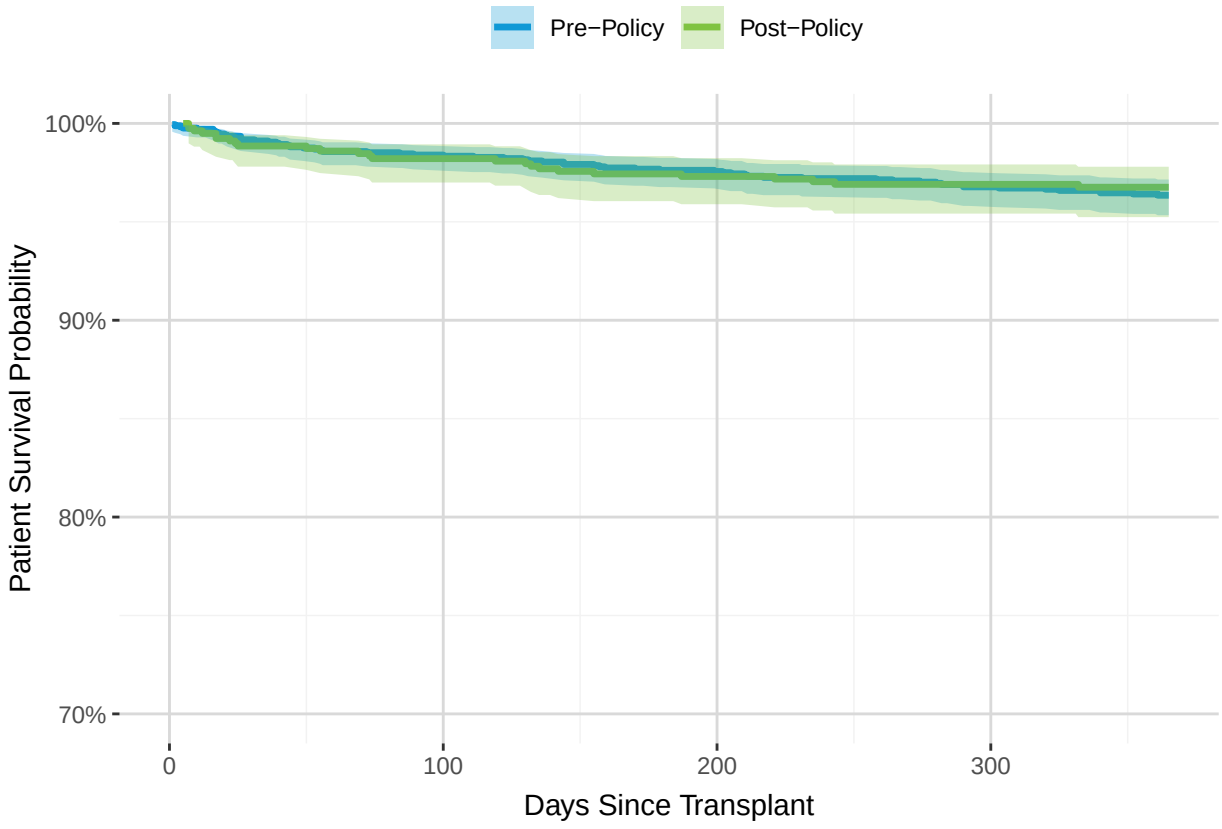


Table 13: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Pre-Policy	1685	61	1569	96.4	(95.3, 97.1)
Post-Policy	786	25	450	96.8	(95.2, 97.8)

Kidney Graft Survival

Figure 17 and **Table 14** show one year post-transplant kidney graft survival for deceased donor kidney-pancreas alone transplants by policy era. There was no change in the probability of kidney graft survival at one year post-transplant after policy implementation (95.0% vs 95.0%). Additional information about post-transplant kidney graft survival, including stratifications by recipient characteristics, is provided in the **Appendix**.

Figure 17: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

Table 14: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Pre-Policy	1685	83	1556	95.0	(93.9, 96.0)
Post-Policy	786	38	442	95.0	(93.2, 96.3)

Pancreas Graft Survival

Figure 18 and **Table 15** show one year post-transplant pancreas graft survival for deceased donor kidney-pancreas alone transplants by policy era. The probability of pancreas graft survival at one year post-transplant increased from 90.5% to 91.4% after policy implementation. This change was not statistically significant. Additional information about post-transplant pancreas graft survival, including stratifications by recipient characteristics, is provided in the **Appendix**.

Figure 18: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

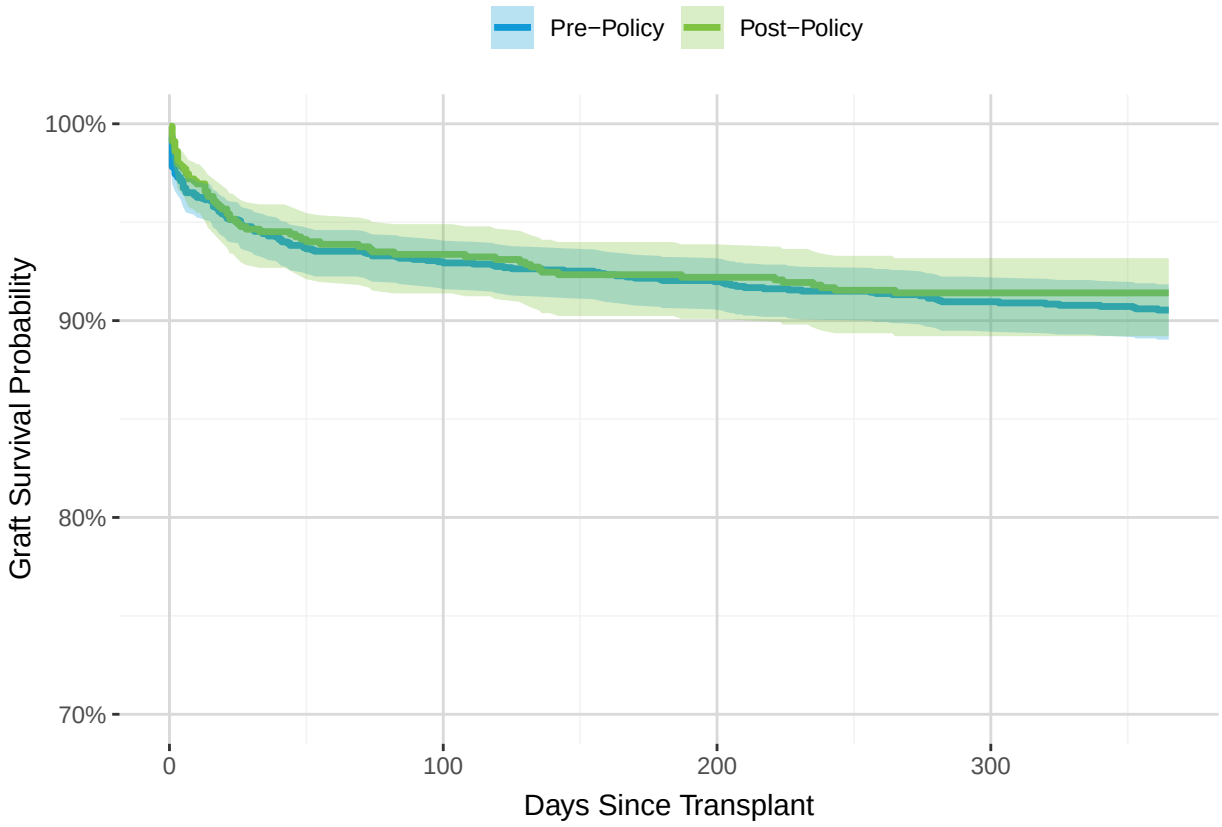


Table 15: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Pre-Policy	1685	159	1482	90.5	(89.0, 91.8)
Post-Policy	786	67	429	91.4	(89.2, 93.2)

Released Organs

Table 16 shows the disposition of kidneys and pancreata from kidney-pancreas matches with a final acceptance by policy era. The majority of kidneys and pancreata with a final acceptance were transplanted to the originally accepting patient both pre- and post-policy. The overall proportion of kidneys and pancreata that were transplanted to the originally accepting patient decreased post-policy from 86% to 80.8% for kidney, and from 87.4% to 82.6% for pancreas.

Table 16: Disposition of Kidneys and Pancreata from Kidney-Pancreas Matches with a Final Acceptance March 16, 2019-March 14, 2023 by Policy Era

Organ	Era	N	Same Patient	Same Center	Different Center	Non-Use	Non-Recovery
Kidney	Pre-Policy	1783	1,533 (86.0%)	84 (4.7%)	122 (6.8%)	9 (0.5%)	35 (2.0%)
	Post-Policy	1801	1,455 (80.8%)	97 (5.4%)	185 (10.3%)	13 (0.7%)	51 (2.8%)
Pancreas	Pre-Policy	1741	1,522 (87.4%)	53 (3.0%)	37 (2.1%)	49 (2.8%)	80 (4.6%)
	Post-Policy	1752	1,448 (82.6%)	55 (3.1%)	68 (3.9%)	46 (2.6%)	135 (7.7%)

Pancreas

This section describes key metrics for monitoring the removal of DSA and OPTN region from PA allocation. Additional PA waiting list, transplant, and post-transplant outcomes data may be found in the **Appendix**.

The overall PA transplant rate decreased after policy implementation (63 vs 60 transplants per 100 active patient years); this decrease was not statistically significant (**Figure 19** & **Table 17**). There were no statistically significant differences in transplant rates by candidate age group, gender, race/ethnicity, CPRA at listing, or blood type after implementation (**Figures 20-24** & **Tables 18-22**). Changes in transplant volume varied across OPTN region (**Figure 28** & **Table 26**).

As expected, more PA transplants occurred at hospitals outside the recovering OPO's DSA after implementation (61.6% vs 69.3%) (**Figure 27** & **Table 25**), but the majority stayed within 250 NM of the donor hospital (55.4% vs 61.5%) (**Figure 25** & **Table 23**). Median distance from donor hospital to transplant hospital decreased from 197 NM to 170 NM (**Figure 26** & **Table 24**). There was little change in median pancreas preservation time (time between procurement cross-clamp and recipient organ reperfusion) (8.5 vs 8.6 hours) (**Figure 29** & **Table 30**).

There were no statistically significant differences in the probability of patient or pancreas graft survival for PA recipients at 1 year post-transplant after policy implementation (**Figures 30-31** & **Tables 31-32**).

Equity in Access to Transplant

Figure 19 and **Table 17** show deceased donor transplants per 100 active patient years for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era. The overall deceased donor pancreas transplant rate decreased post-policy from 63 to 60 transplants per 100 active patient years. This change was not statistically significant.

Figure 19: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019-March 14, 2023 by Policy Era

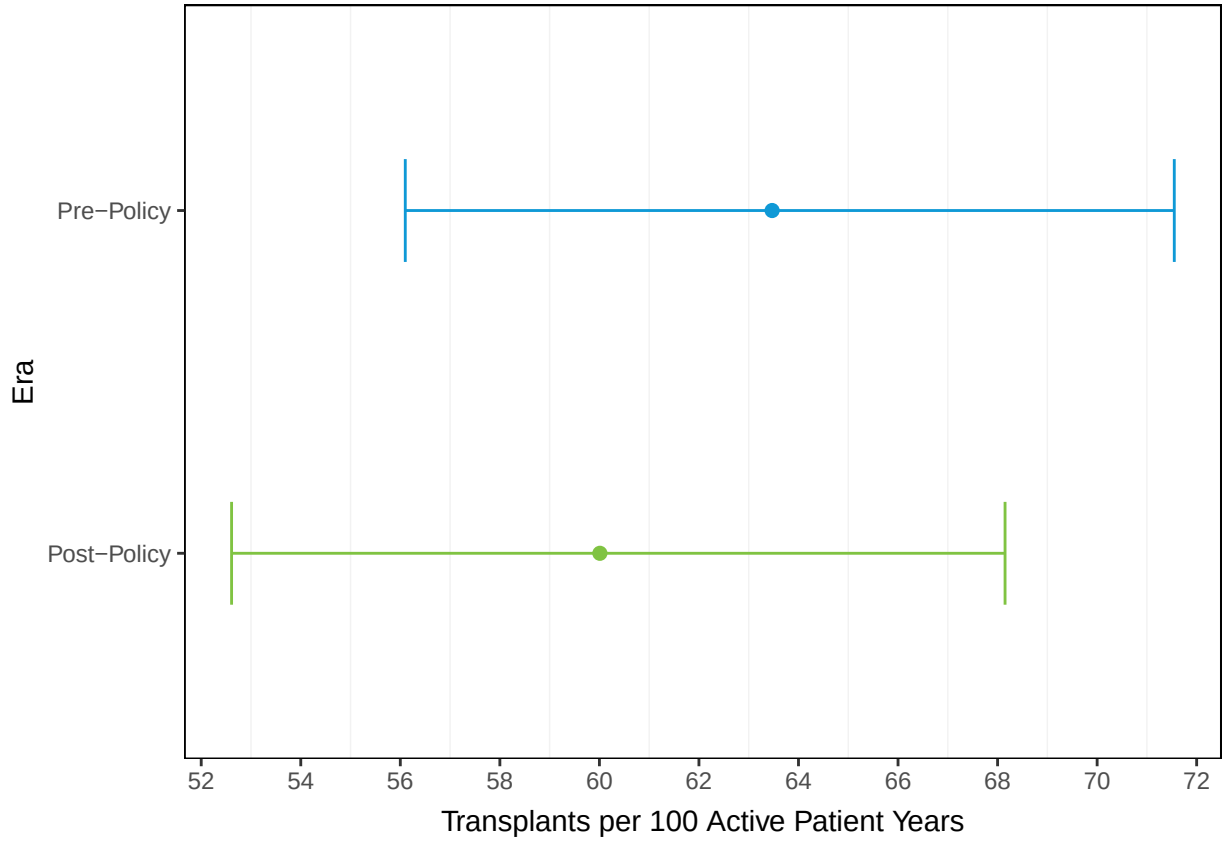
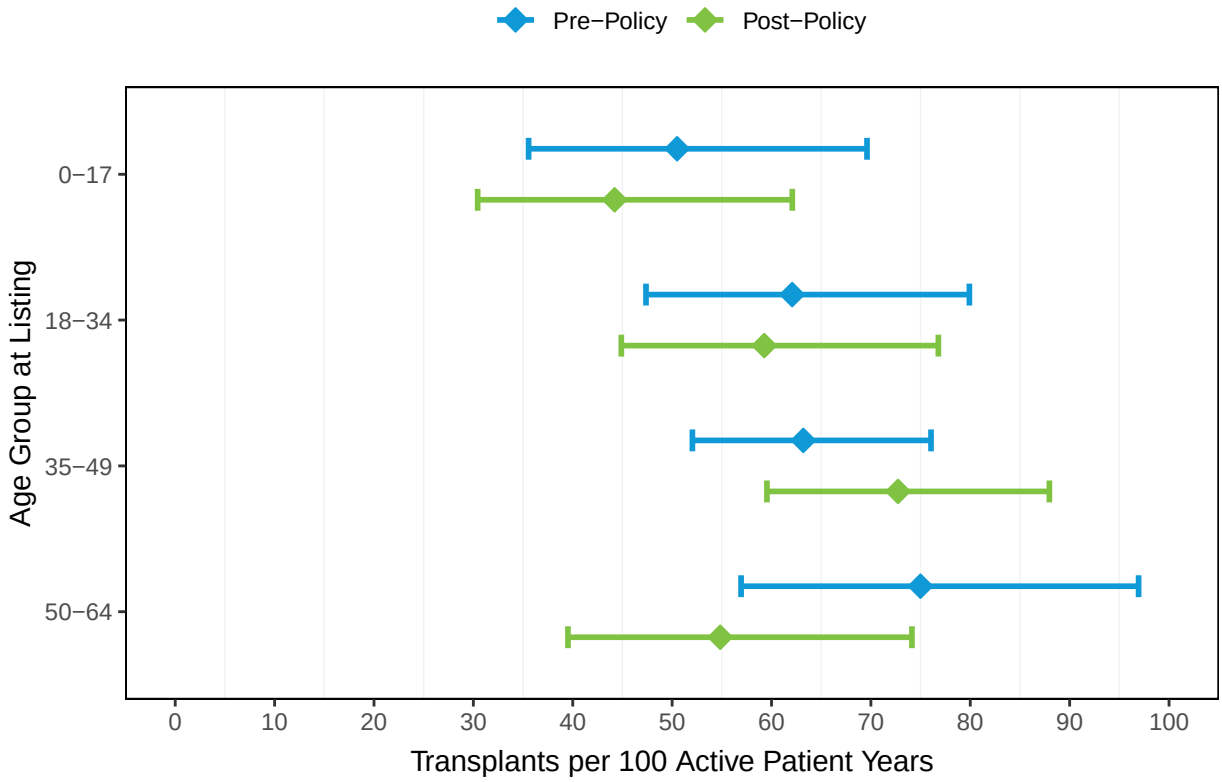


Table 17: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019-March 14, 2023 by Policy Era

Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
Pre-Policy	749	268	63.47	(56.1, 71.55)
Post-Policy	690	237	60.01	(52.61, 68.15)

Figure 20 and **Table 18** show deceased donor transplants per 100 active patient years for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and age at listing. Transplant rates increased post-policy for the 35-49 age group, while transplant rates decreased for candidates in the 0-17, 18-34, 50-64, and 65+ age groups. These changes were not statistically significant.

Figure 20: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing



65+ age group omitted from figure due to small number of events and wide confidence intervals.

Table 18: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing

Age at Listing	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
0-17	Pre-Policy	96	37	50.50	(35.56, 69.61)
	Post-Policy	101	33	44.21	(30.43, 62.09)
18-34	Pre-Policy	174	60	62.08	(47.37, 79.91)
	Post-Policy	175	57	59.27	(44.89, 76.79)
35-49	Pre-Policy	329	112	63.20	(52.04, 76.05)
	Post-Policy	284	106	72.73	(59.54, 87.96)
50-64	Pre-Policy	158	58	74.99	(56.94, 96.94)
	Post-Policy	142	42	54.84	(39.52, 74.13)
65+	Pre-Policy	8	3	190.10	(39.2, 555.57)
	Post-Policy	9	2	56.28	(6.82, 203.32)

Figure 21 and **Table 19** show deceased donor transplants per 100 active patient years for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and gender. The transplant rate for female registrations decreased post-policy from 64 to 60 transplants per 100 active patient years, and for male registrations from 62 to 60 transplants per 100 active patient years. These changes were not statistically significant.

Figure 21: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019-March 14, 2023 by Policy Era and Gender

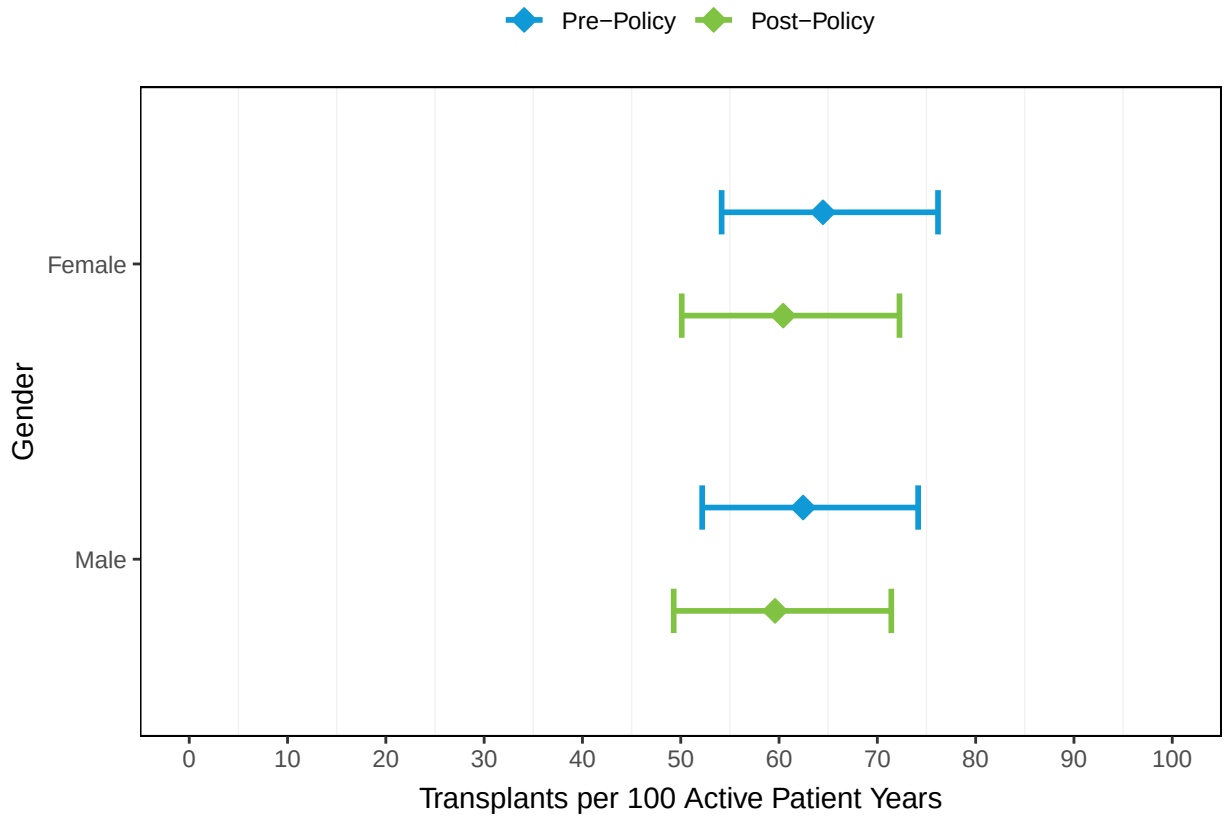
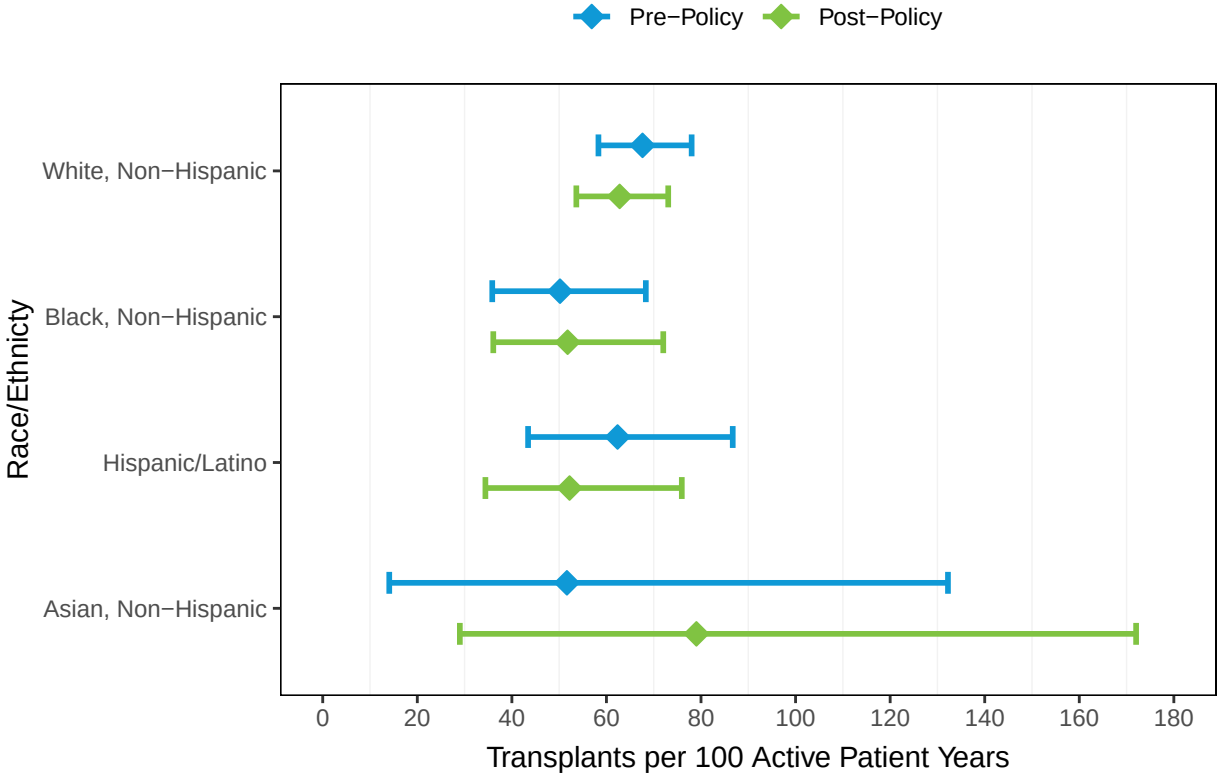


Table 19: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019-March 14, 2023 by Policy Era and Gender

Gender	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
Female	Pre-Policy	368	138	64.47	(54.16, 76.17)
	Post-Policy	343	120	60.42	(50.1, 72.25)
Male	Pre-Policy	381	130	62.45	(52.18, 74.15)
	Post-Policy	347	117	59.59	(49.28, 71.42)

Figure 22 and **Table 20** show deceased donor transplants per 100 active patient years for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and race/ethnicity. There were no statistically significant changes in the transplant rates within candidate racial/ethnic groups after policy implementation.

Figure 22: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity



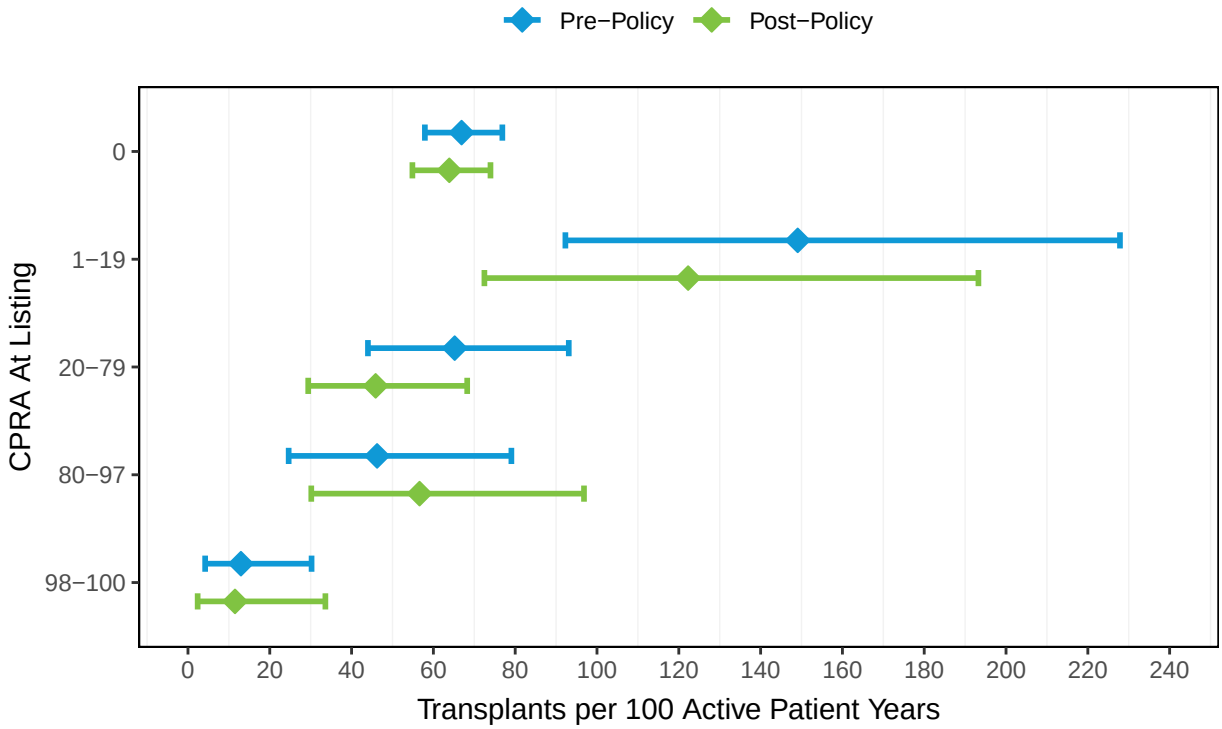
Other, Non−Hispanic omitted from figure due to small number of events and wide confidence intervals.

Table 20: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

Race/Ethnicity	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
White, Non-Hispanic	Pre-Policy	492	188	67.63	(58.31, 78.02)
	Post-Policy	457	167	62.79	(53.63, 73.07)
Black, Non-Hispanic	Pre-Policy	140	40	50.18	(35.85, 68.33)
	Post-Policy	119	35	51.79	(36.07, 72.02)
Hispanic/Latino	Pre-Policy	99	35	62.35	(43.43, 86.71)
	Post-Policy	91	27	52.20	(34.4, 75.94)
Asian, Non-Hispanic	Pre-Policy	15	4	51.64	(14.07, 132.23)
	Post-Policy	16	6	79.03	(29, 172.02)
Other, Non-Hispanic	Pre-Policy	4	1	41.15	(1.04, 229.27)
	Post-Policy	9	2	91.48	(11.08, 330.45)

Figure 23 and **Table 21** show deceased donor transplants per 100 active patient years for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and CPRA at listing. Transplant rates increased post-policy for registrations in the CPRA 80-97% group, and decreased for registrations in the CPRA 0%, 1-19%, 20-79%, and 98-100% groups. These changes were not statistically significant.

Figure 23: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing



Unknown CPRA omitted from figure due to small number of events and wide confidence intervals.
Candidates with unknown CPRA were listed prior to October 1st, 2009, when CPRA was implemented in allocation.
Registrations listed on or after January 26th, 2023 with a NULL CPRA due to not reporting unacceptable antigens were recoded to have a CPRA of 0%.

Table 21: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing

CPRA (%)	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
0	Pre-Policy	541	199	66.89	(57.92, 76.86)
	Post-Policy	507	179	63.89	(54.87, 73.96)
1-19	Pre-Policy	36	21	149.07	(92.27, 227.86)
	Post-Policy	37	18	122.28	(72.47, 193.25)
20-79	Pre-Policy	89	30	65.21	(44, 93.1)
	Post-Policy	85	24	45.88	(29.4, 68.27)
80-97	Pre-Policy	40	13	46.24	(24.62, 79.07)
	Post-Policy	38	13	56.62	(30.15, 96.82)
98-100	Pre-Policy	47	5	12.95	(4.2, 30.22)
	Post-Policy	34	3	11.5	(2.37, 33.6)
Unknown	Pre-Policy	0	0	-	-
	Post-Policy	1	1	7300	(184.82, 40673)

Figure 24 and **Table 22** show deceased donor transplants per 100 active patient years for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and candidate blood type. Transplant rates increased for blood type B and O candidates after policy implementation, and decreased for blood type A and AB candidates. These changes were not statistically significant.

Figure 24: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

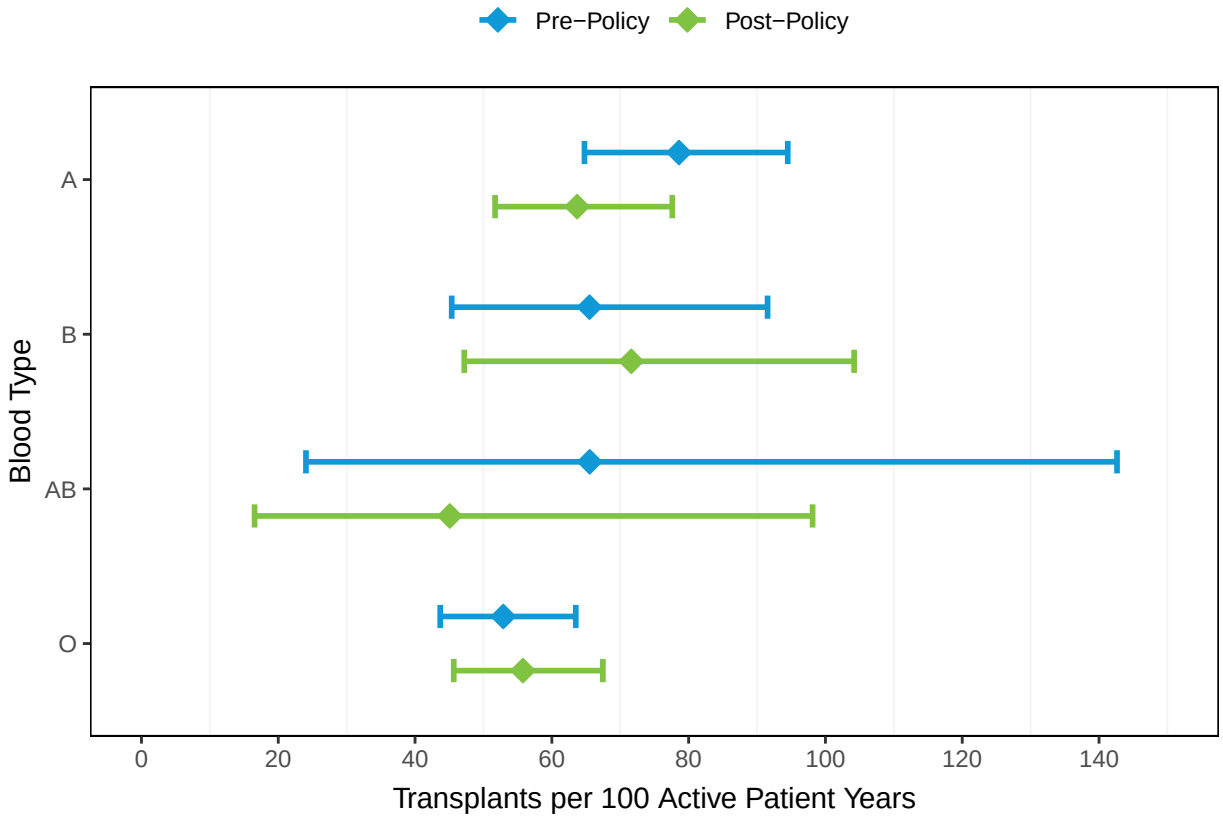


Table 22: Transplants per 100 Active Patient Years for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

Blood Type	Era	Registrations	Transplants	Transplants per 100 Patient Years	95% CI
A	Pre-Policy	279	113	78.59	(64.77, 94.49)
	Post-Policy	271	98	63.69	(51.7, 77.61)
B	Pre-Policy	98	34	65.51	(45.36, 91.54)
	Post-Policy	85	27	71.61	(47.19, 104.19)
AB	Pre-Policy	23	6	65.53	(24.05, 142.63)
	Post-Policy	29	6	45.08	(16.54, 98.12)
O	Pre-Policy	349	115	52.90	(43.68, 63.5)
	Post-Policy	305	106	55.77	(45.66, 67.46)

Geography

Figure 25 and **Table 23** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and distance from donor hospital. The proportion of transplants within 250 NM of the donor hospital increased from 55.4% to 61.5% after policy implementation.

Figure 25: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Distance from Donor Hospital

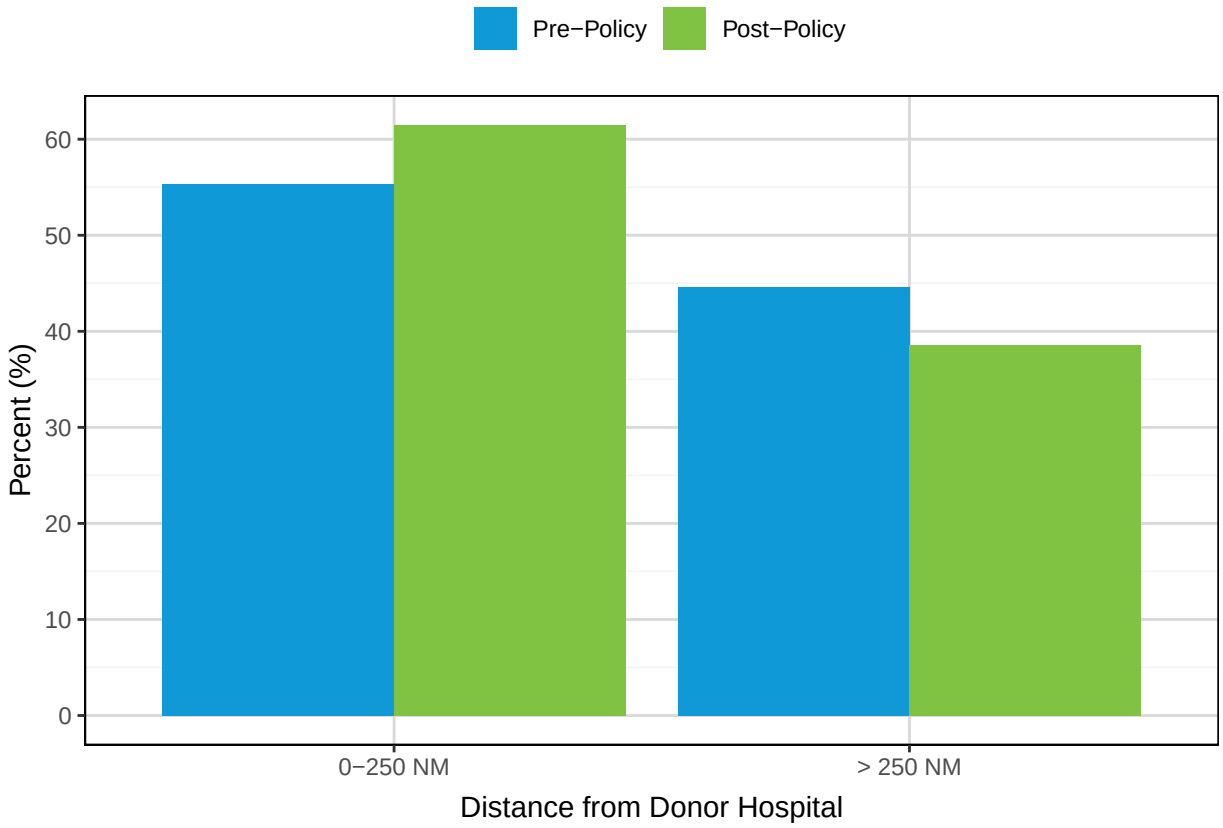


Table 23: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Distance from Donor Hospital

	Pre-Policy		Post-Policy	
Distance	N	%	N	%
0-250 NM	150	55.35	150	61.48
> 250 NM	121	44.65	94	38.52
Total	271	100.00	244	100.00

Figure 26 and **Table 24** show the distribution of distance in NM from the donor hospital to the transplant hospital for deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. Median distance from donor hospital decreased from 197 NM to 170 NM after policy implementation.

Figure 26: Distribution of Distance from Donor Hospital for Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

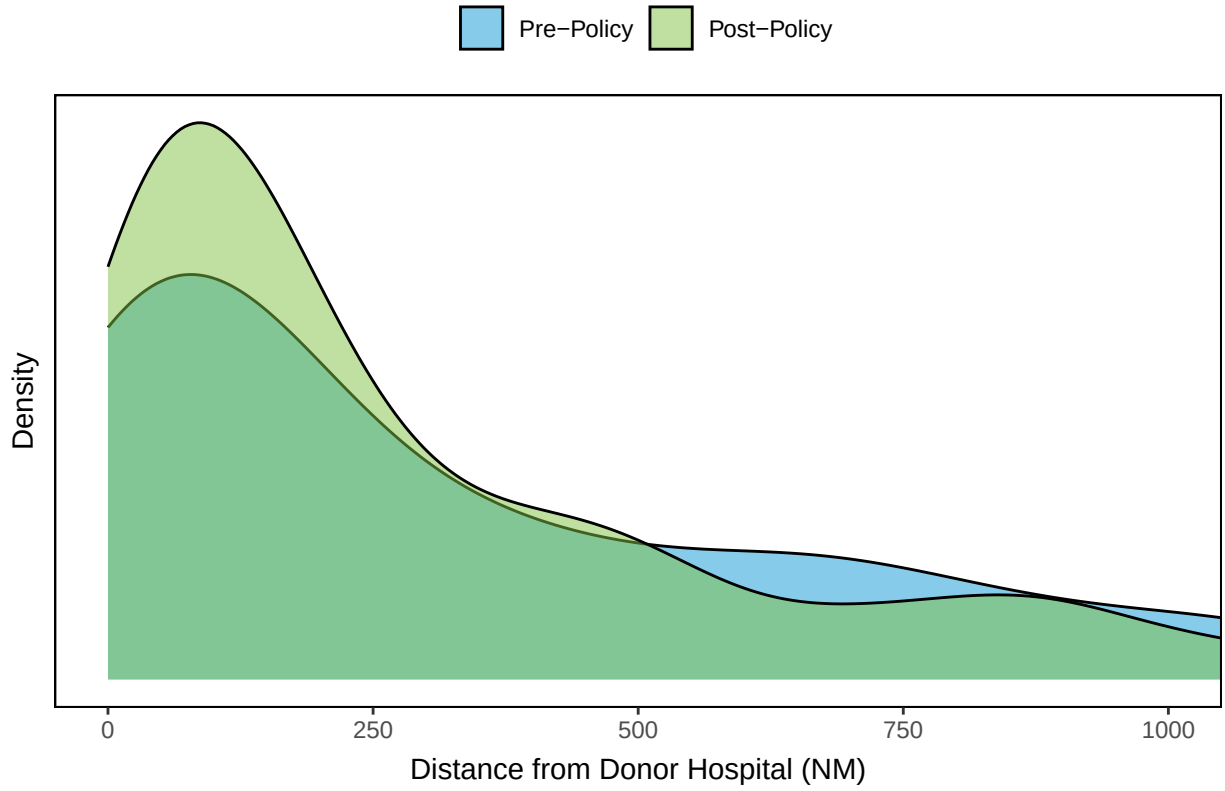


Table 24: Distribution of Distance from Donor Hospital for Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	271	0	0	54.5	197	355.4	590.0	1951
Post-Policy	244	0	0	69.5	170	295.8	430.5	1397

Figure 27 and **Table 25** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and share type. The proportion of transplants using organs procured in the same DSA as the transplant hospital decreased from 38.4% to 30.7% after the policy change. The proportion of regional and national shares increased from 19.6% to 24.2% and from 42.1% to 45.1%, respectively.

Figure 27: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Share Type

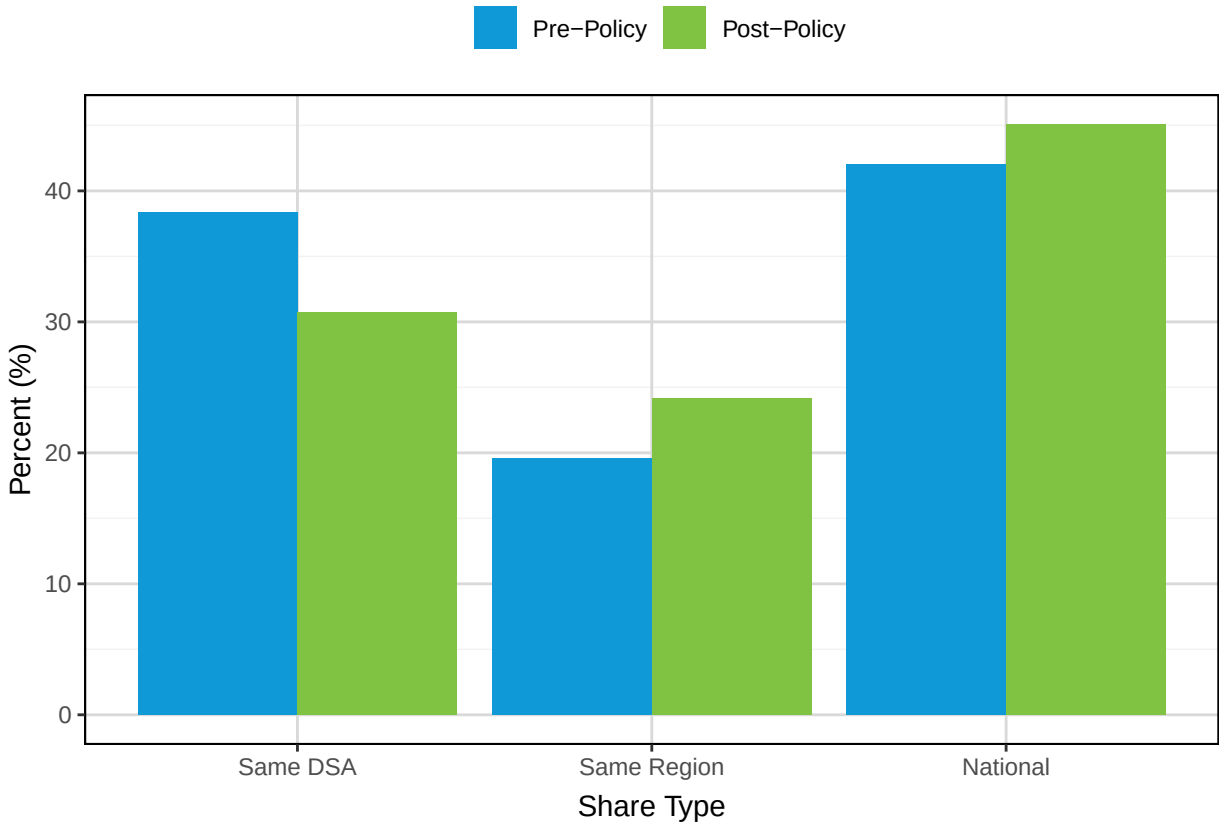


Table 25: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Share Type

	Pre-Policy		Post-Policy	
Share Type	N	%	N	%
Same DSA	104	38.38	75	30.74
Same Region	53	19.56	59	24.18
National	114	42.07	110	45.08
Total	271	100.00	244	100.00

Figure 28 and **Table 26** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and OPTN region. Transplant volume increased in 3 regions, decreased in 7 regions, and remained the same in 1 region.

Figure 28: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Region

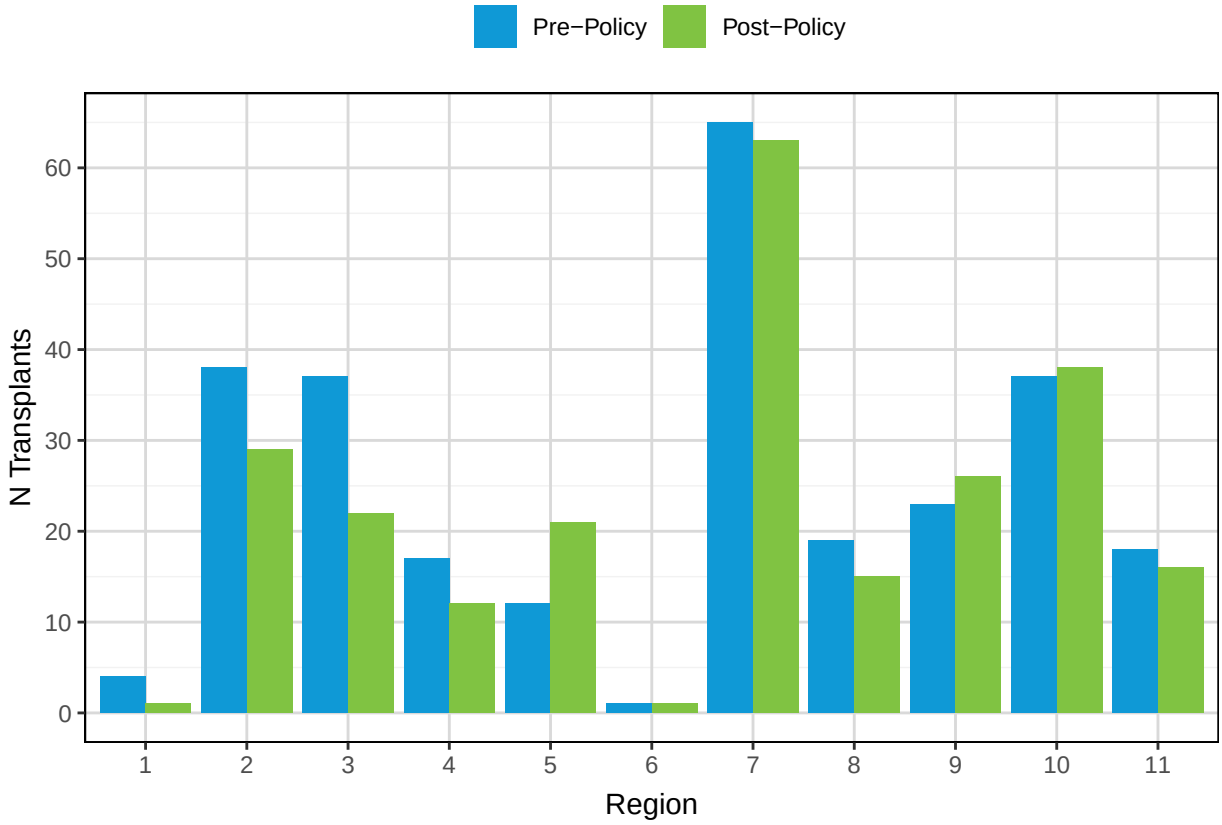


Table 26: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Region

	Pre-Policy		Post-Policy	
Region	N	%	N	%
1	4	1.48	1	0.41
2	38	14.02	29	11.89
3	37	13.65	22	9.02
4	17	6.27	12	4.92
5	12	4.43	21	8.61
6	1	0.37	1	0.41
7	65	23.99	63	25.82
8	19	7.01	15	6.15
9	23	8.49	26	10.66
10	37	13.65	38	15.57
11	18	6.64	16	6.56
Total	271	100.00	244	100.00

Table 27 shows deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and DSA. Of 45 DSAs with at least one pancreas transplant during the cohort, the number of transplants increased in 14 DSAs after policy implementation, and decreased in 24 DSAs; 7 DSAs saw no change in transplant volume.

Table 27: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and DSA

DSA	Pre-Policy	Post-Policy	% Change
ALOB	1	0	-100.00
AZOB	2	3	50.00
CADN	3	5	66.67
CAOP	4	11	175.00
CASD	1	1	0.00
CORS	1	2	100.00
FLFH	0	1	*
FLMP	21	16	-23.81
FLUF	6	3	-50.00
FLWC	1	0	-100.00
GALL	2	2	0.00
IAOP	1	0	-100.00
ILIP	11	16	45.45
INOP	13	16	23.08
KYDA	1	0	-100.00
LAOP	5	0	-100.00
MAOB	4	1	-75.00
MDPC	21	14	-33.33
MIOP	6	5	-16.67
MNOP	20	21	5.00
MOMA	1	4	300.00
MWOB	1	0	-100.00
NCNC	7	5	-28.57
NEOR	15	9	-40.00
NJTO	3	5	66.67
NYAP	2	1	-50.00
NYFL	2	8	300.00
NYRT	19	16	-15.79
NYWN	0	1	*
OHLB	9	9	0.00
OHLP	2	1	-50.00
OHOV	7	7	0.00
PADV	7	6	-14.29
PATF	7	4	-42.86
PRLL	1	0	-100.00
SCOP	4	1	-75.00
TNDS	1	1	0.00
TNMS	0	3	*
TXGC	8	4	-50.00
TXSA	2	2	0.00
TXSB	7	6	-14.29
UTOP	2	1	-50.00
VATB	5	6	20.00
WALC	1	1	0.00
WIUW	34	26	-23.53
Total	271	244	-9.96

Table 28 shows deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and transplant hospital. Of 87 transplant hospitals with at least one pancreas transplant during the cohort, the number of transplants increased at 34 hospitals after policy implementation, and decreased at 37 hospitals; 16 transplant hospitals saw no change in transplant volume.

Table 28: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Transplant Hospital

Transplant Hospital	Pre-Policy	Post-Policy	% Change
ALUA-TX1	1	0	-100.00
AZMC-TX1	1	1	0.00
AZUA-TX1	1	2	100.00
CACL-TX1	0	1	*
CACS-TX1	0	2	*
CALL-TX1	3	8	166.67
CAPC-TX1	0	2	*
CAPM-TX1	1	1	0.00
CASH-TX1	1	1	0.00
CASU-TX1	2	2	0.00
CAUC-TX1	1	0	-100.00
COUC-TX1	1	2	100.00
DCGU-TX1	15	9	-40.00
FLFH-TX1	0	1	*
FLJM-TX1	21	16	-23.81
FLSL-TX1	6	3	-50.00
FLTG-TX1	1	0	-100.00
GAEM-TX1	1	1	0.00
GAPH-TX1	1	1	0.00
IAIV-TX1	1	0	-100.00
ILLU-TX1	1	1	0.00
ILNM-TX1	2	4	100.00
ILPL-TX1	2	1	-50.00
ILSF-TX1	0	1	*
ILUC-TX1	2	4	100.00
ILUI-TX1	4	5	25.00
INIM-TX1	13	16	23.08
KYJH-TX1	1	0	-100.00
LAOF-TX1	1	0	-100.00
LATU-TX1	1	0	-100.00
LAWK-TX1	3	0	-100.00
MABI-TX1	4	0	-100.00
MAMG-TX1	0	1	*
MDJH-TX1	1	1	0.00
MDUM-TX1	5	3	-40.00
MIHF-TX1	4	5	25.00
MIUM-TX1	2	0	-100.00
MNMC-TX1	10	12	20.00
MNUM-TX1	10	9	-10.00
MOBH-TX1	1	4	300.00
MORH-TX1	1	0	-100.00
NCBG-TX1	2	2	0.00
NCDU-TX1	4	3	-25.00
NCEC-TX1	1	0	-100.00

(continued)

Transplant Hospital	Pre-Policy	Post-Policy	% Change
NEUN-TX1	15	9	-40.00
NJHK-TX1	2	3	50.00
NJRW-TX1	1	0	-100.00
NJSB-TX1	0	2	*
NYAM-TX1	2	1	-50.00
NYCP-TX1	7	9	28.57
NYEC-TX1	0	1	*
NYFL-TX1	1	2	100.00
NYMA-TX1	1	1	0.00
NYMS-TX1	8	4	-50.00
NYNY-TX1	1	2	100.00
NYUC-TX1	2	0	-100.00
NYUM-TX1	1	6	500.00
OHCC-TX1	9	9	0.00
OHCM-TX1	4	5	25.00
OHOU-TX1	2	1	-50.00
OHUC-TX1	3	2	-33.33
PAAE-TX1	0	2	*
PAAG-TX1	0	1	*
PACH-TX1	6	2	-66.67
PALV-TX1	1	0	-100.00
PAPT-TX1	1	1	0.00
PATJ-TX1	2	0	-100.00
PAUP-TX1	4	4	0.00
PRSJ-TX1	1	0	-100.00
SCMU-TX1	4	1	-75.00
TNMH-TX1	0	3	*
TNVU-TX1	1	1	0.00
TXAS-TX1	0	1	*
TXHD-TX1	0	1	*
TXHS-TX1	2	2	0.00
TXMH-TX1	8	3	-62.50
TXSW-TX1	3	4	33.33
TXTX-TX1	4	1	-75.00
UTLD-TX1	1	0	-100.00
UTMC-TX1	1	1	0.00
VAFH-TX1	0	1	*
VAMC-TX1	0	1	*
VANG-TX1	0	2	*
VAUV-TX1	5	3	-40.00
WASM-TX1	0	1	*
WAUW-TX1	1	0	-100.00
WIUW-TX1	34	26	-23.53
Total	271	244	-9.96

Table 29 shows deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and state. Of 31 states with at least one pancreas transplant during the cohort, the number of transplants increased in 11 states after policy implementation, and decreased in 18 states; 2 states saw no change in transplant volume.

Table 29: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and State

State	Pre-Policy	Post-Policy	% Change
Alabama	1	0	-100.00
Arizona	2	3	50.00
California	8	17	112.50
Colorado	1	2	100.00
Dist. Of Columbia	15	9	-40.00
Florida	28	20	-28.57
Georgia	2	2	0.00
Illinois	11	16	45.45
Indiana	13	16	23.08
Iowa	1	0	-100.00
Kentucky	1	0	-100.00
Louisiana	5	0	-100.00
Maryland	6	4	-33.33
Massachusetts	4	1	-75.00
Michigan	6	5	-16.67
Minnesota	20	21	5.00
Missouri	2	4	100.00
Nebraska	15	9	-40.00
New Jersey	3	5	66.67
New York	23	26	13.04
North Carolina	7	5	-28.57
Ohio	18	17	-5.56
Pennsylvania	14	10	-28.57
Puerto Rico	1	0	-100.00
South Carolina	4	1	-75.00
Tennessee	1	4	300.00
Texas	17	12	-29.41
Utah	2	1	-50.00
Virginia	5	7	40.00
Washington	1	1	0.00
Wisconsin	34	26	-23.53
Total	271	244	-9.96

Figure 29 and **Table 30** show the distribution of pancreas preservation time (time between procurement cross-clamp to recipient organ reperfusion) in hours for deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. There was little change in median preservation time after policy implementation (8.5 vs 8.6 hours).

Figure 29: Distribution of Pancreas Preservation Time for Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

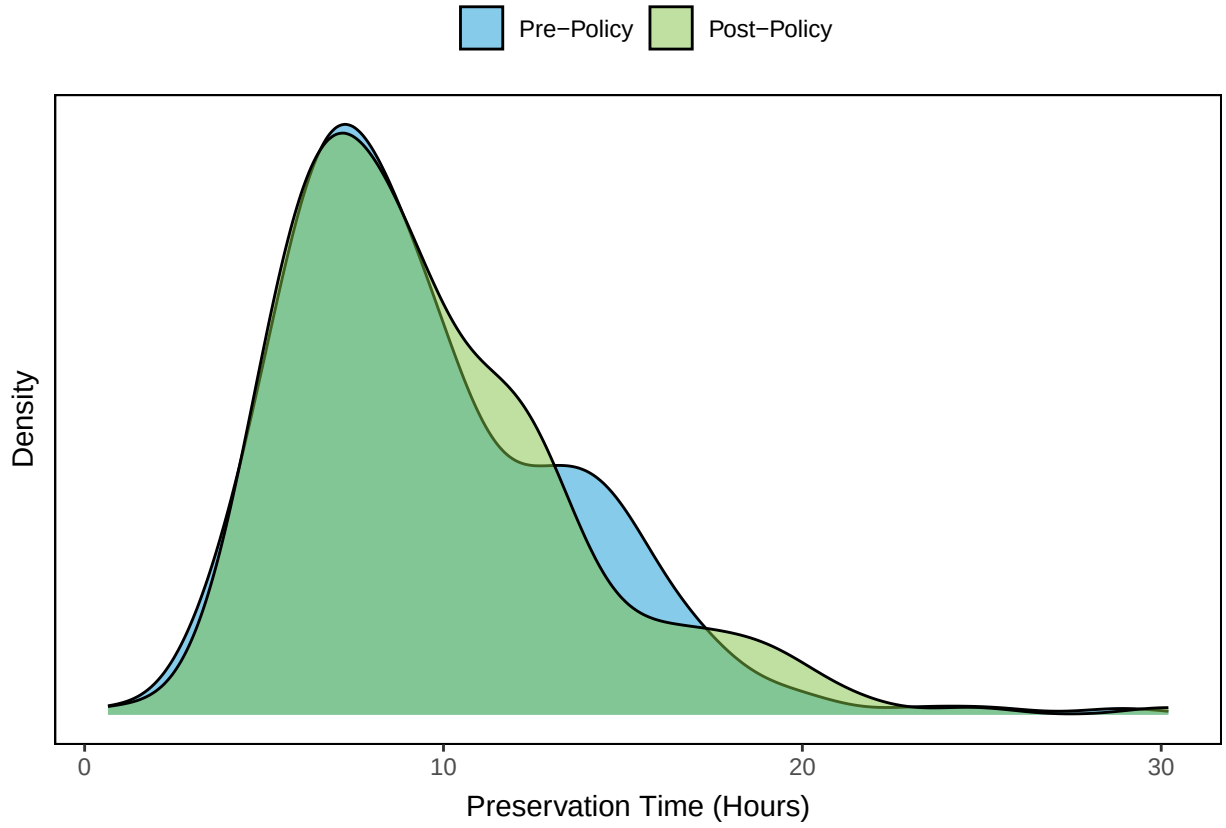


Table 30: Distribution of Pancreas Preservation Time (Hours) for Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	271	2	0.7	6.7	8.5	9.5	12.0	29.0
Post-Policy	244	9	1.0	6.6	8.6	9.6	11.8	30.2

Post-Transplant Outcomes

This section presents unadjusted one year post-transplant patient and graft survival estimates for pancreas alone transplants by policy era. The cohort for survival analyses was restricted to transplant recipients with at least 1 year of follow-up time after factoring in the 90-day reporting lag for Transplant Recipient Follow-up (TRF) forms (transplants performed on or before February 28, 2022).

Patient Survival

Figure 30 and **Table 31** show one year post-transplant patient survival for deceased donor pancreas alone transplants by policy era. The probability of patient survival at one year post-transplant decreased from 98.3% to 97.8% after policy implementation. This change was not statistically significant. Additional information about post-transplant patient survival, including stratifications by recipient characteristics, is provided in the **Appendix**.

Figure 30: One Year Post-Transplant Patient Survival for Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

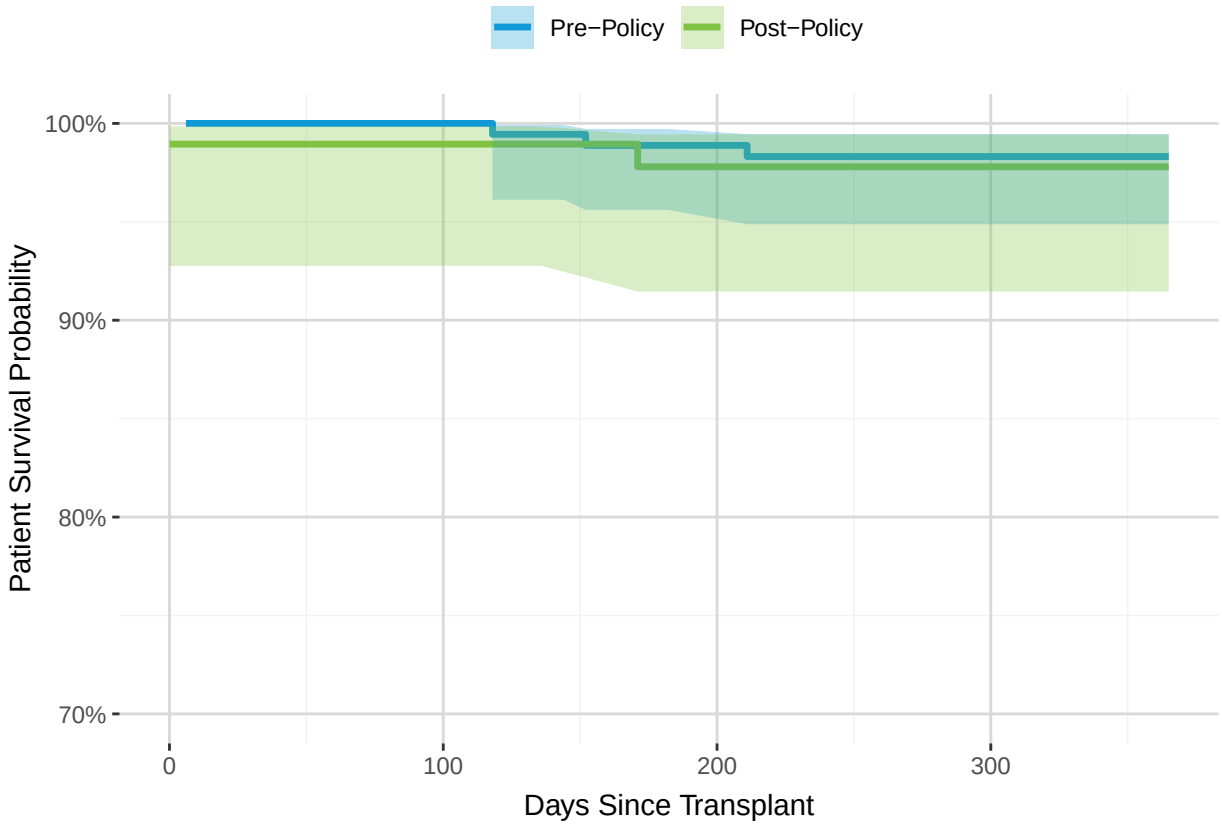


Table 31: One Year Post-Transplant Patient Survival for Pancreas Alone Transplants by Policy Era

Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Pre-Policy	190	3	167	98.3	(94.9, 99.5)
Post-Policy	95	2	50	97.8	(91.5, 99.4)

Pancreas Graft Survival

Figure 31 and **Table 32** show one year post-transplant pancreas graft survival for deceased donor pancreas alone transplants by policy era. The probability of pancreas graft survival at one year post-transplant decreased from 87.8% to 87.4% after policy implementation. This change was not statistically significant. Additional information about post-transplant pancreas graft survival, including stratifications by recipient characteristics, is provided in the **Appendix**.

Figure 31: One Year Post-Transplant Pancreas Graft Survival for Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

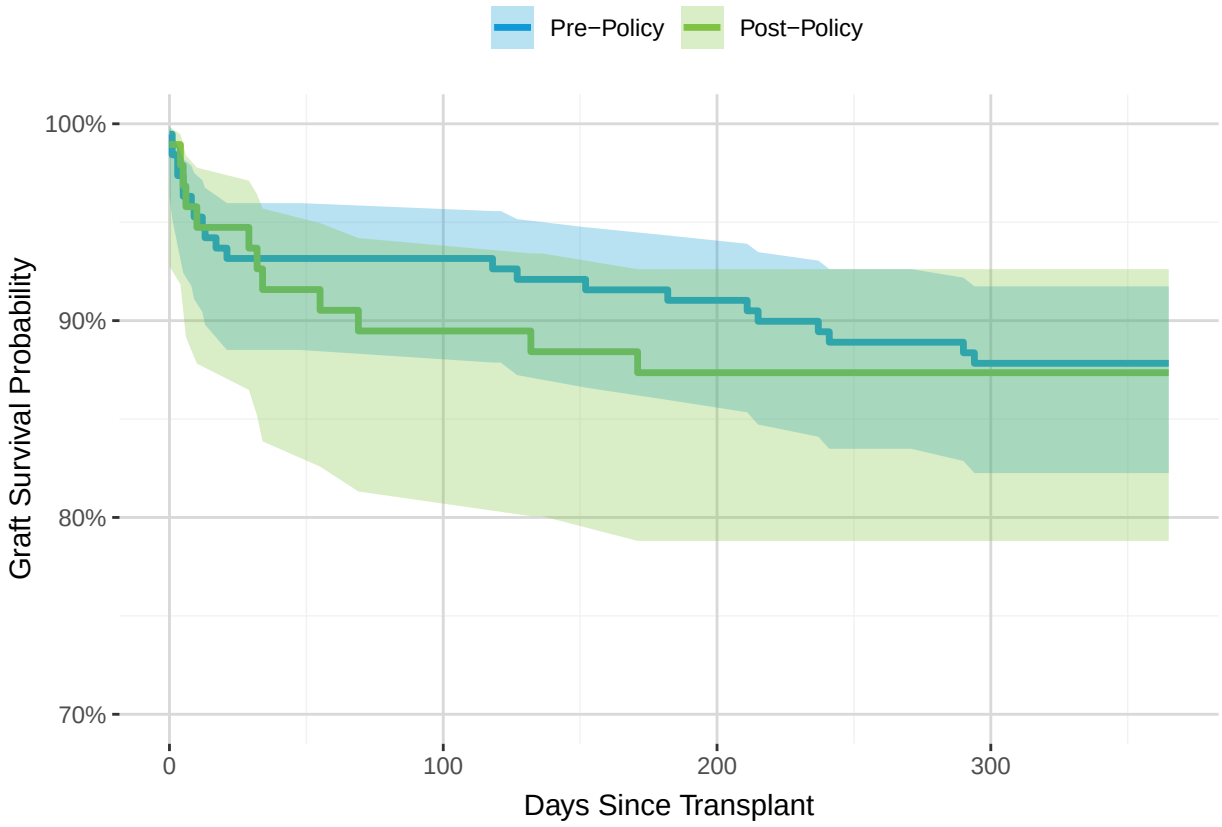


Table 32: One Year Post-Transplant Pancreas Graft Survival for Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era

Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Pre-Policy	190	23	163	87.8	(82.3, 91.7)
Post-Policy	95	12	50	87.4	(78.8, 92.6)

Released Organs

Table 33 shows the disposition of pancreata from pancreas matches with a final acceptance by policy era. The overall proportion of pancreata that were transplanted to the originally accepting patient decreased post-policy from 54.2% to 38.8%. This decrease was driven primarily by an increase in non-recovery events for pancreata that had a pancreas match with a final acceptance (27.7% vs 40.5%). Non-recovery indicates that the organ was accepted on a pancreas/kidney-pancreas match run but was not recovered with the intent to transplant.

Post-policy, there were six released pancreata where the local placement bypass code was executed to allocate at the transplant hospital where it was originally accepted.

Table 33: Disposition of Pancreata from Pancreas Matches with a Final Acceptance March 16, 2019-March 14, 2023 by Policy Era

Era	N	Same Patient	Same Center	Different Center	Non-Use	Non-Recovery
Pre-Policy	358	194 (54.2%)	5 (1.4%)	14 (3.9%)	46 (12.8%)	99 (27.7%)
Post-Policy	407	158 (38.8%)	9 (2.2%)	13 (3.2%)	62 (15.2%)	165 (40.5%)

Efficient Allocation and Utilization of Organs

This section describes key metrics for monitoring efficiency in allocation and utilization of pancreata since the removal of DSA and OPTN region from allocation. Additional data may be found in the **Appendix**.

The overall pancreas non-use rate increased from 24.8% to 26.9% after policy implementation (**Figure 32** & **Table 34**). The overall offer rate from pancreas/kidney-pancreas match runs increased from approximately 12 to 14 offers per active patient year (**Figure 33** & **Table 36**). The overall offer acceptance rate decreased from 82 to 66 acceptances per 1000 offers (**Table 36** & **Figure 34**). The median sequence number of final acceptor for pancreas/kidney-pancreas matches increased from 3 (IQR: 1-8) to 5 (IQR: 2-15) after implementation (**Figure 37** & **Table 39**).

Figure 32 and **Table 34** show non-use rates (proportion of pancreata recovered for the purpose of transplant that were not transplanted) for deceased donor pancreata recovered for transplant from March 16, 2019 to March 14, 2023 by policy era. The overall pancreas non-use rate increased post-policy from 24.8% to 26.9%.

Figure 32: Non-Use Rates for Deceased Donor Pancreas Recovered for Transplant March 16, 2019 - March 14, 2023 by Policy Era

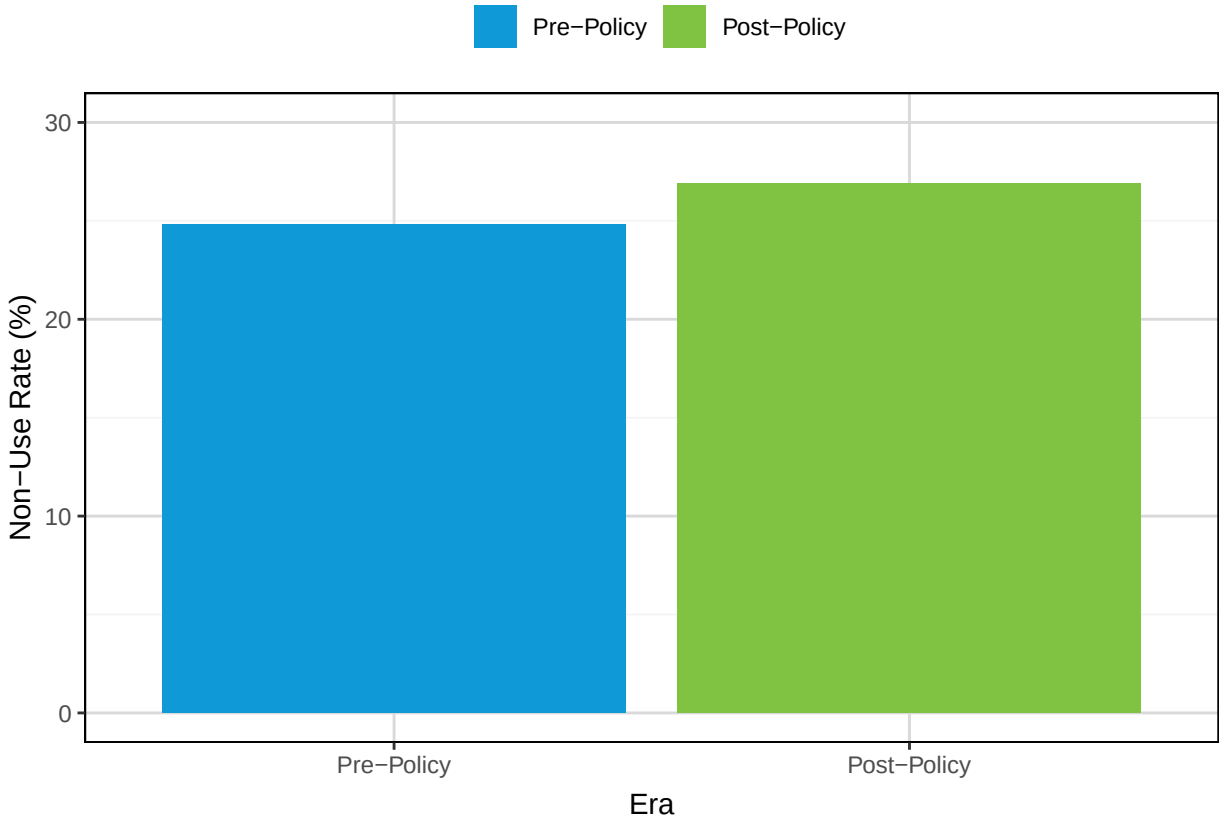


Table 34: Non-Use Rates for Deceased Donor Pancreas Recovered for Transplant March 16, 2019 - March 14, 2023 by Policy Era

Era	Pancreata Recovered	Pancreata Not TXed	Non-Use Rate (%)
Pre-Policy	2645	657	24.84
Post-Policy	2616	704	26.91

Table 35 shows deceased donor pancreata recovered for transplant but not transplanted from March 16, 2019 to March 14, 2023 by reason for non-use and policy era. A total of 657 pancreata were recovered for transplant but not transplanted pre-policy, and 704 post-policy. The most common reason for pancreas non-use in both policy eras was "Other" followed by "Anatomical abnormalities". There was little change in the distribution of reasons for pancreas non-use after policy implementation.

Table 35: Deceased Donor Pancreas Recovered but Not Transplanted March 16, 2019-March 14, 2023 by Non-Use Reason and Policy Era

	Pre-Policy		Post-Policy	
Non-Use Reason	N	%	N	%
Other, specify	219	33.33	231	32.81
Anatomical abnormalities	157	23.90	160	22.73
No recipient located - list exhausted	93	14.16	105	14.91
Diseased organ	39	5.94	47	6.68
Poor organ function	41	6.24	38	5.40
Vascular damage	21	3.20	28	3.98
Recipient determined to be unsuitable for TX in OR	22	3.35	19	2.70
Organ trauma	18	2.74	20	2.84
Too old on ice	16	2.44	21	2.98
Organ not as described	14	2.13	11	1.56
Warm ischemic time too long	6	0.91	14	1.99
Infection	4	0.61	3	0.43
Biopsy findings	5	0.76	1	0.14
Donor Medical history	0	0.00	5	0.71
Donor social history	1	0.15	1	0.14
Not Reported	1	0.15	0	0.00
Total	657	100.00	704	100.00

Figure 33 and **Table 36** show offers per active patient year for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era. The overall offer rate increased from approximately 12 offers per active patient year to approximately 14 offers per active patient year after policy implementation.

Figure 33: Offers per Active Patient Year for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era

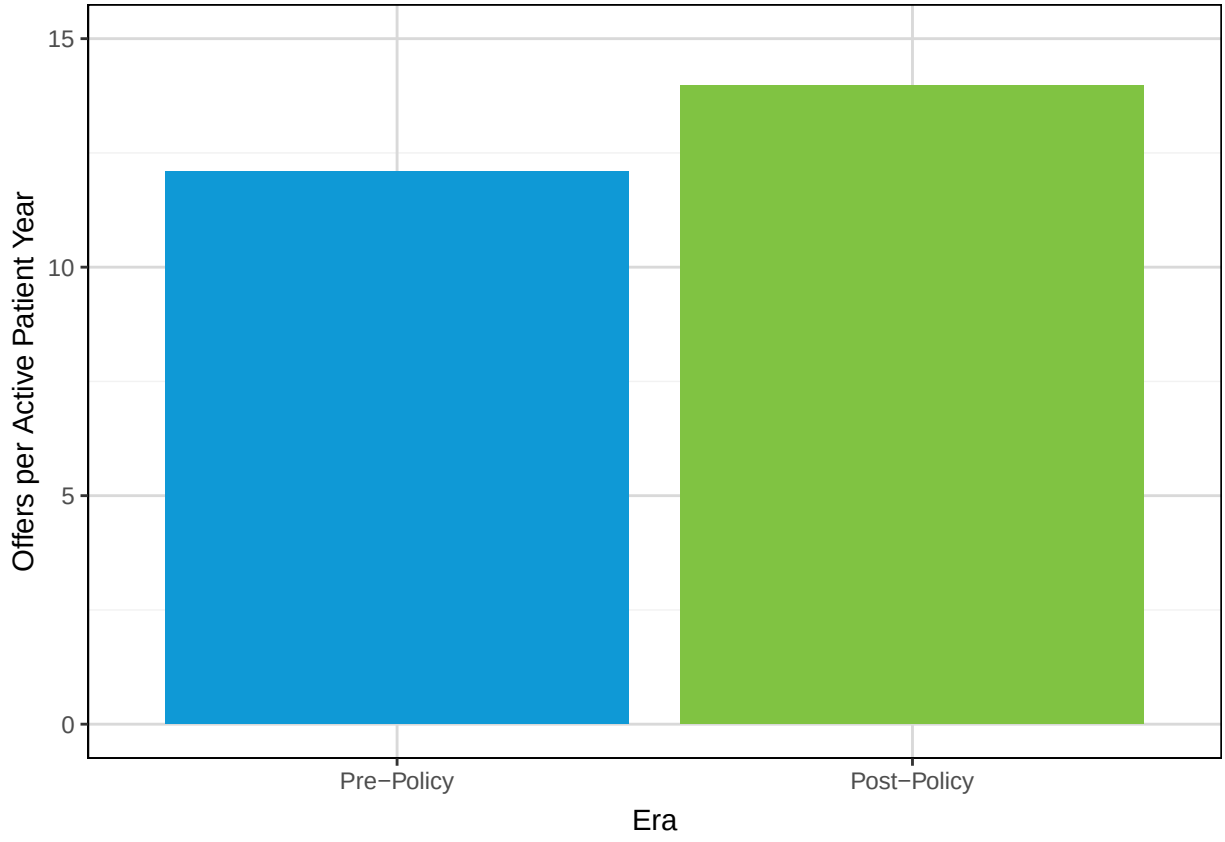


Table 36: Offer and Acceptance Rates for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era

Era	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
Pre-Policy	2071.42	25054	2054	12.10	81.98
Post-Policy	2100.96	29362	1927	13.98	65.63

Figure 34 and **Table 36** show acceptances per 1000 offers for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era. The overall acceptance rate decreased from 82 to 66 acceptances per 1000 offers after policy implementation.

Figure 34: Acceptances per 1000 Offers for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era

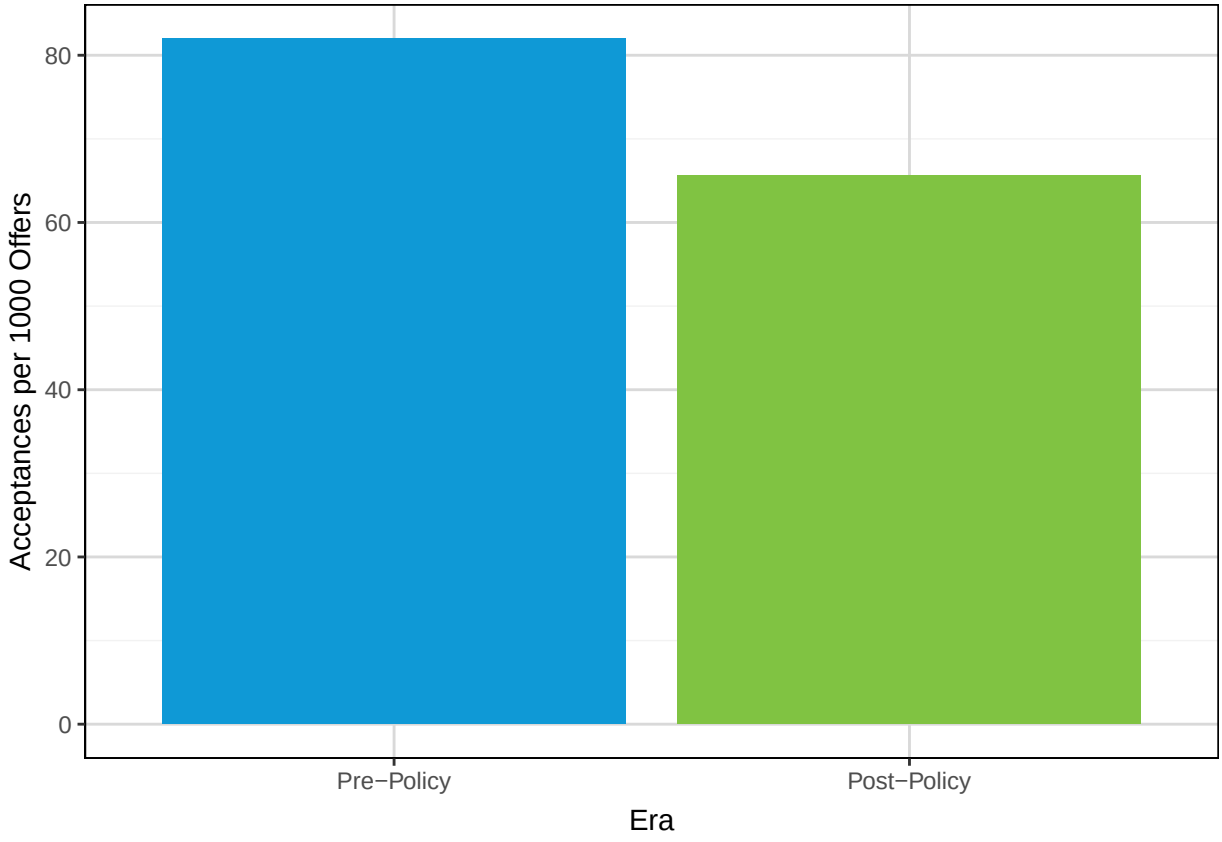


Figure 35 and **Table 37** show acceptances per 1000 offers for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era and share type. The acceptance rate for organs recovered in the same DSA as the potential transplant recipient's center decreased from 244 to 175 acceptances per 1000 offers after policy implementation. The acceptance rate for organs recovered outside the same DSA as the potential transplant recipient increased from 38 to 46 acceptances per 1000 offers.

Figure 35: Acceptances per 1000 Offers for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Share Type

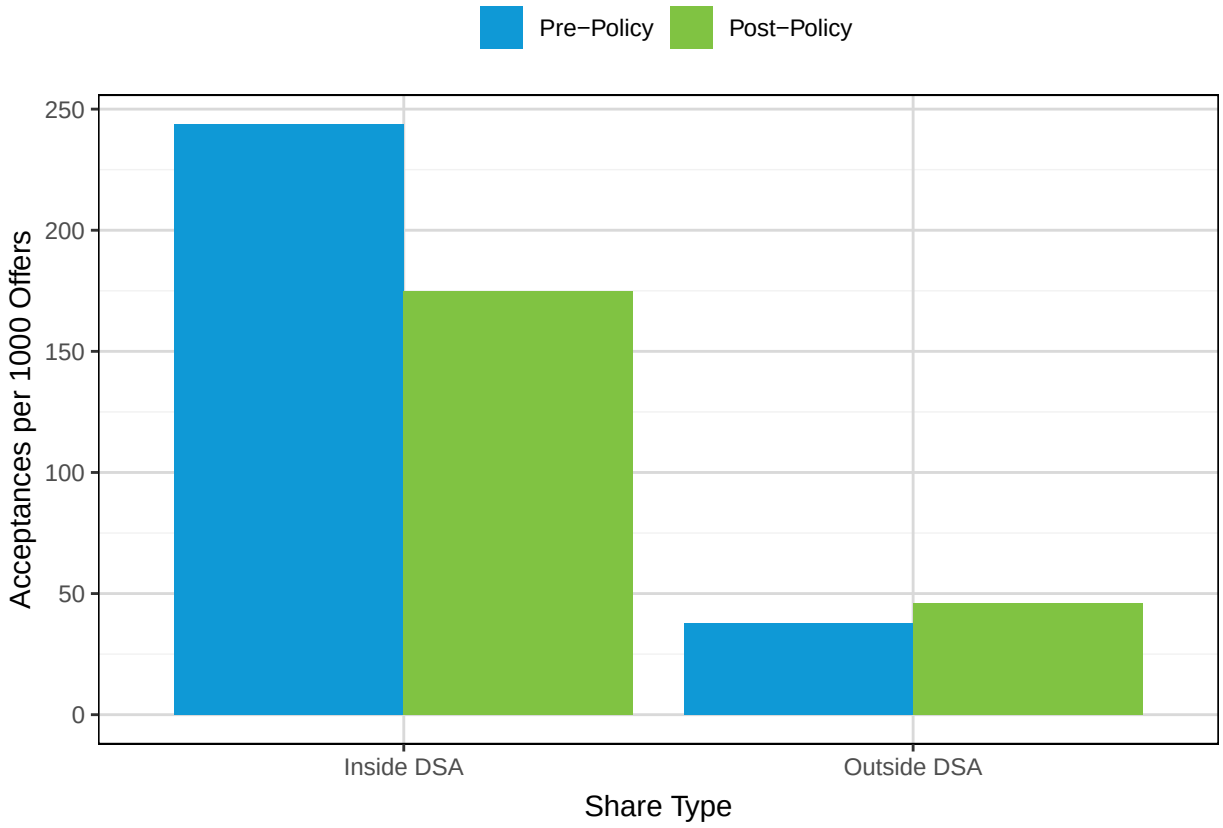


Table 37: Acceptances per 1000 Offers for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Share Type

Share Type	Pre-Policy			Post-Policy		
	Offers	Acceptances	Acceptances per 1000 Offers	Offers	Acceptances	Acceptances per 1000 Offers
Inside DSA	5382	1312	243.78	4437	776	174.89
Outside DSA	19672	742	37.72	24925	1151	46.18

Figure 36 and **Table 38** show acceptances per 1000 offers for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era and distance. The acceptance rate for offers within 250 NM of the donor hospital decreased from 151 to 91 acceptances per 1000 offers. The acceptance rate for offers > 250 NM decreased from 33 to 29 acceptances per 1000 offers.

Figure 36: Acceptances per 1000 Offers for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Distance

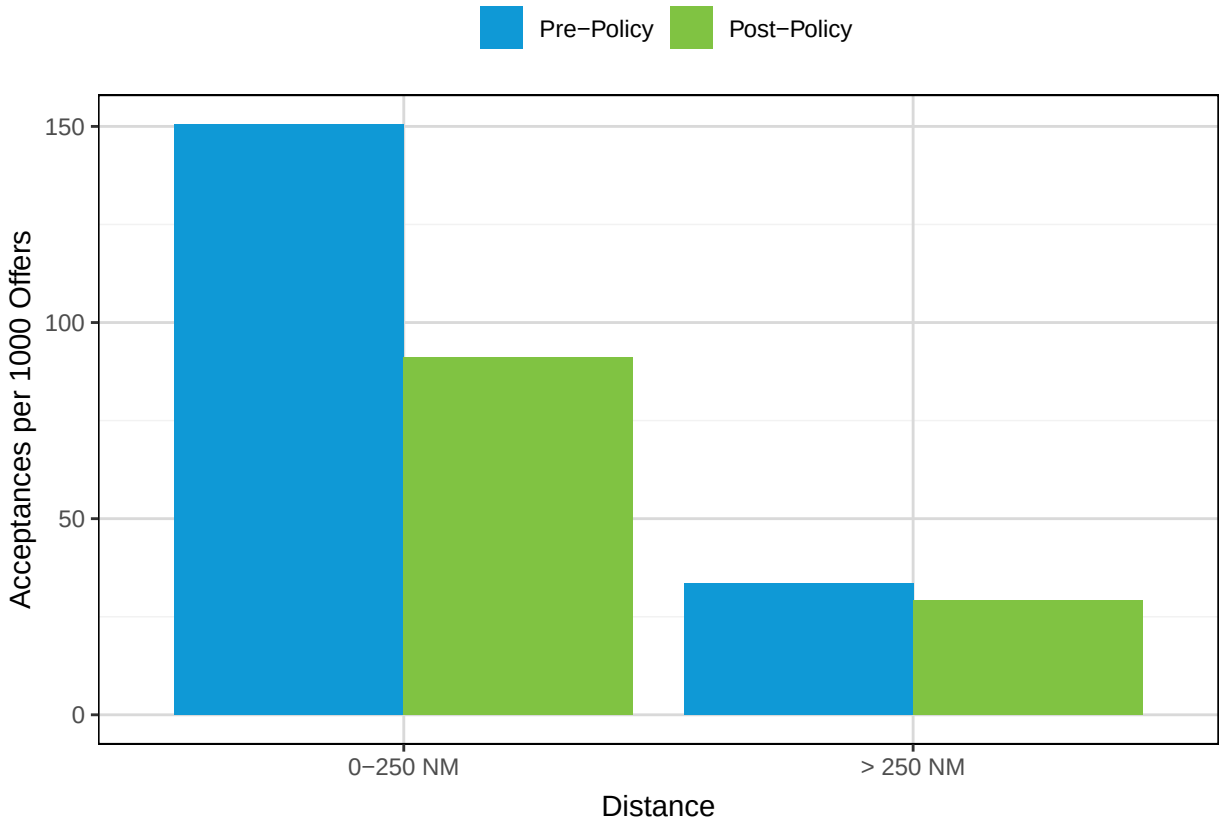


Table 38: Acceptances per 1000 Offers for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Distance

	Pre-Policy			Post-Policy		
Distance	Offers	Acceptances	Acceptances per 1000 Offers	Offers	Acceptances	Acceptances per 1000 Offers
0-250 NM	10390	1564	150.53	17300	1575	91.04
> 250 NM	14664	490	33.42	12062	352	29.18

Figure 37 and **Table 39** show the distribution of sequence number of the final acceptor for pancreas/kidney-pancreas match runs. The median sequence number of final acceptor increased from 3 to 5 after policy implementation.

Figure 37: Distribution of Sequence Number of Final Acceptor for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era

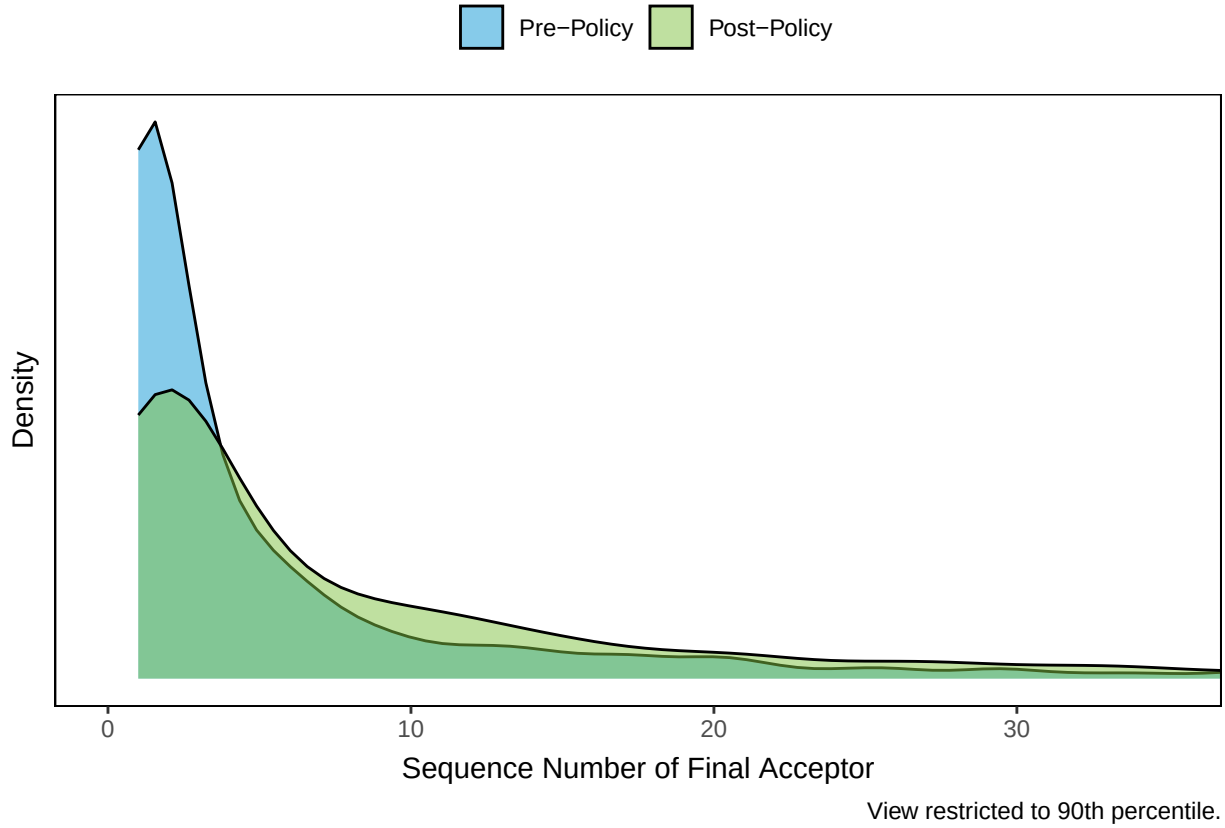


Table 39: Distribution of Sequence Number of Final Acceptor for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era

Era	N	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	2054	1	1	3	12.2	8	286
Post-Policy	1927	1	2	5	15.2	15	235

Figure 38 and **Table 40** show the distribution of time from first electronic offer to cross-clamp for pancreas/kidney-pancreas match runs. Median time from first offer to cross-clamp increased from 26.9 hours to 31.7 hours after implementation.

Figure 38: Distribution of Hours from First Offer to Cross-Clamp for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era

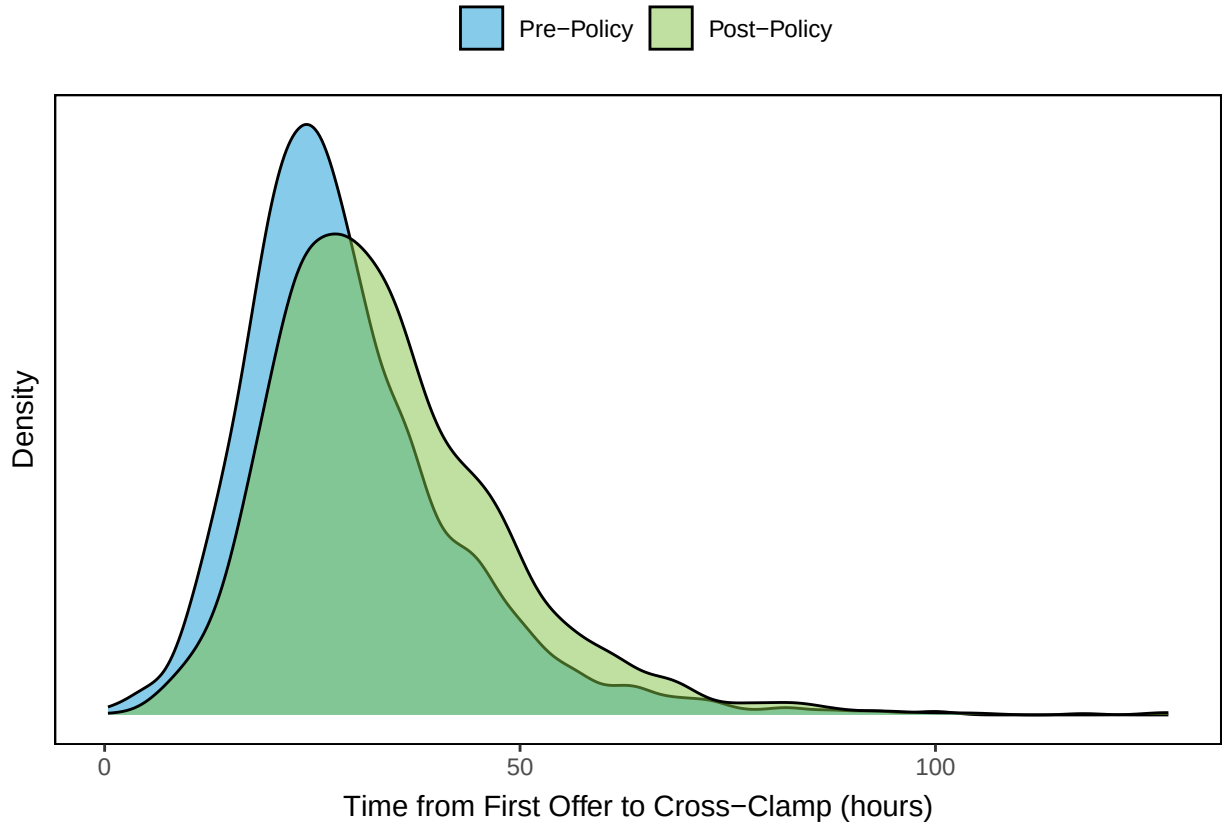


Table 40: Distribution of Hours from First Offer to Cross-Clamp for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era

Era	N	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	2054	0.4	20.97	26.90	29.47	35.55	117.83
Post-Policy	1927	0.6	24.12	31.73	34.17	41.59	128.03

Facilitated Pancreas Allocation

OPOs and the OPTN Organ Center are permitted to make facilitated pancreas offers if no pancreas offer has been accepted three hours prior to the scheduled donor organ recovery. A total of 44 pancreas programs qualified to receive facilitated pancreas offers pre-policy, and 53 programs qualified post-policy.

Figure 39 and **Table 41** show the number of pancreas/kidney-pancreas match runs where facilitated pancreas bypasses were applied by policy era. Use of facilitated pancreas allocation was lower post-policy. Pre-policy, OPOs and the Organ Center used facilitated pancreas allocation 153 and 202 times, respectively, for a total of 355 facilitated placement attempts. Post-policy, OPOs and the Organ Center used facilitated pancreas allocation 87 and 185 times, respectively, for a total of 272 facilitated placement attempts.

Figure 39: Frequency of Facilitated Pancreas Allocation March 16, 2019 - March 14, 2023 by Policy Era

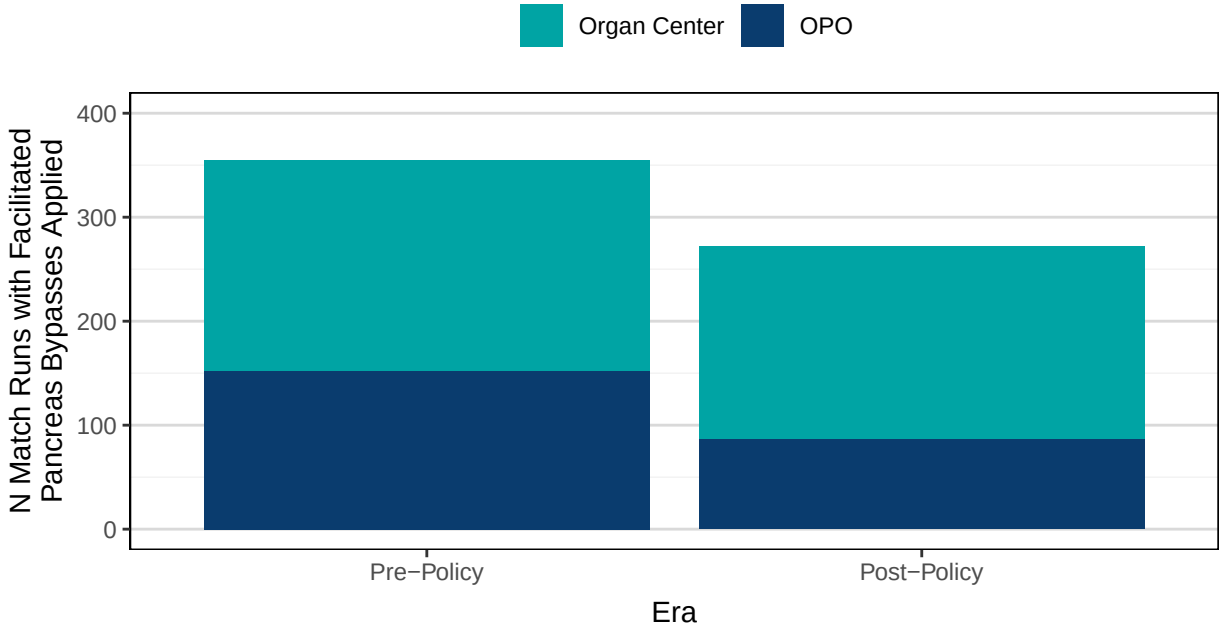


Table 41: Frequency of Facilitated Pancreas Allocation March 16, 2019 - March 14, 2023 by Policy Era

	Pre-Policy	Post-Policy
OPO	153 (43.1%)	87 (32.0%)
Organ Center	202 (56.9%)	185 (68.0%)
Total	355 (100.0%)	272 (100.0%)

Table 42 describes the frequency of pancreas transplants resulting from facilitated pancreas allocation by policy era. A total of 18 transplants resulted from facilitated pancreas allocation pre-policy, and 9 transplants resulted from facilitated pancreas allocation post-policy.

Table 42: Number of Transplants Resulting From Facilitated Pancreas Allocation March 16, 2019 - March 14, 2023 by Policy Era

Era	Donors	Transplants
Pre-Policy	352	18
Post-Policy	272	9

Donors Recovered in Alaska

Pre-policy, seven donors in Alaska had pancreata recovered, of which one was transplanted. Post-policy, there were no donors in Alaska with pancreata recovered or transplanted.

Conclusion

The removal of DSA and OPTN region from pancreas allocation has resulted in broader distribution of pancreata. While more KP and PA were allocated outside the recovering OPO's DSA, the majority stayed within 250 NM of the donor hospital, consistent with SRTR modeling. Median preservation time increased from 9.5 to 10.3 hours for KP, while there was little change in median preservation time for PA (8.5 vs 8.6 hours). There were no statistically significant differences in the probability of patient or graft survival for KP or PA recipients at 1 year post-transplant after policy implementation.

There was no statistically significant difference in the overall KP or PA transplant rate after policy implementation. There was a statistically significant decrease in the KP transplant rate for White, Non-Hispanic candidates post-implementation; there were no significant differences in the KP transplant rates for non-White racial/ethnic groups and no significant differences in PA transplant rates within racial/ethnic groups. There were no statistically significant differences in KP or PA transplant rates by candidate age group, gender, CPRA, or blood type after implementation. Changes in KP and PA transplant volume varied by geographic area.

Replacing DSA and OPTN region with a 250 NM circle around the donor hospital brought pancreas allocation into alignment with the OPTN Final Rule through the use of a geographic unit that is applied consistently to all candidates regardless of their location of listing. The resulting broader distribution has had minimal impact on preservation time or post-transplant outcomes. The OPTN Pancreas Transplantation Committee is in the process of developing a continuous distribution framework, which will remove hard boundaries to further promote equitable access to pancreas transplant.

Appendix

Additional Kidney-Pancreas Information

Waiting List

Figure A1 and **Table A1** show the number of registrations waiting for a kidney-pancreas on the last day of each month from March 16, 2019 to March 14, 2023.

Figure A1: Kidney-Pancreas Registrations Waiting on the Last Day of Each Month, March 16, 2019-March 14, 2023

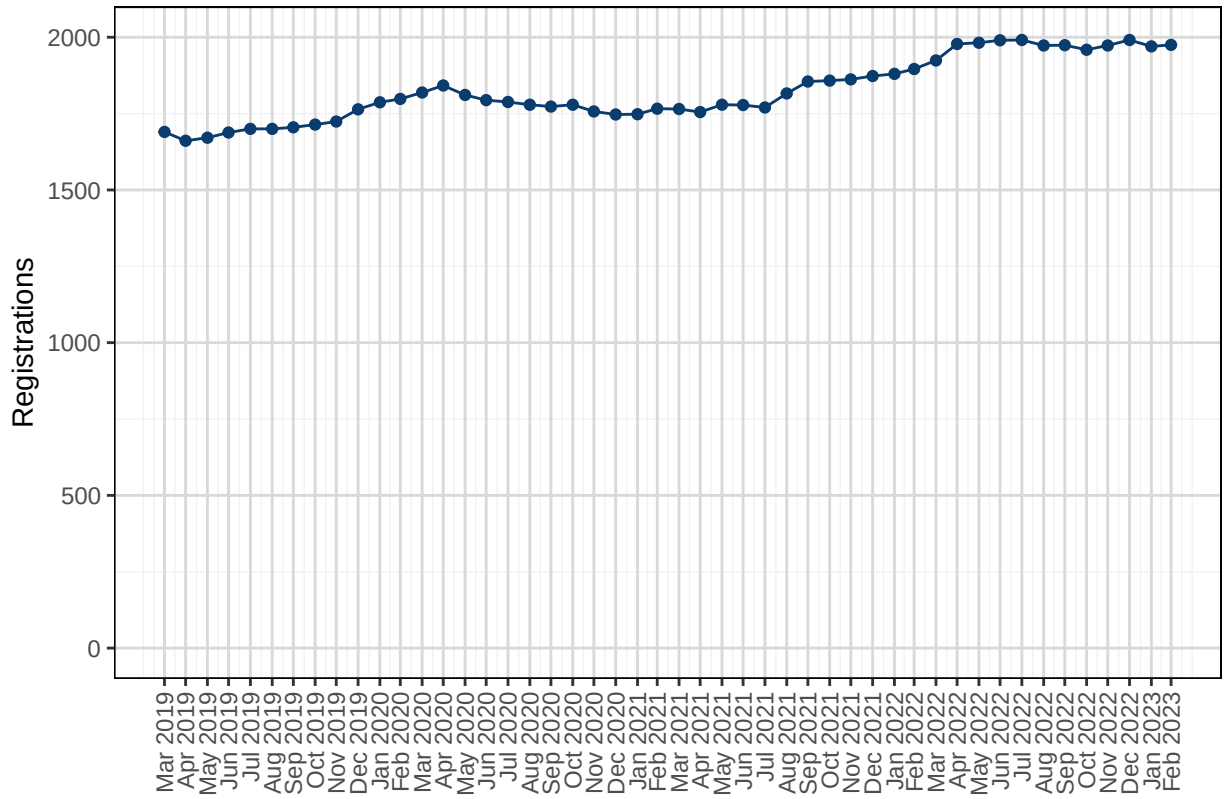


Table A1: Kidney-Pancreas Registrations Waiting on the Last Day of Each Month, March 16, 2019-March 14, 2023

Date	Registrations
March 2019	1690
April 2019	1661
May 2019	1671
June 2019	1688
July 2019	1700
August 2019	1700
September 2019	1705
October 2019	1714
November 2019	1724
December 2019	1764
January 2020	1787
February 2020	1798
March 2020	1819
April 2020	1842
May 2020	1811
June 2020	1794
July 2020	1788
August 2020	1779
September 2020	1773
October 2020	1779
November 2020	1757
December 2020	1747
January 2021	1748
February 2021	1766
March 2021	1765
April 2021	1755
May 2021	1779
June 2021	1778
July 2021	1770
August 2021	1816
September 2021	1855
October 2021	1858
November 2021	1862
December 2021	1873
January 2022	1880
February 2022	1896
March 2022	1924
April 2022	1978
May 2022	1982
June 2022	1990
July 2022	1991
August 2022	1973
September 2022	1974
October 2022	1959
November 2022	1973
December 2022	1991
January 2023	1970
February 2023	1975

Figure A2 and **Table A2** show the percentage of registrations waiting for a kidney-pancreas on the last day of each month from March 16, 2019 to March 14, 2023 by status.

Figure A2: Kidney-Pancreas Registrations Waiting on the Last Day of Each Month by Status, March 16, 2019-March 14, 2023

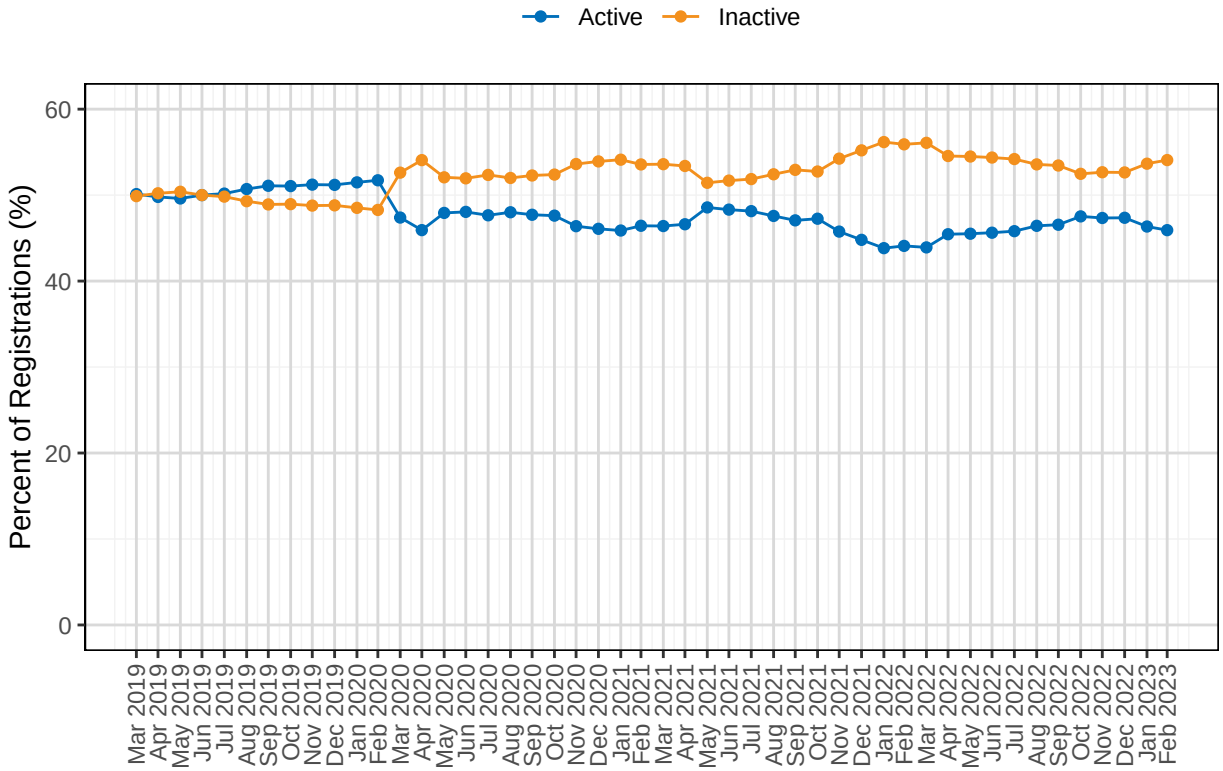


Table A2: Kidney-Pancreas Registrations Waiting on the Last Day of Each Month by Status, March 16, 2019-March 14, 2023

	Active		Inactive		Total	
Date	N	%	N	%	N	%
March 2019	847	50.12	843	49.88	1690	100.00
April 2019	827	49.79	834	50.21	1661	100.00
May 2019	829	49.61	842	50.39	1671	100.00
June 2019	844	50.00	844	50.00	1688	100.00
July 2019	853	50.18	847	49.82	1700	100.00
August 2019	862	50.71	838	49.29	1700	100.00
September 2019	871	51.09	834	48.91	1705	100.00
October 2019	875	51.05	839	48.95	1714	100.00
November 2019	883	51.22	841	48.78	1724	100.00
December 2019	903	51.19	861	48.81	1764	100.00
January 2020	920	51.48	867	48.52	1787	100.00
February 2020	930	51.72	868	48.28	1798	100.00
March 2020	862	47.39	957	52.61	1819	100.00
April 2020	846	45.93	996	54.07	1842	100.00
May 2020	868	47.93	943	52.07	1811	100.00
June 2020	862	48.05	932	51.95	1794	100.00
July 2020	852	47.65	936	52.35	1788	100.00
August 2020	854	48.00	925	52.00	1779	100.00
September 2020	846	47.72	927	52.28	1773	100.00
October 2020	847	47.61	932	52.39	1779	100.00
November 2020	815	46.39	942	53.61	1757	100.00
December 2020	805	46.08	942	53.92	1747	100.00
January 2021	802	45.88	946	54.12	1748	100.00
February 2021	820	46.43	946	53.57	1766	100.00
March 2021	819	46.40	946	53.60	1765	100.00
April 2021	818	46.61	937	53.39	1755	100.00
May 2021	864	48.57	915	51.43	1779	100.00
June 2021	859	48.31	919	51.69	1778	100.00
July 2021	852	48.14	918	51.86	1770	100.00
August 2021	864	47.58	952	52.42	1816	100.00
September 2021	873	47.06	982	52.94	1855	100.00
October 2021	878	47.26	980	52.74	1858	100.00
November 2021	852	45.76	1010	54.24	1862	100.00
December 2021	839	44.79	1034	55.21	1873	100.00
January 2022	824	43.83	1056	56.17	1880	100.00
February 2022	836	44.09	1060	55.91	1896	100.00
March 2022	845	43.92	1079	56.08	1924	100.00
April 2022	899	45.45	1079	54.55	1978	100.00
May 2022	902	45.51	1080	54.49	1982	100.00
June 2022	908	45.63	1082	54.37	1990	100.00
July 2022	912	45.81	1079	54.19	1991	100.00
August 2022	916	46.43	1057	53.57	1973	100.00
September 2022	919	46.56	1055	53.44	1974	100.00
October 2022	931	47.52	1028	52.48	1959	100.00
November 2022	934	47.34	1039	52.66	1973	100.00
December 2022	943	47.36	1048	52.64	1991	100.00
January 2023	913	46.35	1057	53.65	1970	100.00
February 2023	907	45.92	1068	54.08	1975	100.00

Figure A3 and **Table A3** show total kidney-pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era. There were 2870 registrations added to the waiting list in the pre-policy era, and 3018 added in the post-policy era.

Figure A3: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era

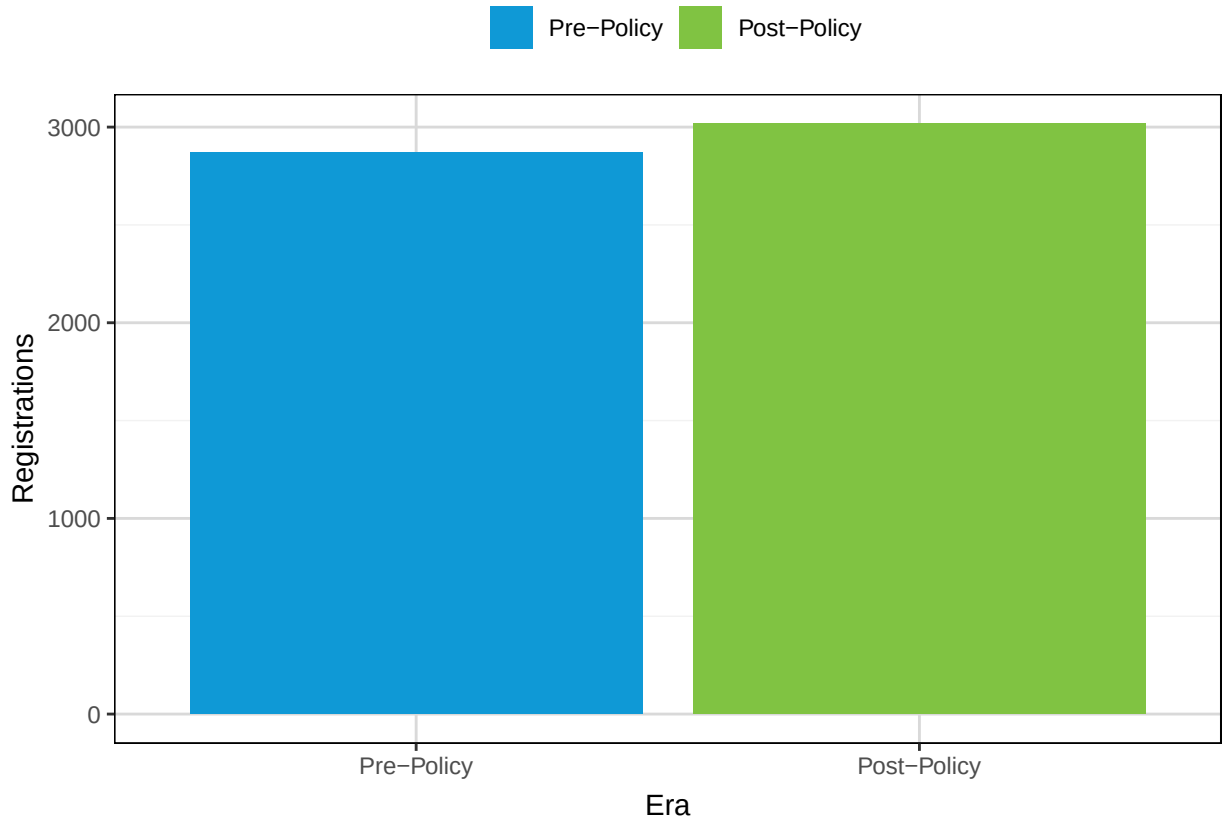


Table A3: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era

Era	Registrations
Pre-Policy	2870
Post-Policy	3018

Figure A4 and **Table A4** show kidney-pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and age at listing. Candidates aged 35-49 years accounted for the majority of waiting list additions overall both pre- and post-policy, and there was little change in the distribution of candidate age at listing after policy implementation.

Figure A4: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Age at Listing

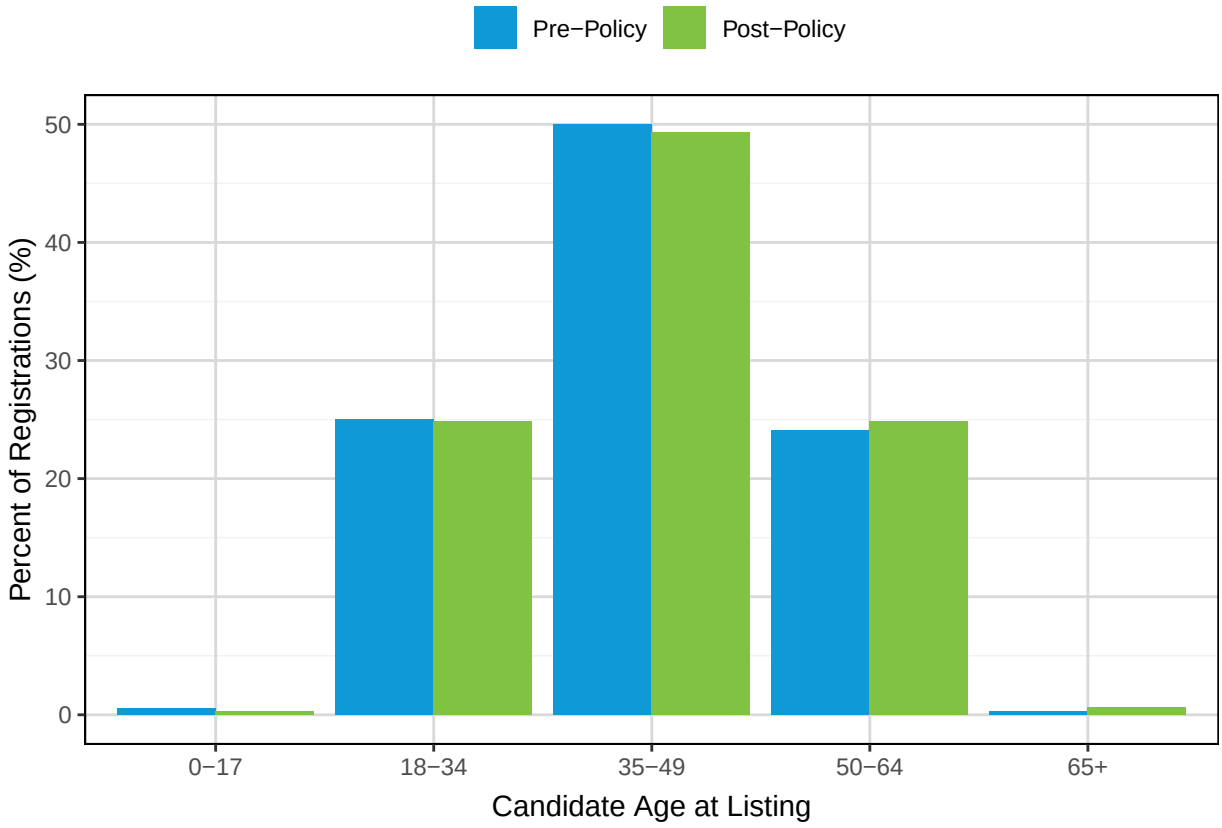


Table A4: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Age at Listing

	Pre-Policy		Post-Policy	
Age at Listing	N	%	N	%
0-17	17	0.59	10	0.33
18-34	718	25.02	751	24.88
35-49	1435	50.00	1488	49.30
50-64	691	24.08	750	24.85
65+	9	0.31	19	0.63
Total	2870	100.00	3018	100.00

Figure A5 and **Table A5** show kidney-pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and gender. There was little change in the proportion of registrations added by candidate gender.

Figure A5: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Gender

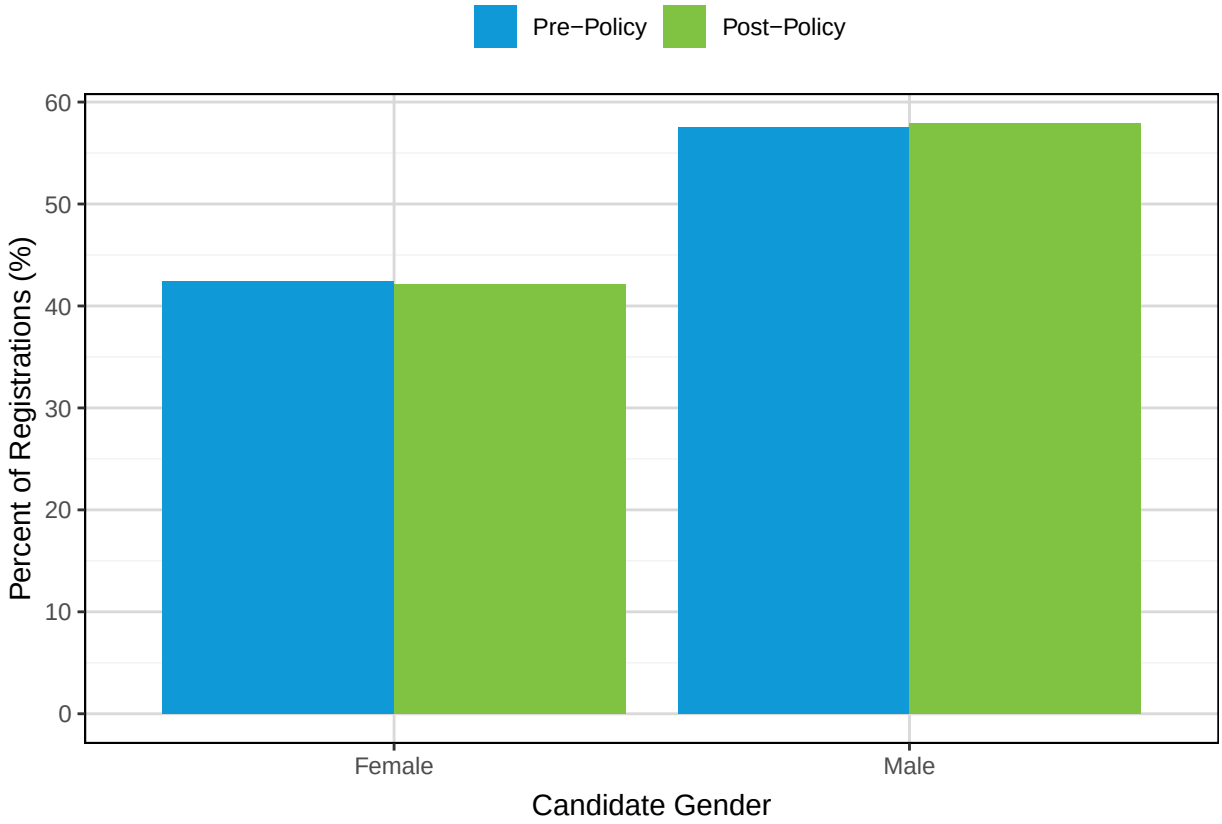


Table A5: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Gender

	Pre-Policy		Post-Policy	
Gender	N	%	N	%
Female	1218	42.44	1270	42.08
Male	1652	57.56	1748	57.92
Total	2870	100.00	3018	100.00

Figure A6 and **Table A6** show kidney-pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and candidate race/ethnicity. The proportion of waiting list additions for Black, Non-Hispanic and Hispanic/Latino candidates increased post-policy, while the proportion of registrations added for White, Non-Hispanic candidates decreased. There was little change in the proportion of registrations added for candidates with Asian, Non-Hispanic or Other, Non-Hispanic race/ethnicity.

Figure A6: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Race/Ethnicity

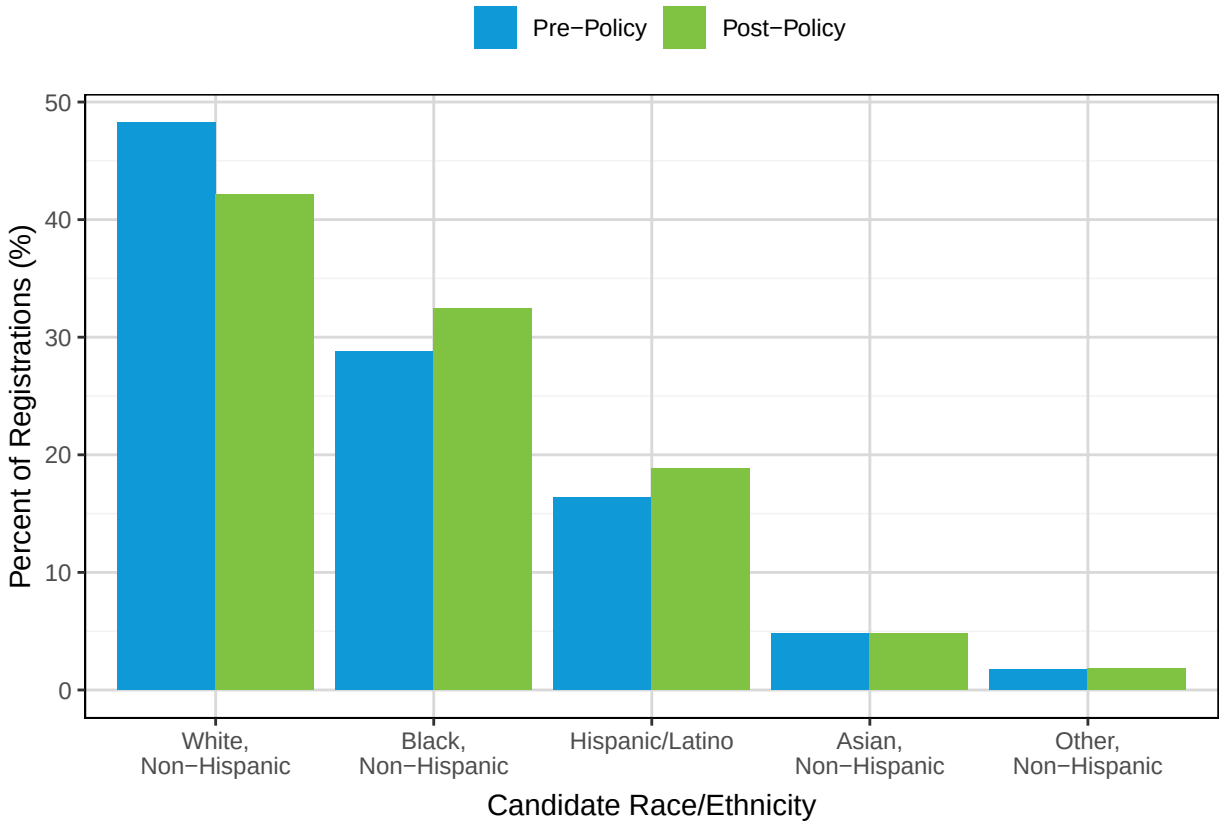


Table A6: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Race/Ethnicity

	Pre-Policy		Post-Policy	
Race/Ethnicity	N	%	N	%
White, Non-Hispanic	1385	48.26	1272	42.15
Black, Non-Hispanic	827	28.82	979	32.44
Hispanic/Latino	470	16.38	568	18.82
Asian, Non-Hispanic	137	4.77	144	4.77
Other, Non-Hispanic	51	1.78	55	1.82
Total	2870	100.00	3018	100.00

Figure A7 and **Table A7** show kidney-pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and blood type. There was little change in the proportion of waiting list additions by candidate blood type after policy implementation.

Figure A7: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Blood Type

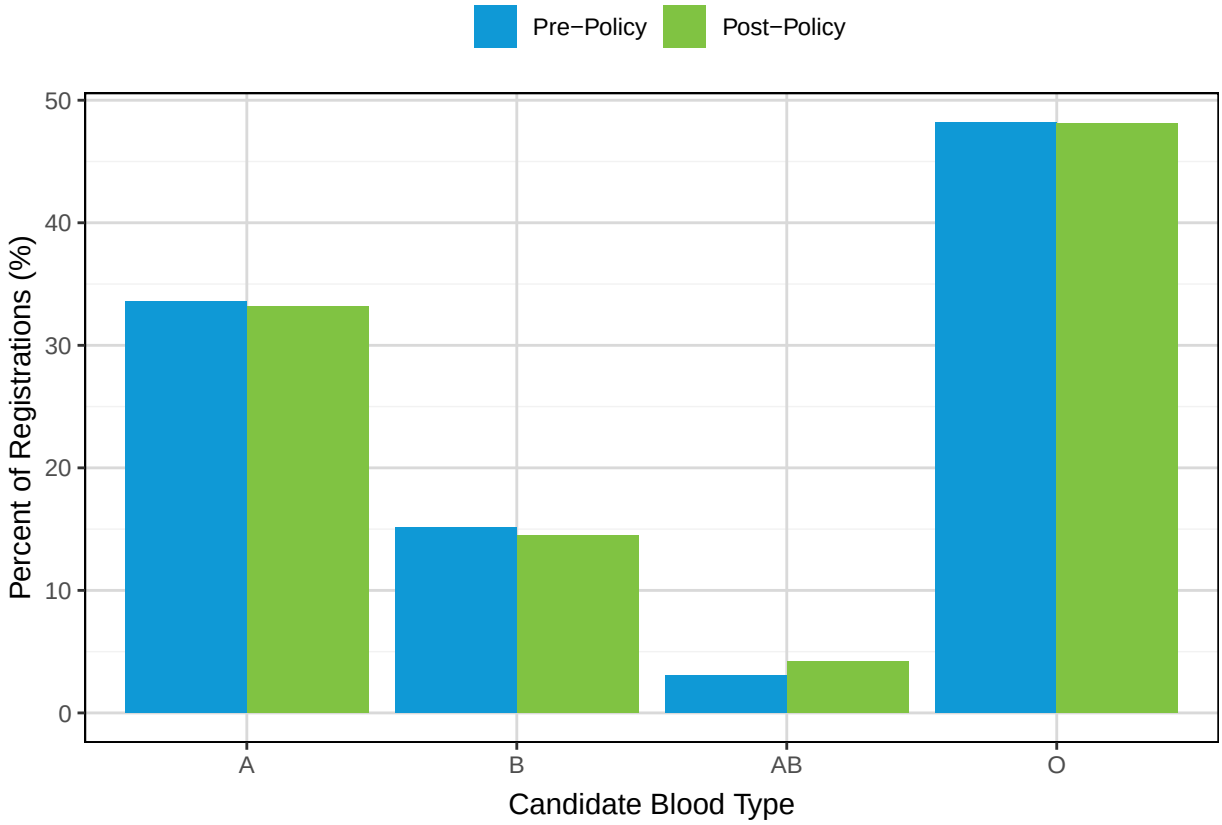


Table A7: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Blood Type

	Pre-Policy		Post-Policy	
Blood Type	N	%	N	%
A	964	33.59	1001	33.17
B	434	15.12	437	14.48
AB	89	3.10	128	4.24
O	1383	48.19	1452	48.11
Total	2870	100.00	3018	100.00

Figure A8 and **Table A8** show kidney-pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and CPRA at listing. The majority of waiting list additions in both policy eras were for candidates with CPRA 0% and there was little change in the distribution of CPRA at listing after policy implementation.

Figure A8: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and CPRA

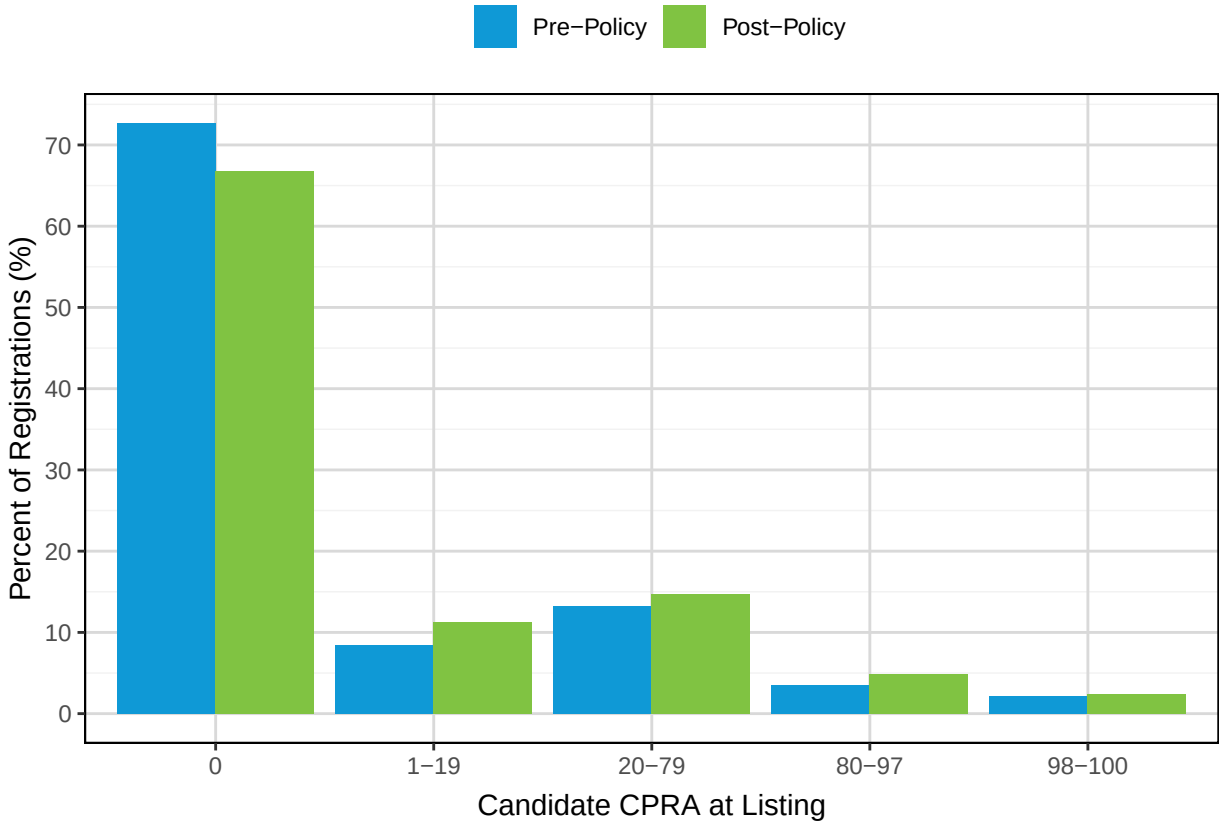


Table A8: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and CPRA

	Pre-Policy		Post-Policy	
CPRA (%)	N	%	N	%
0	2086	72.68	2015	66.77
1-19	242	8.43	339	11.23
20-79	378	13.17	445	14.74
80-97	101	3.52	148	4.90
98-100	63	2.20	71	2.35
Total	2870	100.00	3018	100.00

Figure A9 and **Table A9** show kidney-pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and primary diagnosis at listing. The majority of waiting list additions in both policy eras were for candidates with type 1 diabetes. The proportion of registrations added for candidates with type 1 diabetes decreased slightly after implementation, while the proportion of registrations added for candidates with type 2 diabetes increased. There was little change in the proportion of registrations added for candidates with diagnoses other than type 1 or type 2 diabetes.

Figure A9: Kidney-Pancreas Registrations Added March 16, 2019 - March 14, 2023 by Policy Era and Diagnosis at Listing

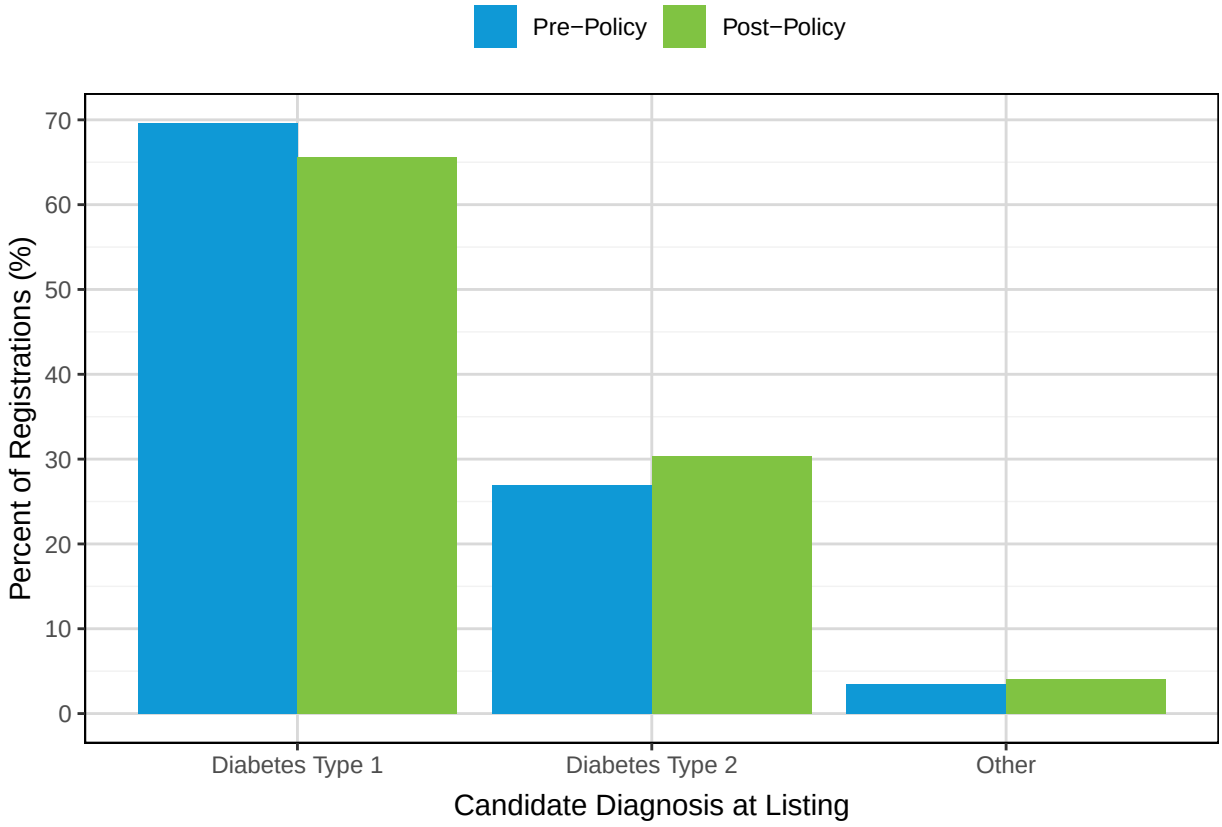


Table A9: Kidney-Pancreas Registrations Added March 16, 2019 - March 14, 2023 by Policy Era and Diagnosis at Listing

	Pre-Policy		Post-Policy	
Diagnosis	N	%	N	%
Diabetes Type 1	1998	69.62	1979	65.57
Diabetes Type 2	773	26.93	915	30.32
Other	99	3.45	124	4.11
Total	2870	100.00	3018	100.00

Figure A10 and **Table A10** show kidney-pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and insurance status at listing. There was little change in the distribution of candidate insurance status at listing after policy implementation.

Figure A10: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Insurance Status at Listing

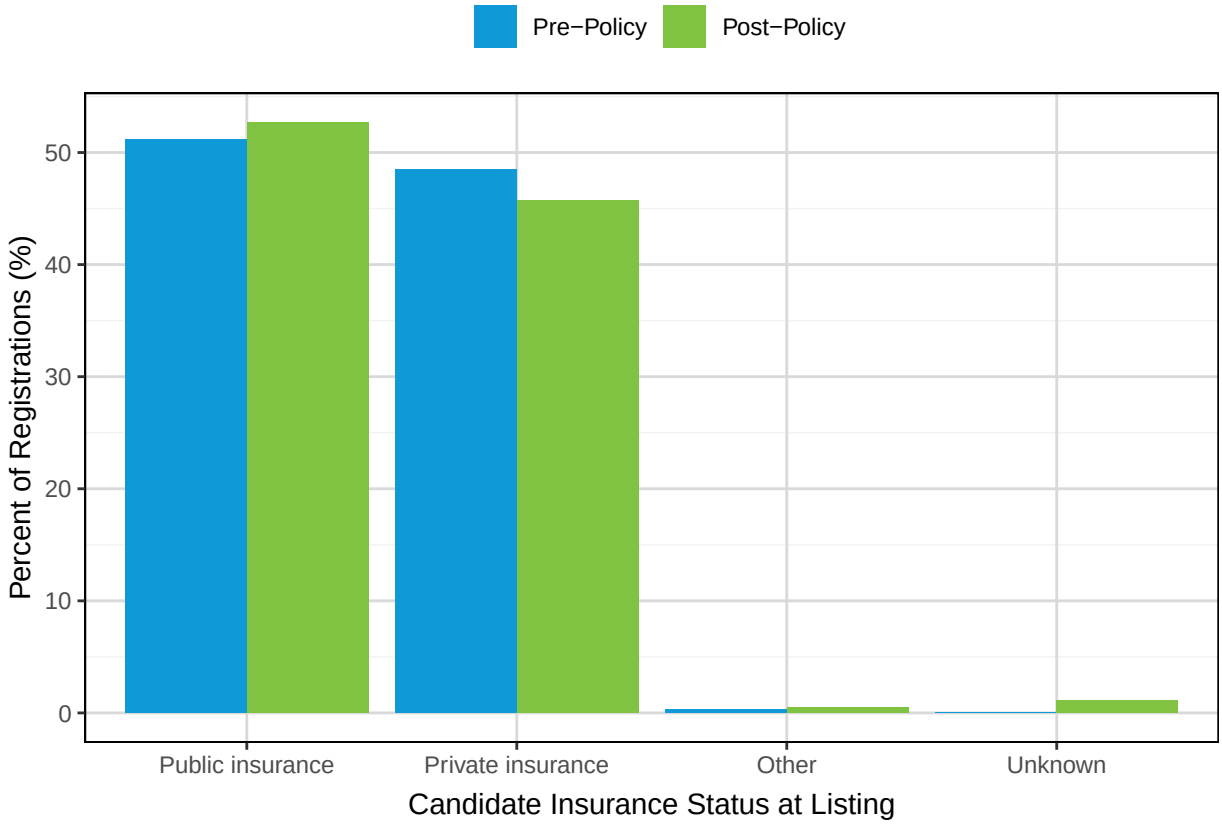


Table A10: Kidney-Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Insurance Status at Listing

	Pre-Policy		Post-Policy	
Insurance at Listing	N	%	N	%
Public insurance	1469	51.18	1590	52.68
Private insurance	1393	48.54	1379	45.69
Other	8	0.28	16	0.53
Unknown	0	0.00	33	1.09
Total	2870	100.00	3018	100.00

Figure A11 and **Table A11** show waiting list mortality rates for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era. There were 199 deaths on the waiting list pre-policy and 192 deaths post-policy. The overall kidney-pancreas waiting list mortality rate decreased post-policy from 5.9 to 5.3 deaths per 100 patient years. This decrease was not statistically significant.

Figure A11: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era

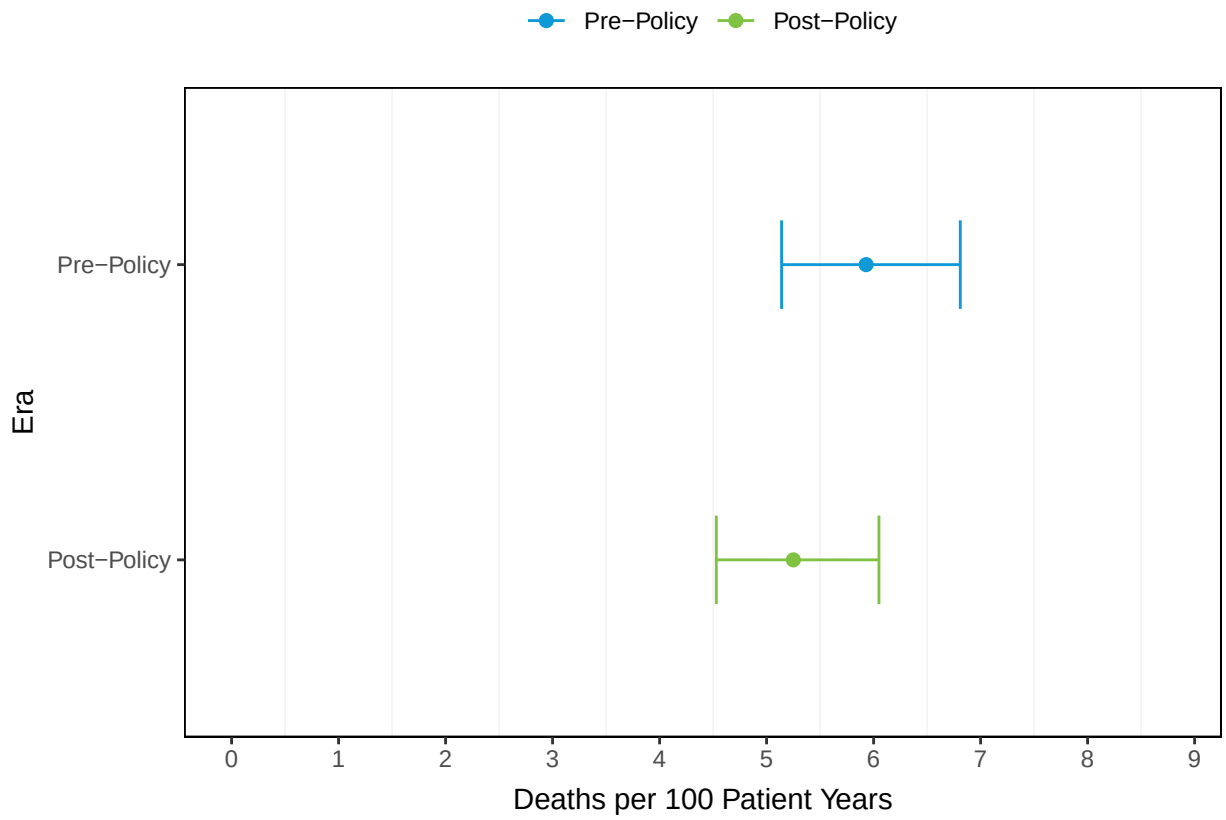
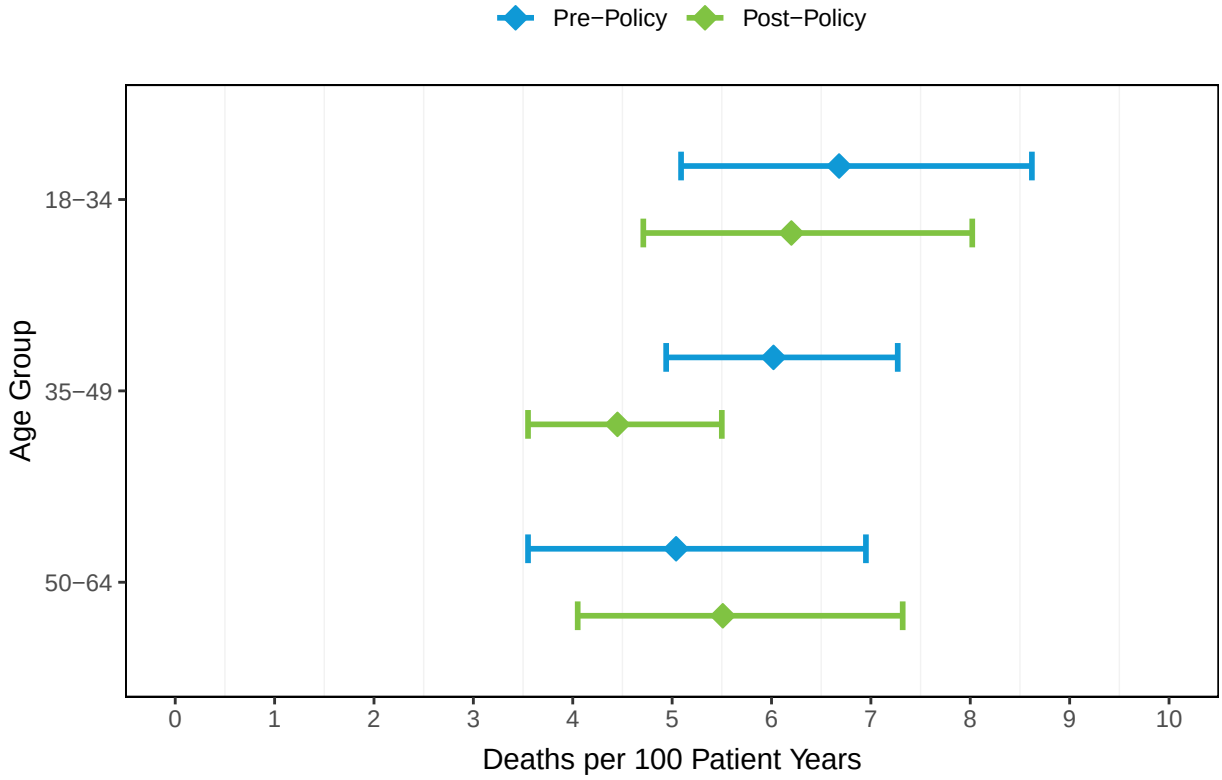


Table A11: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era

Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
Pre-Policy	4211	199	5.93	(5.14, 6.81)
Post-Policy	4436	192	5.25	(4.53, 6.05)

Figure A12 and **Table A12** show waiting list mortality rates for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and age at listing. Waiting list mortality rates decreased post-policy for the 18-34 and 35-49 age groups, and increased for the 50-64 age group. These changes were not statistically significant. For both the 0-17 and 65+ age groups, there were no deaths on the waiting list pre-policy, and 1 death on the waiting list post-policy.

Figure A12: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing



0−17 and 65+ age groups omitted from figure due to small event counts and wide confidence intervals.

Table A12: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing

Age at Listing	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
0-17	Pre-Policy	12	0	0.00	-
	Post-Policy	7	1	17.53	(0.44, 97.68)
18-34	Pre-Policy	1130	59	6.68	(5.09, 8.62)
	Post-Policy	1154	58	6.20	(4.71, 8.02)
35-49	Pre-Policy	2232	108	6.02	(4.94, 7.27)
	Post-Policy	2299	85	4.45	(3.55, 5.5)
50-64	Pre-Policy	981	37	5.04	(3.55, 6.95)
	Post-Policy	1115	47	5.51	(4.05, 7.32)
65+	Pre-Policy	14	0	0.00	-
	Post-Policy	16	1	8.87	(0.22, 49.44)

Figure A13 and **Table A13** show waiting list mortality rates for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and gender. The waiting list mortality rate decreased post-policy for both female and male registrations. These changes were not statistically significant.

Figure A13: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Gender

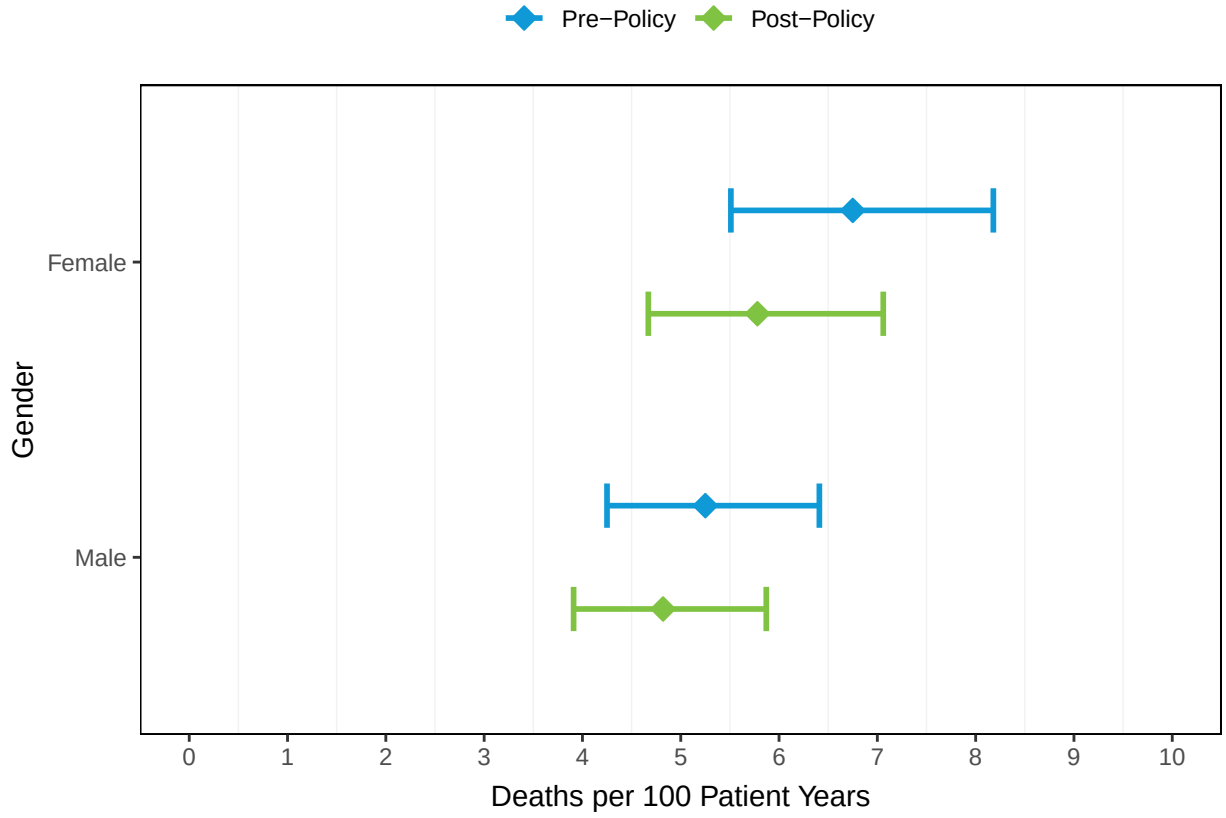


Table A13: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Gender

Gender	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
Female	Pre-Policy	1830	103	6.75	(5.51, 8.18)
	Post-Policy	1912	95	5.78	(4.67, 7.06)
Male	Pre-Policy	2383	96	5.25	(4.25, 6.41)
	Post-Policy	2526	97	4.82	(3.91, 5.87)

Figure A14 and **Table A14** show waiting list mortality rates for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and race/ethnicity. Waiting list mortality rates decreased for candidates of Black, Non-Hispanic; Hispanic/Latino; and Other, Non-Hispanic race/ethnicity after policy implementation. These changes were not statistically significant. There was little change in the waiting list mortality rates for White, Non-Hispanic or Asian, Non-Hispanic candidates after policy implementation.

Figure A14: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

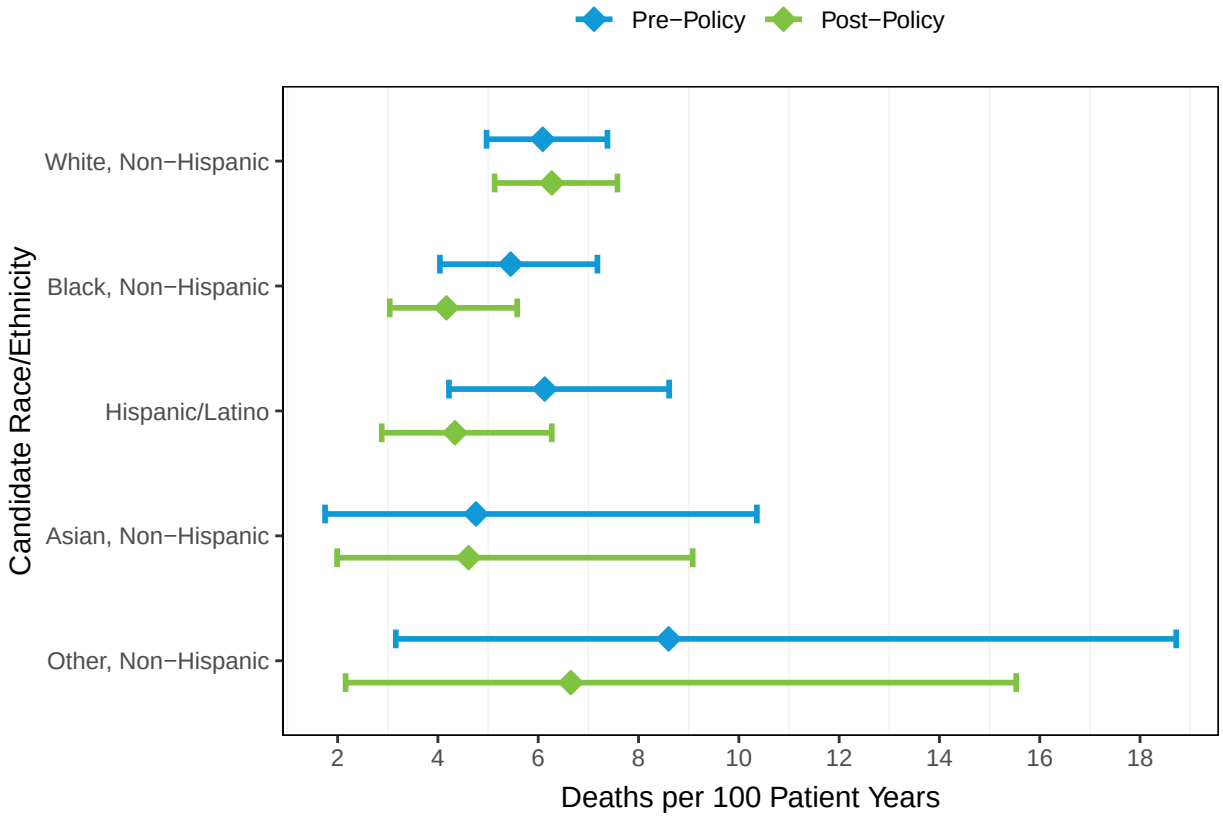
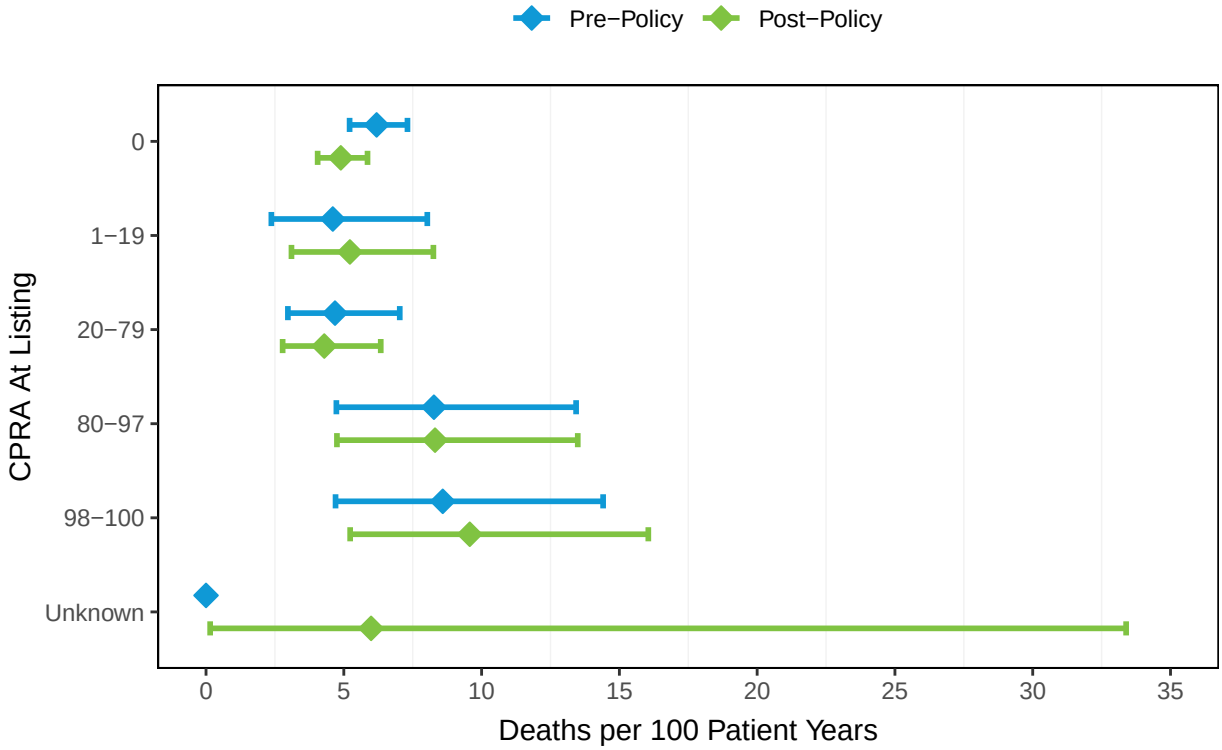


Table A14: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

Race/Ethnicity	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
White, Non-Hispanic	Pre-Policy	2087	104	6.09	(4.97, 7.38)
	Post-Policy	1961	106	6.27	(5.13, 7.58)
Black, Non-Hispanic	Pre-Policy	1201	50	5.45	(4.04, 7.18)
	Post-Policy	1390	45	4.17	(3.04, 5.58)
Hispanic/Latino	Pre-Policy	680	33	6.13	(4.22, 8.61)
	Post-Policy	798	28	4.34	(2.88, 6.27)
Asian, Non-Hispanic	Pre-Policy	180	6	4.76	(1.75, 10.36)
	Post-Policy	210	8	4.61	(1.99, 9.08)
Other, Non-Hispanic	Pre-Policy	75	6	8.60	(3.16, 18.72)
	Post-Policy	95	5	6.65	(2.16, 15.53)

Figure A15 and **Table A15** show waiting list mortality rates for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and CPRA at listing. There were no statistically significant differences in waiting list mortality rates within CPRA groups before vs after policy implementation.

Figure A15: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing



Candidates with unknown CPRA were listed prior to October 1st, 2009, when CPRA was implemented in allocation. Registrations listed on or after January 26th, 2023 with a NULL CPRA due to not reporting unacceptable antigens were recoded to have a CPRA of 0%.

Table A15: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing

CPRA (%)	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
0	Pre-Policy	2982	141	6.19	(5.21, 7.31)
	Post-Policy	3000	118	4.89	(4.05, 5.86)
1-19	Pre-Policy	354	12	4.60	(2.37, 8.03)
	Post-Policy	455	18	5.22	(3.1, 8.25)
20-79	Pre-Policy	618	23	4.68	(2.97, 7.03)
	Post-Policy	686	25	4.29	(2.78, 6.34)
80-97	Pre-Policy	202	16	8.27	(4.73, 13.43)
	Post-Policy	234	16	8.31	(4.75, 13.49)
98-100	Pre-Policy	141	14	8.59	(4.7, 14.41)
	Post-Policy	141	14	9.57	(5.23, 16.05)
Unknown	Pre-Policy	12	0	0.00	-
	Post-Policy	10	1	5.99	(0.15, 33.39)

Figure A16 and **Table A16** show waiting list mortality rates for kidney-pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and blood type. Waiting list mortality rates decreased post-policy for blood type A and O candidates, and increased for blood type B candidates. These changes were not statistically significant. There was little change in the waiting list mortality rate for blood type AB candidates.

Figure A16: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

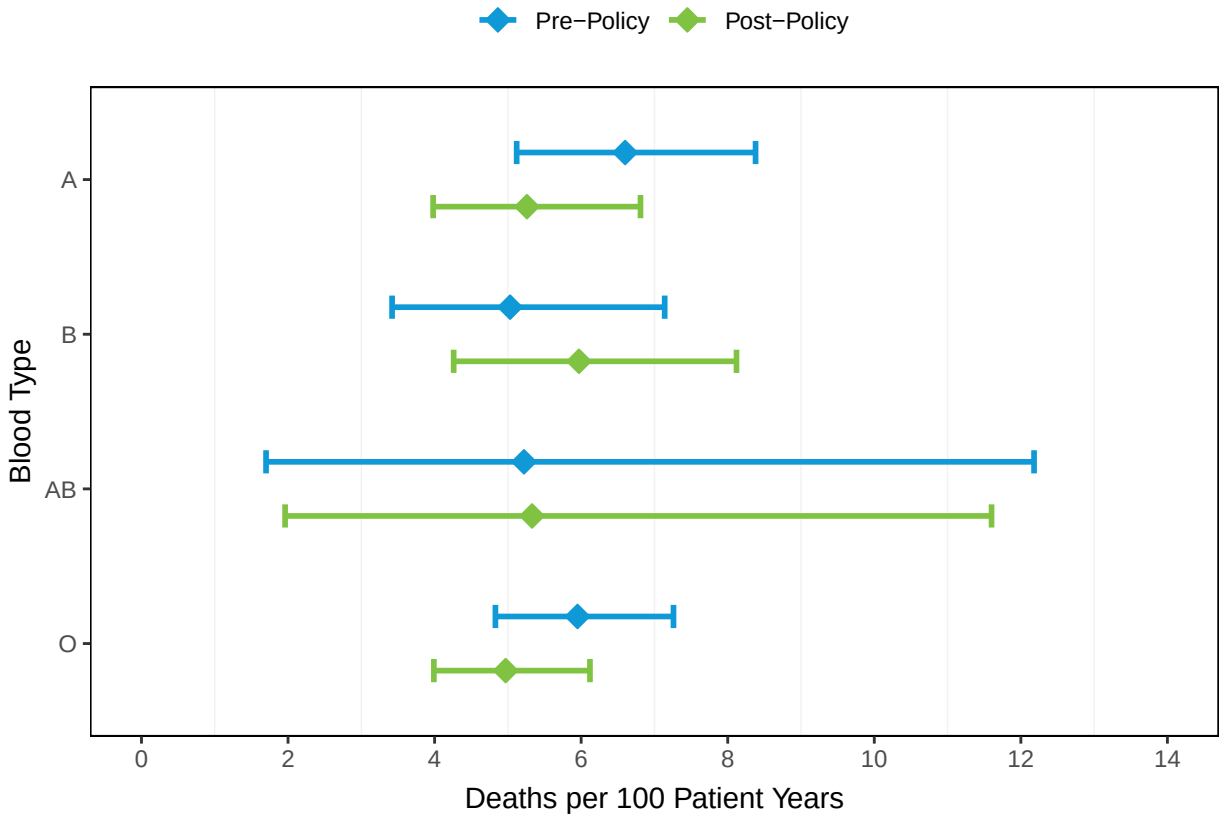


Table A16: Waiting List Mortality Rates for Kidney-Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

Blood Type	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
A	Pre-Policy	1352	67	6.60	(5.12, 8.38)
	Post-Policy	1410	57	5.26	(3.98, 6.81)
B	Pre-Policy	681	31	5.03	(3.42, 7.14)
	Post-Policy	724	40	5.97	(4.26, 8.12)
AB	Pre-Policy	139	5	5.22	(1.7, 12.18)
	Post-Policy	163	6	5.33	(1.96, 11.6)
O	Pre-Policy	2040	97	5.95	(4.83, 7.26)
	Post-Policy	2139	89	4.97	(3.99, 6.12)

Deceased Donor Transplants

Figure A17 and **Table A17** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. There were 1696 transplants performed in the pre-policy era, and 1622 in the post-policy era.

Figure A17: Deceased Donor Kidney-Pancreas Transplants March 16, 2019-March 14, 2023 by Policy Era

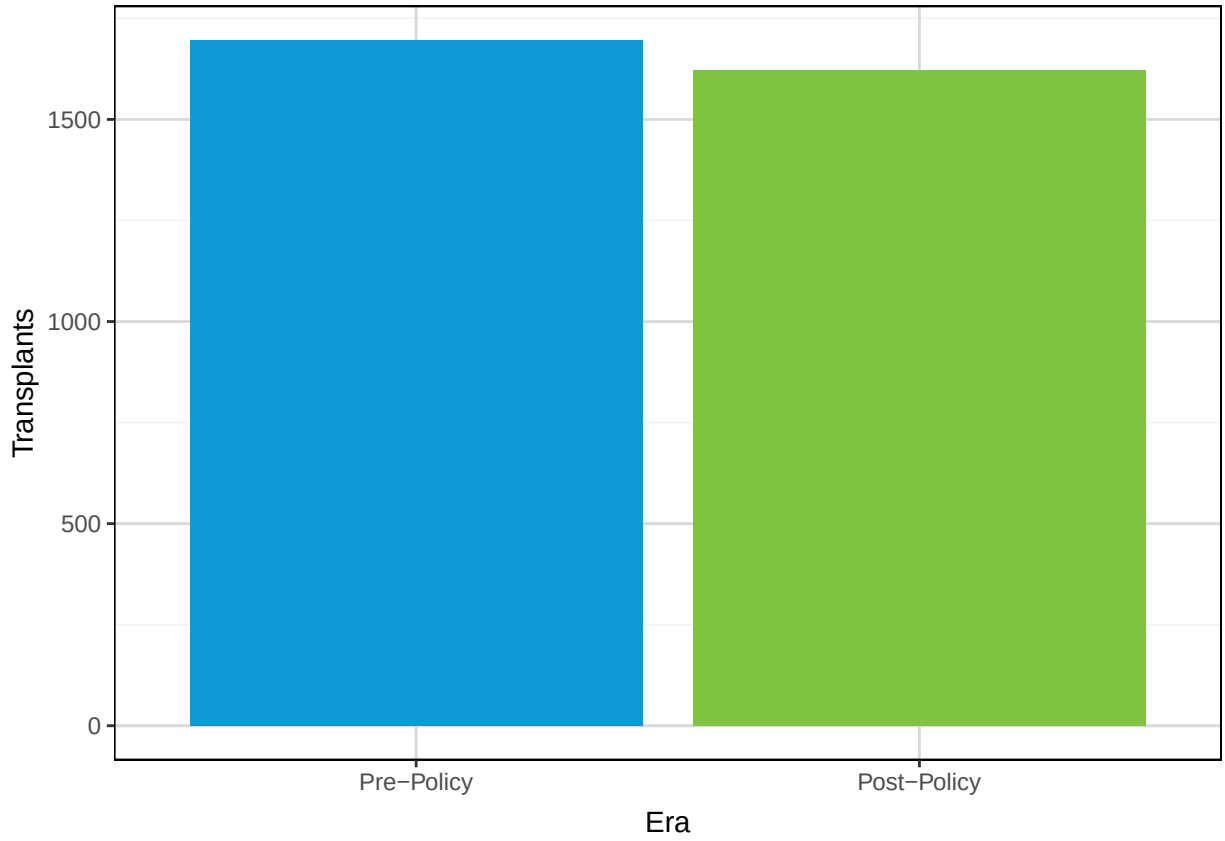


Table A17: Deceased Donor Kidney-Pancreas Transplants March 16, 2019-March 14, 2023 by Policy Era

Era	Transplants
Pre-Policy	1696
Post-Policy	1622

Figure A18 and **Table A18** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and recipient age at transplant. The volume and proportion of transplants to recipients in the 50-64 age group increased after policy implementation, while the volume and proportion of transplants to recipients in the 18-34 and 35-49 age groups decreased. There was little change in the proportion of transplants to recipients aged 0-17 or 65+.

Figure A18: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Age at Transplant

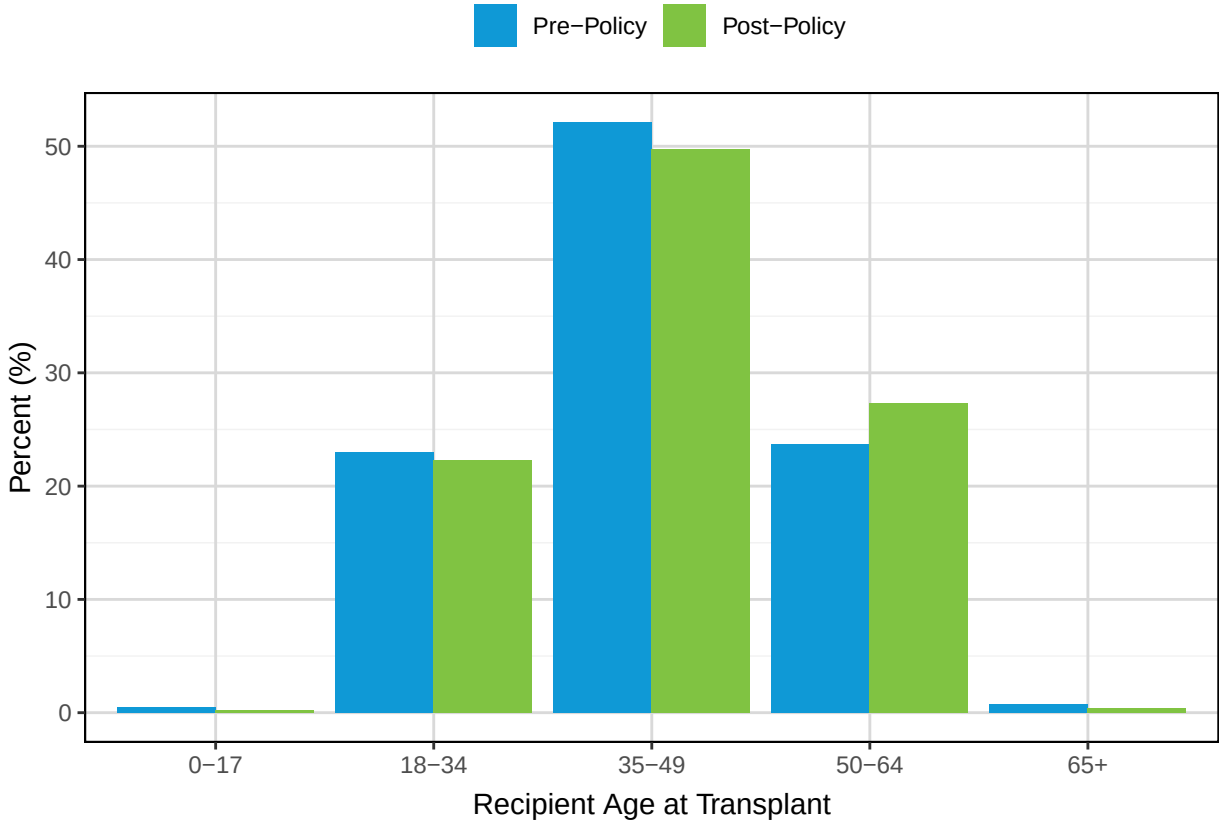


Table A18: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Age at Transplant

	Pre-Policy		Post-Policy	
Age at Transplant	N	%	N	%
0-17	8	0.47	3	0.18
18-34	390	23.00	362	22.32
35-49	884	52.12	807	49.75
50-64	402	23.70	443	27.31
65+	12	0.71	7	0.43
Total	1696	100.00	1622	100.00

Figure A19 and **Table A19** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and recipient race/ethnicity. The volume and proportion of transplants to White, Non-Hispanic recipients decreased after implementation, while the volume and proportion of transplants to all other racial/ethnic groups increased.

Figure A19: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Race/Ethnicity

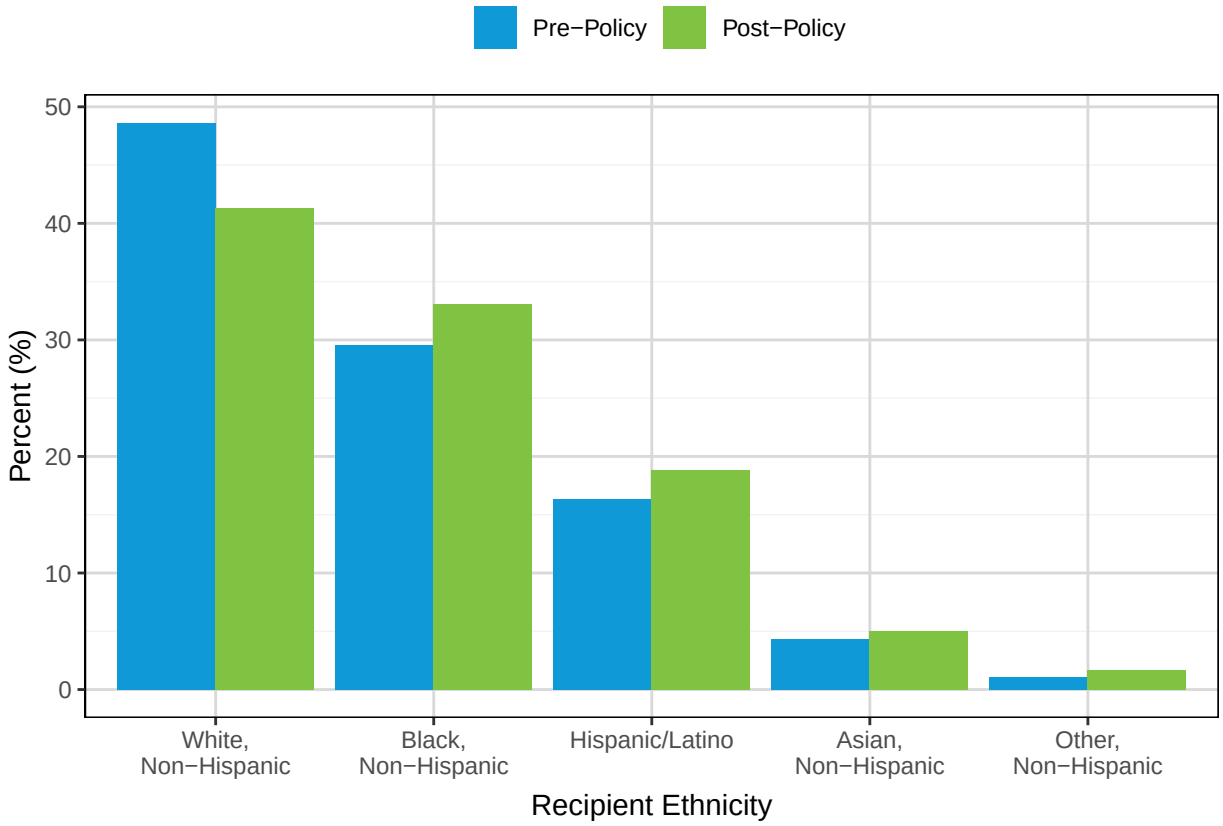


Table A19: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Race/Ethnicity

	Pre-Policy		Post-Policy	
Race/Ethnicity	N	%	N	%
White, Non-Hispanic	825	48.64	670	41.31
Black, Non-Hispanic	502	29.60	537	33.11
Hispanic/Latino	277	16.33	306	18.87
Asian, Non-Hispanic	74	4.36	82	5.06
Other, Non-Hispanic	18	1.06	27	1.66
Total	1696	100.00	1622	100.00

Figure A20 and **Table A20** show the distribution of time on the waiting list in years for deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. There was no change in median time from listing to transplant after policy implementation (0.44 years).

Figure A20: Distribution of Time from Listing to Transplant for Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

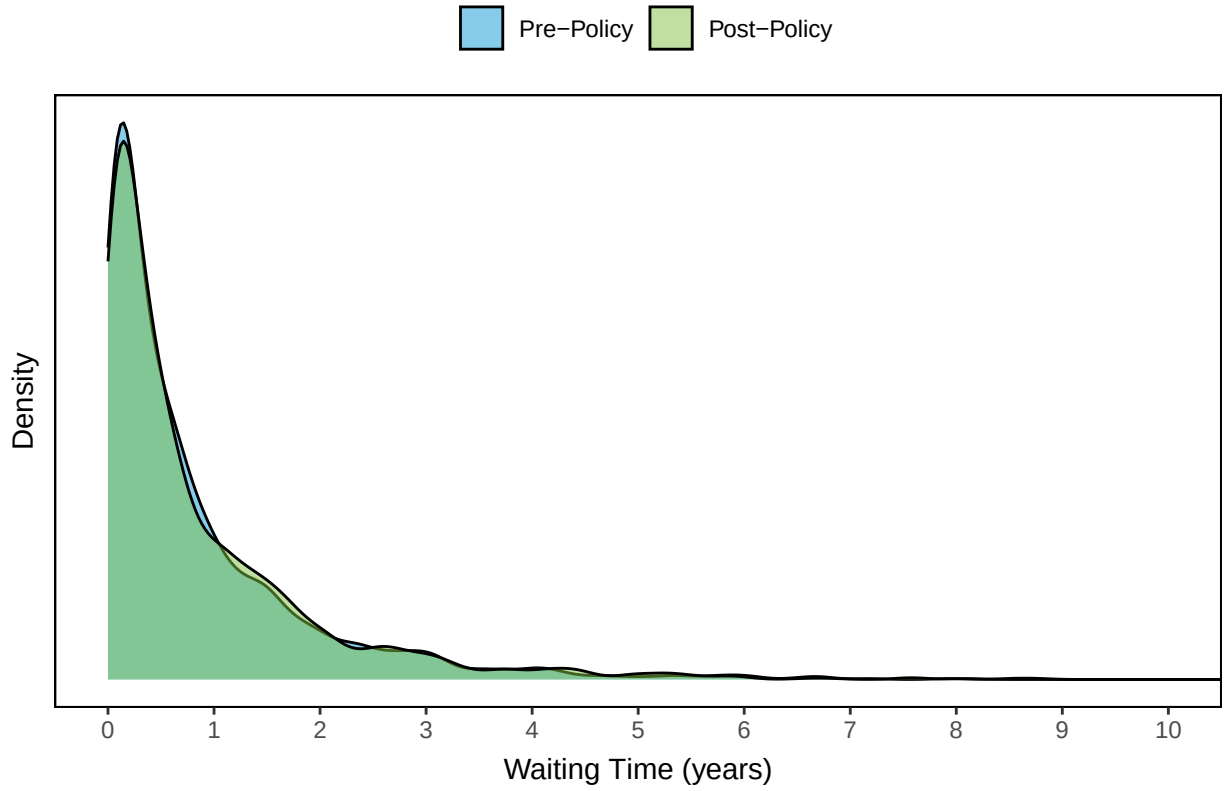


Table A20: Distribution of Time from Listing to Transplant for Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	1696	0	0	0.13	0.44	0.84	1.11	15.07
Post-Policy	1622	0	0	0.14	0.44	0.85	1.16	11.53

Figure A21 and **Table A21** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and recipient blood type. There was little change in the proportion of transplants by recipient blood type after policy implementation.

Figure A21: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Blood Type

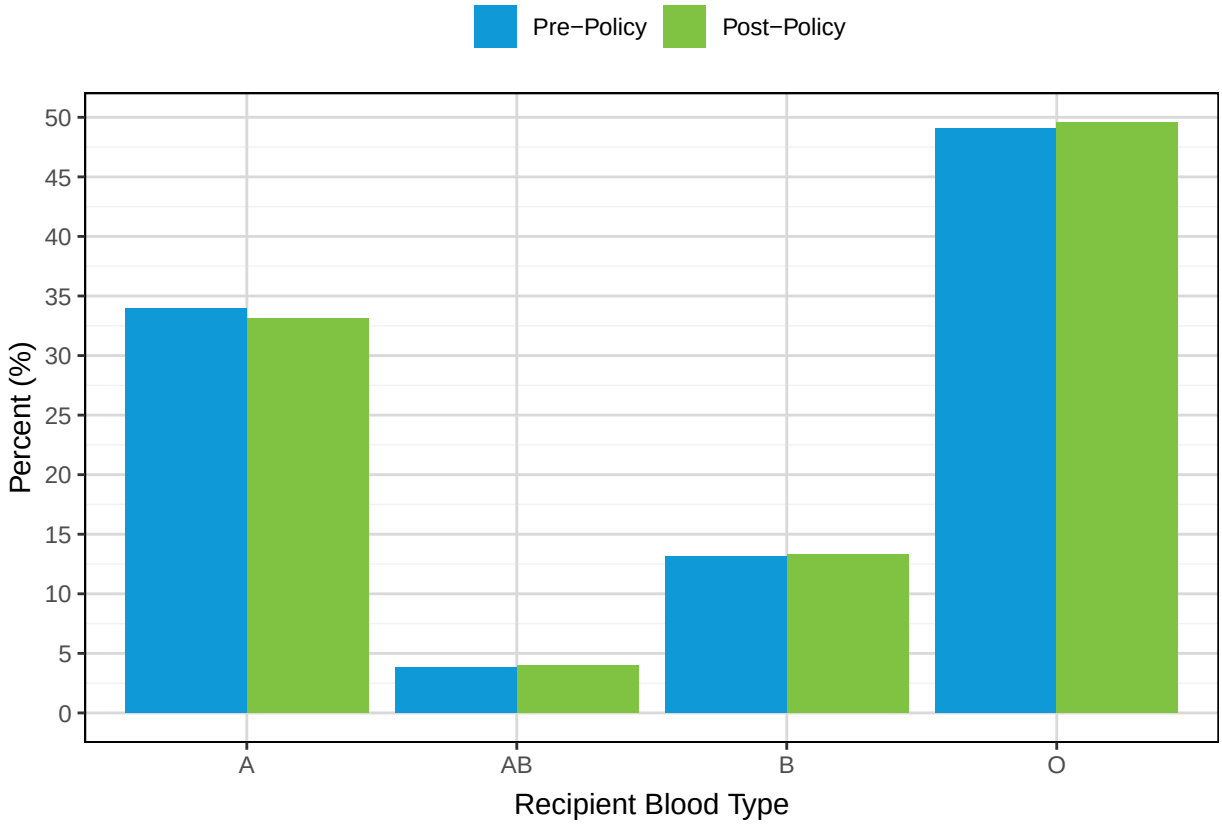


Table A21: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Blood Type

	Pre-Policy		Post-Policy	
Blood Type	N	%	N	%
A	576	33.96	537	33.11
AB	65	3.83	65	4.01
B	223	13.15	216	13.32
O	832	49.06	804	49.57
Total	1696	100.00	1622	100.00

Figure A22 and **Table A22** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and CPRA at transplant. The proportion of transplants to recipients with CPRA 80-97% increased from 3.2% to 4.5% after implementation, while the proportion of transplants to recipients with CPRA 98-100% decreased from 1% to 0.6%.

Figure A22: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and CPRA

Table A22: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and CPRA

	Pre-Policy		Post-Policy	
CPRA (%)	N	%	N	%
0	1191	70.22	1098	67.69
1-19	173	10.20	188	11.59
20-79	260	15.33	253	15.60
80-97	55	3.24	73	4.50
98-100	17	1.00	10	0.62
Total	1696	100.00	1622	100.00

Figure A23 and **Table A23** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and level of HLA mismatch. Multi-organ transplants including a kidney-pancreas were excluded. There was little change in the distribution of HLA mismatch level after implementation.

Figure A23: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and HLA Mismatch

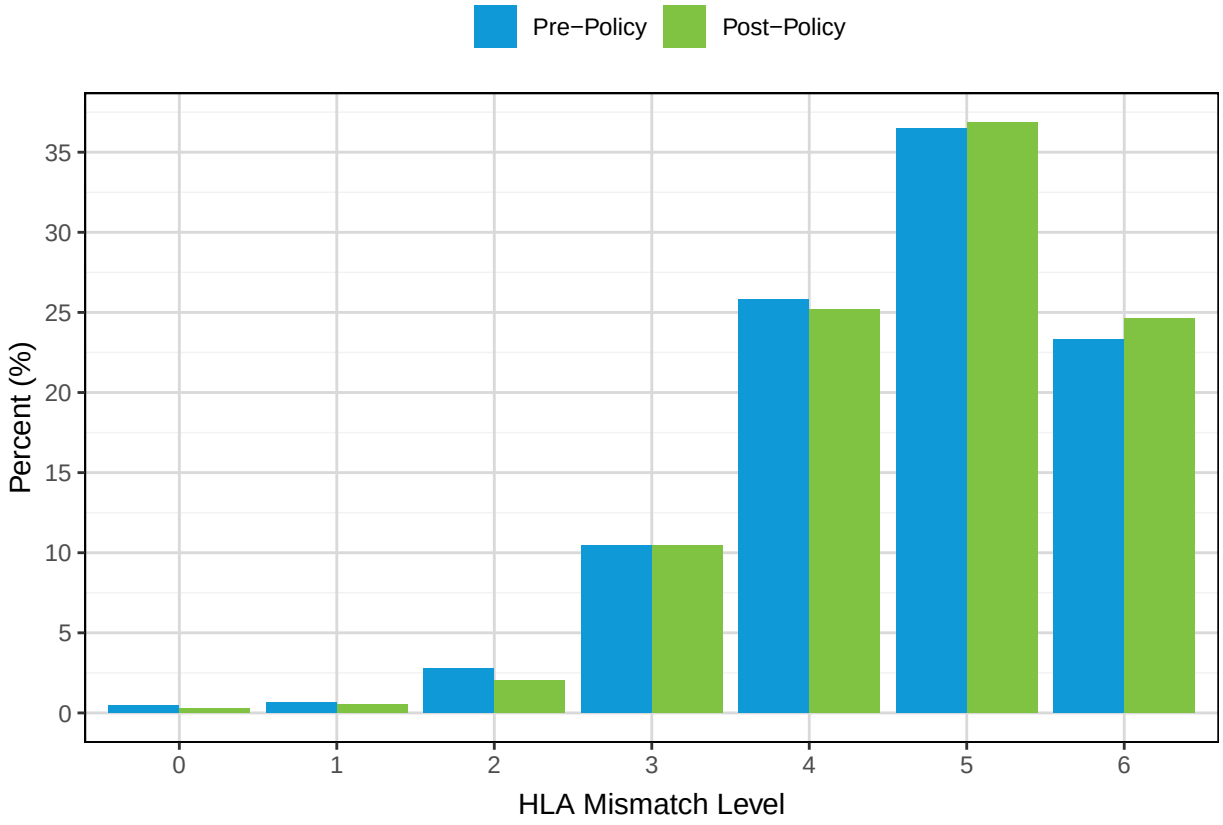


Table A23: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and HLA Mismatch

	Pre-Policy		Post-Policy	
HLA Mismatch Level	N	%	N	%
0	8	0.47	5	0.31
1	11	0.65	9	0.56
2	47	2.79	33	2.04
3	176	10.45	169	10.45
4	435	25.82	407	25.17
5	615	36.50	596	36.86
6	393	23.32	398	24.61
Total	1685	100.00	1617	100.00

Figure A24 and **Table A24** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and primary diagnosis. While the majority of recipients in both policy eras had type 1 diabetes, the proportion of transplants to recipients with type 1 diabetes decreased after implementation from 73.4% to 70%, and the proportion of transplants to recipients with type 2 diabetes increased from 24.3% to 28%.

Figure A24: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Diagnosis

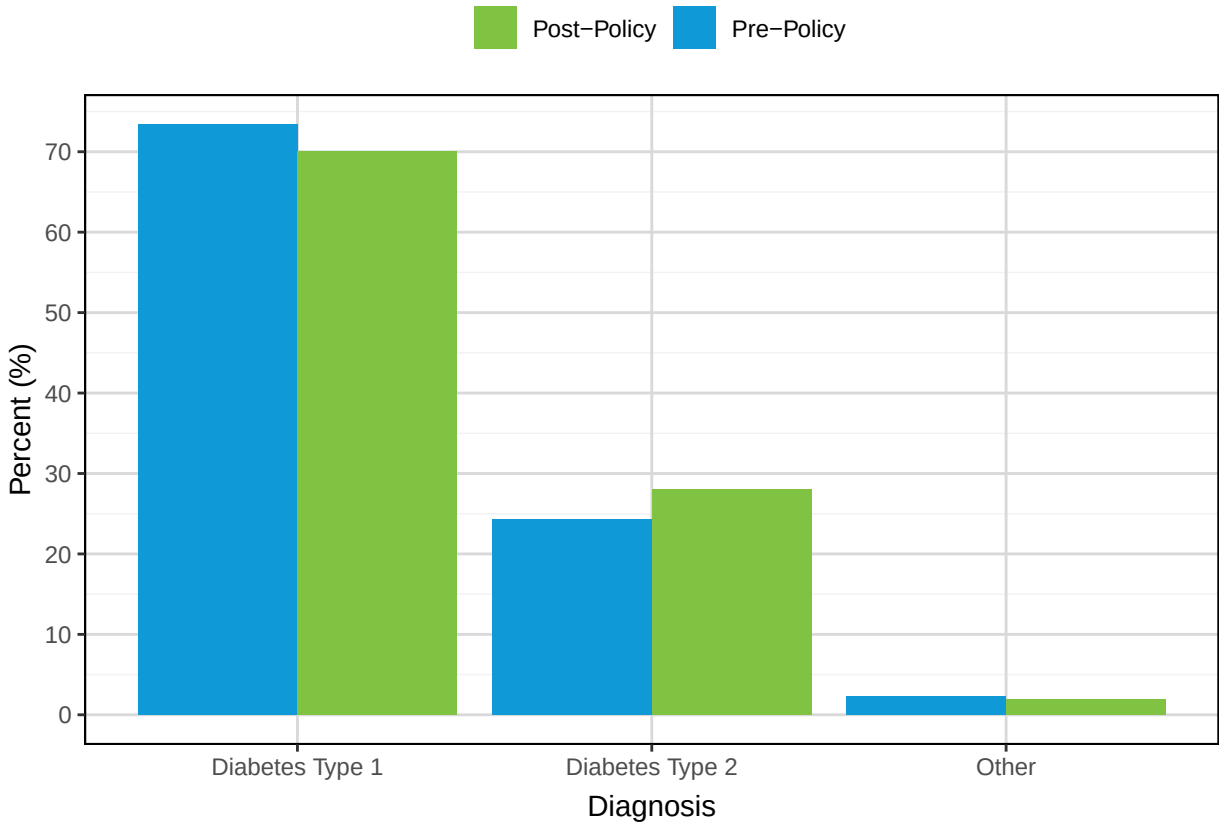


Table A24: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Diagnosis

	Pre-Policy		Post-Policy	
Diagnosis	N	%	N	%
Diabetes Type 1	1245	73.41	1136	70.04
Diabetes Type 2	412	24.29	454	27.99
Other	39	2.30	32	1.97
Total	1696	100.00	1622	100.00

Figure A25 and **Table A25** show deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and donor DCD status. There was little change in the volume or proportion of transplants from DCD donors after policy implementation.

Figure A25: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and DCD Status

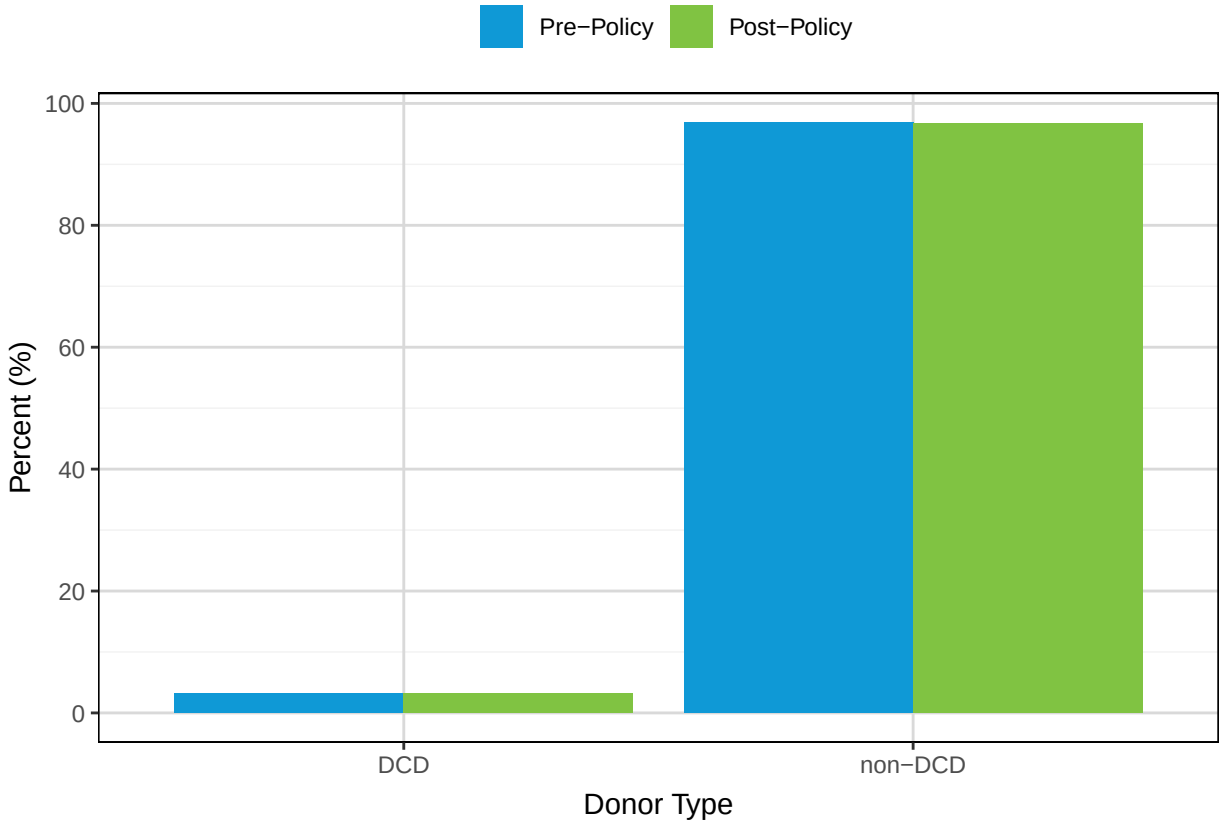


Table A25: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and DCD Status

	Pre-Policy		Post-Policy	
DCD Donor	N	%	N	%
DCD	53	3.12	52	3.21
non-DCD	1643	96.88	1570	96.79
Total	1696	100.00	1622	100.00

Table A26 shows deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and DSA.

Table A26: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019 - March 14, 2023 by Policy Era and DSA

DSA	Pre-Policy	Post-Policy	% Change
ALOB	16	14	-12.50
AZOB	47	69	46.81
CADN	48	58	20.83
CAOP	62	80	29.03
CASD	17	7	-58.82
CORS	15	9	-40.00
FLFH	17	13	-23.53
FLMP	33	55	66.67
FLUF	30	44	46.67
FLWC	22	18	-18.18
GALL	52	49	-5.77
HIOP	3	1	-66.67
IAOP	21	14	-33.33
ILIP	118	169	43.22
INOP	40	31	-22.50
KYDA	14	11	-21.43
LAOP	74	58	-21.62
MAOB	14	16	14.29
MDPC	118	57	-51.69
MIOP	12	4	-66.67
MNOP	76	66	-13.16
MOMA	25	15	-40.00
MSOP	11	8	-27.27
MWOB	22	19	-13.64
NCCM	9	7	-22.22
NCNC	80	74	-7.50
NEOR	3	1	-66.67
NJTO	28	41	46.43
NMOP	2	1	-50.00
NVLV	0	1	*
NYAP	4	1	-75.00
NYFL	6	8	33.33
NYRT	113	90	-20.35
NYWN	7	16	128.57
OHLB	25	18	-28.00
OHLP	33	22	-33.33
OHOV	10	14	40.00
OKOP	12	17	41.67
ORUO	24	15	-37.50
PADV	48	62	29.17
PATF	13	11	-15.38
PRLL	15	16	6.67
SCOP	46	60	30.43
TNDS	9	16	77.78
TNMS	21	15	-28.57
TXGC	52	42	-19.23

(continued)

DSA	Pre-Policy	Post-Policy	% Change
TXSA	7	4	-42.86
TXSB	61	59	-3.28
UTOP	32	29	-9.38
VATB	43	32	-25.58
WALC	26	18	-30.77
WIDN	11	4	-63.64
WIUW	49	43	-12.24
Total	1696	1622	-4.36

Table A27 shows deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and transplant hospital.

Table A27: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Transplant Hospital

Transplant Hospital	Pre-Policy	Post-Policy	% Change
ALUA-TX1	16	14	-12.50
AZGS-TX1	7	3	-57.14
AZMC-TX1	37	57	54.05
AZUA-TX1	3	9	200.00
CACS-TX1	17	15	-11.76
CAGH-TX1	9	3	-66.67
CAIM-TX1	9	5	-44.44
CALL-TX1	15	51	240.00
CAPM-TX1	21	24	14.29
CARC-TX1	0	3	*
CASF-TX1	24	30	25.00
CASH-TX1	8	4	-50.00
CASU-TX1	3	4	33.33
CASV-TX1	5	0	-100.00
CAUC-TX1	5	2	-60.00
CAUH-TX1	11	4	-63.64
COUC-TX1	15	9	-40.00
DCGU-TX1	49	14	-71.43
FLFH-TX1	17	13	-23.53
FLJM-TX1	33	55	66.67
FLSL-TX1	28	17	-39.29
FLTG-TX1	22	18	-18.18
FLUF-TX1	2	27	1250.00
GAEM-TX1	18	20	11.11
GAMC-TX1	3	0	-100.00
GAPH-TX1	31	29	-6.45
HIQM-TX1	3	1	-66.67
IAIV-TX1	21	14	-33.33
ILLU-TX1	8	18	125.00
ILNM-TX1	40	41	2.50
ILPL-TX1	13	17	30.77
ILSF-TX1	2	7	250.00
ILUC-TX1	10	22	120.00
ILUI-TX1	45	64	42.22
INIM-TX1	40	31	-22.50
KSUK-TX1	21	16	-23.81
KYJH-TX1	10	6	-40.00
KYUK-TX1	4	5	25.00
LAOF-TX1	34	19	-44.12
LATU-TX1	13	14	7.69
LAWK-TX1	27	25	-7.41
MABI-TX1	8	14	75.00
MAMG-TX1	4	1	-75.00
MAPB-TX1	2	1	-50.00
MDJH-TX1	14	10	-28.57
MDUM-TX1	53	23	-56.60

(continued)

Transplant Hospital	Pre-Policy	Post-Policy	% Change
MIHF-TX1	0	2	*
MIUM-TX1	12	2	-83.33
MNMC-TX1	14	17	21.43
MNUM-TX1	59	47	-20.34
MOBH-TX1	20	14	-30.00
MORH-TX1	1	3	200.00
MOSL-TX1	5	1	-80.00
MSUM-TX1	11	8	-27.27
NCBG-TX1	45	28	-37.78
NCCM-TX1	9	7	-22.22
NCDU-TX1	8	27	237.50
NCEC-TX1	21	14	-33.33
NCMH-TX1	6	5	-16.67
NEUN-TX1	3	1	-66.67
NJHK-TX1	0	2	*
NJLL-TX1	6	10	66.67
NJRW-TX1	18	25	38.89
NJSB-TX1	4	4	0.00
NMPH-TX1	2	1	-50.00
NVUM-TX1	0	1	*
NYAM-TX1	4	1	-75.00
NYCP-TX1	16	19	18.75
NYDS-TX1	1	0	-100.00
NYEC-TX1	7	16	128.57
NYFL-TX1	3	0	-100.00
NYMA-TX1	43	44	2.33
NYMS-TX1	16	6	-62.50
NYNY-TX1	14	10	-28.57
NYUC-TX1	23	11	-52.17
NYUM-TX1	3	8	166.67
OHCC-TX1	13	16	23.08
OHCM-TX1	0	1	*
OHOU-TX1	33	22	-33.33
OHUC-TX1	10	13	30.00
OHUH-TX1	12	2	-83.33
OKBC-TX1	9	9	0.00
OKMD-TX1	3	8	166.67
ORUO-TX1	24	15	-37.50
PAAE-TX1	7	7	0.00
PAAG-TX1	5	1	-80.00
PACH-TX1	1	0	-100.00
PALV-TX1	5	6	20.00
PAPT-TX1	7	10	42.86
PATJ-TX1	11	12	9.09
PATU-TX1	5	5	0.00
PAUP-TX1	20	32	60.00
PRSJ-TX1	15	16	6.67
SCMU-TX1	46	60	30.43
SDMK-TX1	3	2	-33.33
TNMH-TX1	21	15	-28.57
TNVU-TX1	9	16	77.78

(continued)

Transplant Hospital	Pre-Policy	Post-Policy	% Change
TXAS-TX1	15	9	-40.00
TXHD-TX1	11	18	63.64
TXHH-TX1	5	4	-20.00
TXHS-TX1	7	4	-42.86
TXJS-TX1	7	1	-85.71
TXMC-TX1	8	9	12.50
TXMH-TX1	30	29	-3.33
TXPL-TX1	2	0	-100.00
TXSW-TX1	19	14	-26.32
TXTX-TX1	16	17	6.25
UTLD-TX1	13	13	0.00
UTMC-TX1	19	16	-15.79
VAFH-TX1	2	10	400.00
VAMC-TX1	14	16	14.29
VANG-TX1	4	1	-75.00
VAUV-TX1	25	15	-40.00
WASH-TX1	3	0	-100.00
WASM-TX1	4	2	-50.00
WAUW-TX1	11	8	-27.27
WAVM-TX1	8	8	0.00
WISE-TX1	7	2	-71.43
WISL-TX1	4	2	-50.00
WIUW-TX1	49	43	-12.24
Total	1696	1622	-4.36

Table A28 shows deceased donor kidney-pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and state.

Table A28: Deceased Donor Kidney-Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and State

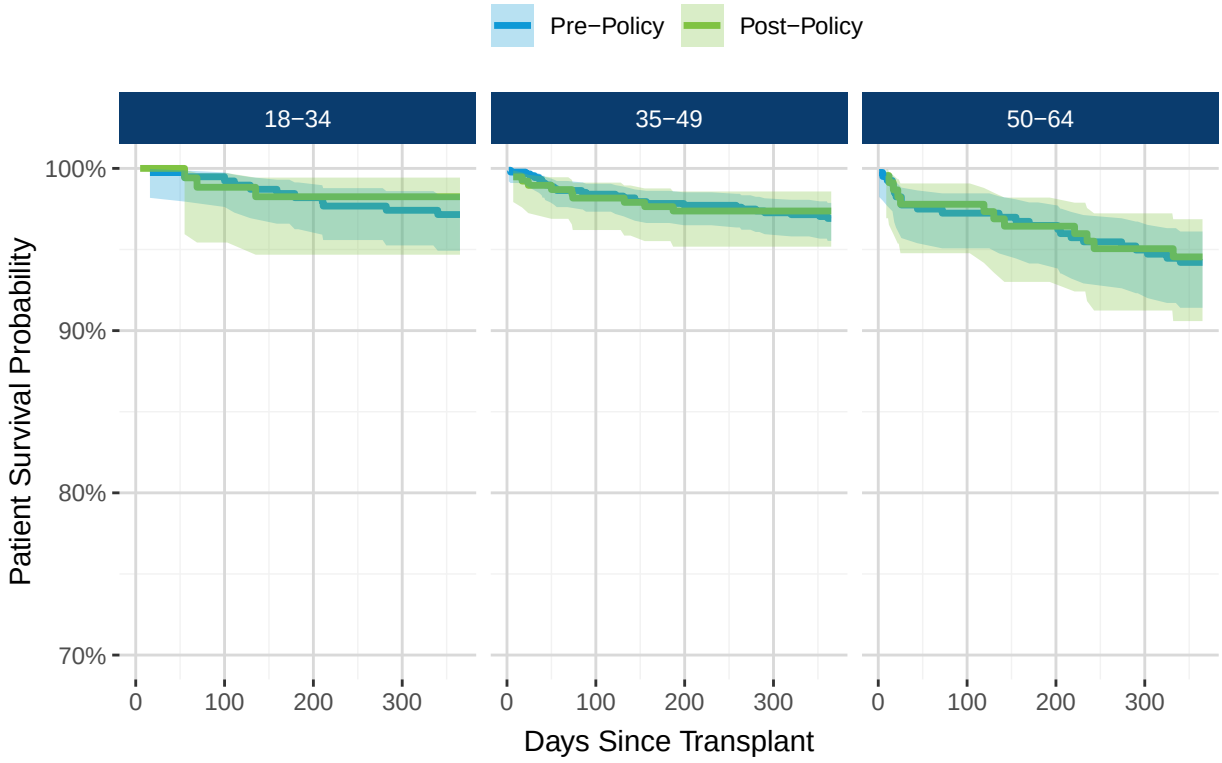
State	Pre-Policy	Post-Policy	% Change
Alabama	16	14	-12.50
Arizona	47	69	46.81
California	127	145	14.17
Colorado	15	9	-40.00
Dist. Of Columbia	49	14	-71.43
Florida	102	130	27.45
Georgia	52	49	-5.77
Hawaii	3	1	-66.67
Illinois	118	169	43.22
Indiana	40	31	-22.50
Iowa	21	14	-33.33
Kansas	21	16	-23.81
Kentucky	14	11	-21.43
Louisiana	74	58	-21.62
Maryland	67	33	-50.75
Massachusetts	14	16	14.29
Michigan	12	4	-66.67
Minnesota	73	64	-12.33
Mississippi	11	8	-27.27
Missouri	26	18	-30.77
Nebraska	3	1	-66.67
Nevada	0	1	*
New Jersey	28	41	46.43
New Mexico	2	1	-50.00
New York	130	115	-11.54
North Carolina	89	81	-8.99
Ohio	68	54	-20.59
Oklahoma	12	17	41.67
Oregon	24	15	-37.50
Pennsylvania	61	73	19.67
Puerto Rico	15	16	6.67
South Carolina	46	60	30.43
South Dakota	3	2	-33.33
Tennessee	30	31	3.33
Texas	120	105	-12.50
Utah	32	29	-9.38
Virginia	45	42	-6.67
Washington	26	18	-30.77
Wisconsin	60	47	-21.67
Total	1696	1622	-4.36

Post-Transplant Outcomes

Patient Survival

Figure A26 and **Table A29** show one year post-transplant patient survival for deceased donor kidney-pancreas alone transplants by policy era and recipient age at transplant. There were no statistically significant differences in the probability of patient survival at one year post-transplant within the 18-34, 35-49, or 50-64 age groups.

Figure A26: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Recipient Age



<18 and 65+ age groups omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A29: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Recipient Age

Recipient Age	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
<18	Pre-Policy	2	0	2	–	–
	Post-Policy	0	0	0	–	–
18-34	Pre-Policy	388	11	365	97.2	(94.9, 98.4)
	Post-Policy	173	3	98	98.3	(94.7, 99.4)
35-49	Pre-Policy	884	27	827	96.9	(95.5, 97.9)
	Post-Policy	383	10	216	97.4	(95.2, 98.6)
50-64	Pre-Policy	400	23	364	94.2	(91.4, 96.1)
	Post-Policy	228	12	134	94.5	(90.6, 96.9)
65+	Pre-Policy	11	0	11	100	–
	Post-Policy	2	0	2	–	–

Figure A27 and **Table A30** show one year post-transplant patient survival for deceased donor kidney-pancreas alone transplants by policy era and recipient gender. There were no statistically significant differences in the probability of patient survival at one year post-transplant for female or male recipients.

Figure A27: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Gender

Table A30: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Gender

Recipient Gender	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Female	Pre-Policy	659	27	609	95.9	(94.0, 97.2)
	Post-Policy	307	12	175	96	(93.1, 97.7)
Male	Pre-Policy	1026	34	960	96.7	(95.4, 97.6)
	Post-Policy	479	13	275	97.2	(95.3, 98.4)

Figure A28 and **Table A31** show one year post-transplant patient survival for deceased donor kidney-pancreas alone transplants by policy era and recipient age at transplant. There were no statistically significant differences in the probability of patient survival at one year post-transplant within recipient racial/ethnic groups.

Figure A28: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Race/Ethnicity

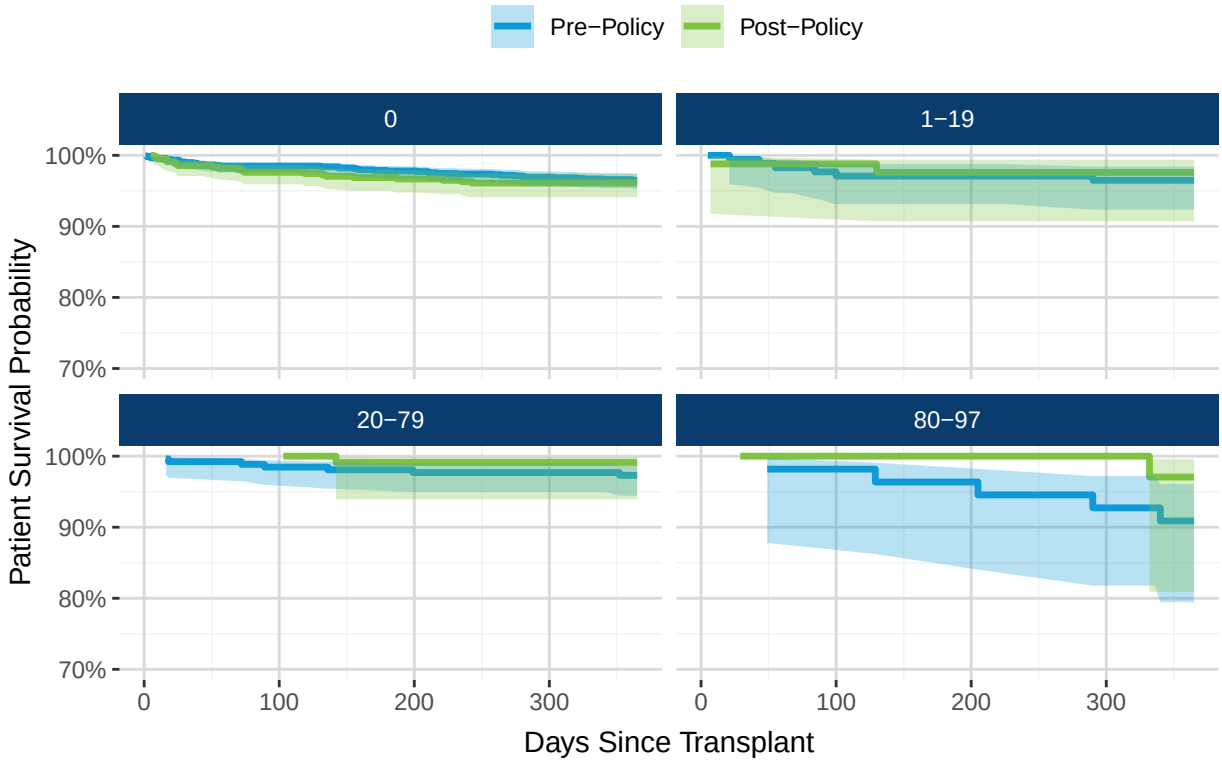
Other, Non−Hispanic omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A31: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Race/Ethnicity

Recipient Race/Ethnicity	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
White, Non-Hispanic	Pre-Policy	821	30	764	96.3	(94.8, 97.4)
	Post-Policy	335	12	184	96.3	(93.6, 97.9)
Black, Non-Hispanic	Pre-Policy	498	21	462	95.8	(93.6, 97.2)
	Post-Policy	252	6	135	97.5	(94.6, 98.9)
Hispanic/Latino	Pre-Policy	274	8	253	97	(94.1, 98.5)
	Post-Policy	141	5	99	96.5	(91.7, 98.5)
Asian, Non-Hispanic	Pre-Policy	74	2	72	97.3	(89.6, 99.3)
	Post-Policy	44	2	23	95.4	(82.8, 98.8)
Other, Non-Hispanic	Pre-Policy	18	0	18	100	–
	Post-Policy	14	0	9	–	–

Figure A29 and **Table A32** show one year post-transplant patient survival for deceased donor kidney-pancreas alone transplants by policy era and recipient CPRA. There were no statistically significant differences in the probability of patient survival at one year post-transplant within recipient CPRA groups.

Figure A29: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and CPRA



CPRA 98−100% omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A32: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and CPRA

CPRA (%)	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
0	Pre-Policy	1180	41	1099	96.5	(95.3, 97.4)
	Post-Policy	547	21	311	96.1	(94.1, 97.4)
1-19	Pre-Policy	173	6	158	96.5	(92.3, 98.4)
	Post-Policy	83	2	44	97.6	(90.7, 99.4)
20-79	Pre-Policy	260	7	248	97.3	(94.4, 98.7)
	Post-Policy	115	1	67	99.1	(93.9, 99.9)
80-97	Pre-Policy	55	5	49	90.9	(79.4, 96.1)
	Post-Policy	37	1	26	97.1	(80.9, 99.6)
98-100	Pre-Policy	17	2	15	88.2	(60.6, 96.9)
	Post-Policy	4	0	2	–	–

Figure A30 and **Table A33** show one year post-transplant patient survival for deceased donor kidney-pancreas alone transplants by policy era and recipient blood type. There were no statistically significant differences in the probability of patient survival at one year post-transplant within blood type groups.

Figure A30: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Blood Type

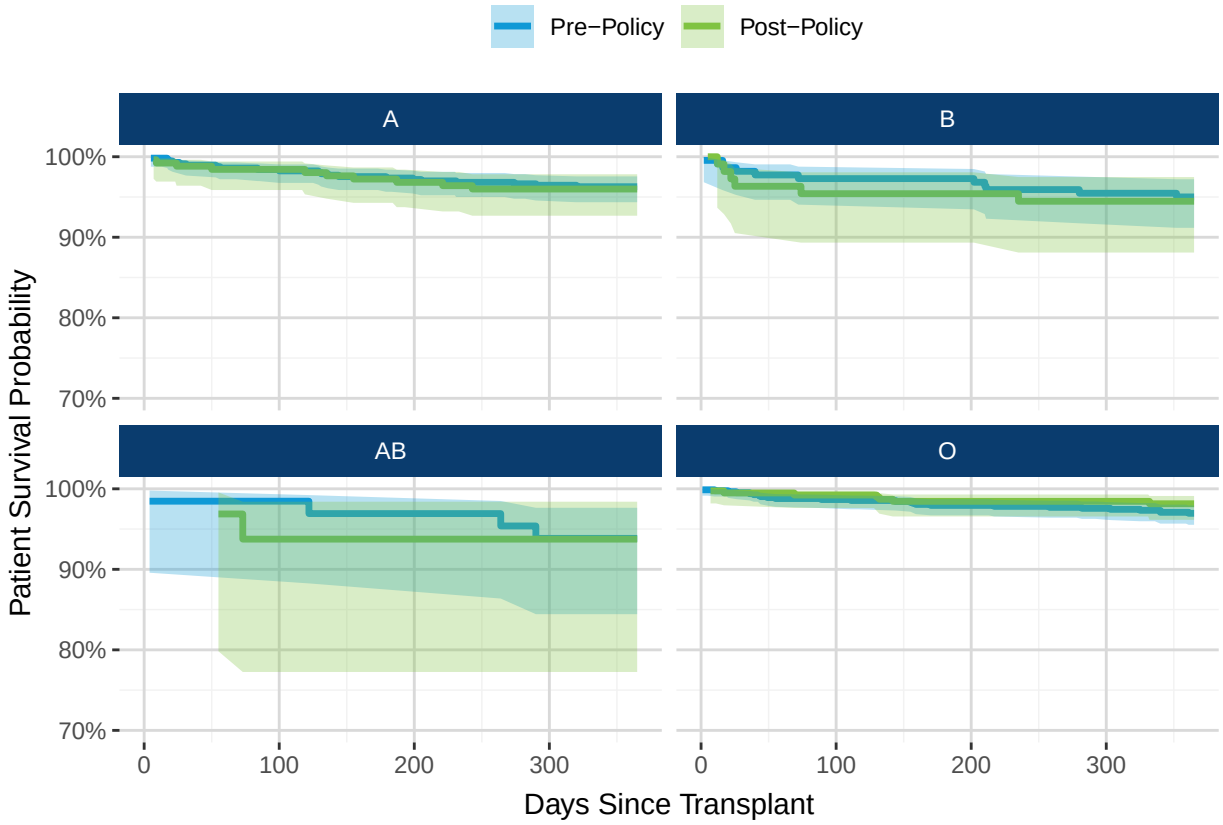


Table A33: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Blood Type

Blood Type	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
A	Pre-Policy	570	21	526	96.3	(94.3, 97.6)
	Post-Policy	256	10	141	96	(92.7, 97.8)
B	Pre-Policy	221	11	206	95	(91.2, 97.2)
	Post-Policy	110	6	59	94.5	(88.1, 97.5)
AB	Pre-Policy	65	4	61	93.8	(84.4, 97.6)
	Post-Policy	32	2	18	93.8	(77.3, 98.4)
O	Pre-Policy	829	25	776	97	(95.5, 97.9)
	Post-Policy	388	7	232	98.1	(96.1, 99.1)

Figure A31 and **Table A34** show one year post-transplant patient survival for deceased donor kidney-pancreas alone transplants by policy era and kidney cold ischemic time. There were no statistically significant differences in the probability of patient survival at one year post-transplant within quartiles of cold ischemic time.

Figure A31: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Cold Ischemic Time

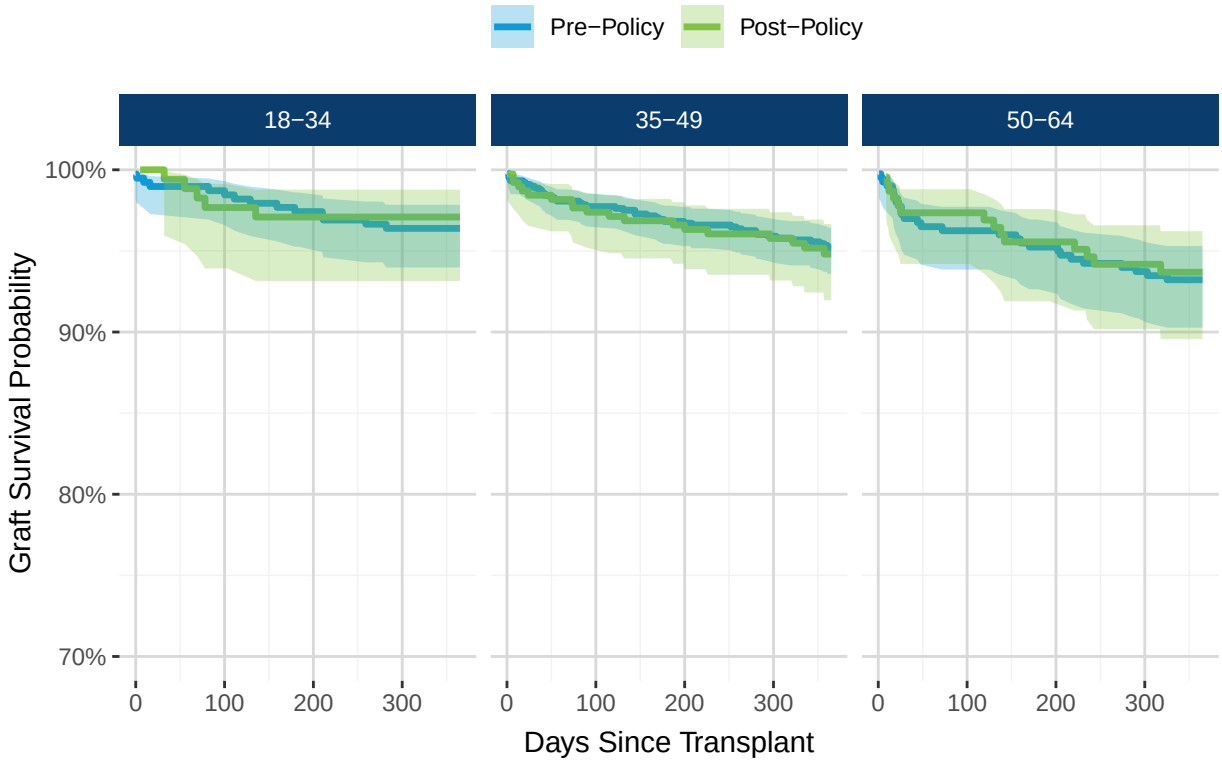
Table A34: One Year Post-Transplant Patient Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Cold Ischemic Time

Cold Ischemic Time	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Q1 (0-6 hours)	Pre-Policy	511	12	487	97.6	(95.9, 98.7)
	Post-Policy	187	4	109	97.8	(94.4, 99.2)
Q2 (7-9 hours)	Pre-Policy	477	14	448	97	(95.0, 98.2)
	Post-Policy	208	6	122	97.1	(93.6, 98.7)
Q3 (10-12 hours)	Pre-Policy	312	14	290	95.5	(92.5, 97.3)
	Post-Policy	147	10	87	93	(87.4, 96.2)
Q4 (13-99 hours)	Pre-Policy	371	20	332	94.5	(91.7, 96.4)
	Post-Policy	233	4	128	98.2	(95.4, 99.3)

Kidney Graft Survival

Figure A32 and **Table A35** show one year post-transplant kidney graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient age at transplant. There were no statistically significant differences in the probability of kidney graft survival at one year post-transplant within the 18-34, 35-49, or 50-64 age groups.

Figure A32: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Recipient Age



<18 and 65+ age groups omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A35: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Recipient Age

Recipient Age	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
<18	Pre-Policy	2	0	2	–	–
	Post-Policy	0	0	0	–	–
18-34	Pre-Policy	388	14	363	96.4	(94.0, 97.8)
	Post-Policy	173	5	98	97.1	(93.1, 98.8)
35-49	Pre-Policy	884	42	818	95.2	(93.6, 96.4)
	Post-Policy	383	19	209	94.8	(92.0, 96.7)
50-64	Pre-Policy	400	27	362	93.2	(90.3, 95.3)
	Post-Policy	228	14	133	93.7	(89.6, 96.2)
65+	Pre-Policy	11	0	11	100	–
	Post-Policy	2	0	2	–	–

Figure A33 and **Table A36** show one year post-transplant kidney graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient gender. There were no statistically significant differences in the probability of kidney graft survival at one year post-transplant for female or male recipients.

Figure A33: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Gender

Table A36: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Gender

Recipient Gender	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Female	Pre-Policy	659	38	602	94.2	(92.1, 95.8)
	Post-Policy	307	18	171	93.9	(90.5, 96.1)
Male	Pre-Policy	1026	45	954	95.6	(94.1, 96.7)
	Post-Policy	479	20	271	95.7	(93.4, 97.2)

Figure A34 and **Table A37** show one year post-transplant kidney graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient race/ethnicity. There were no statistically significant differences in the probability of kidney graft survival at one year post-transplant within racial/ethnic groups.

Figure A34: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Race/Ethnicity

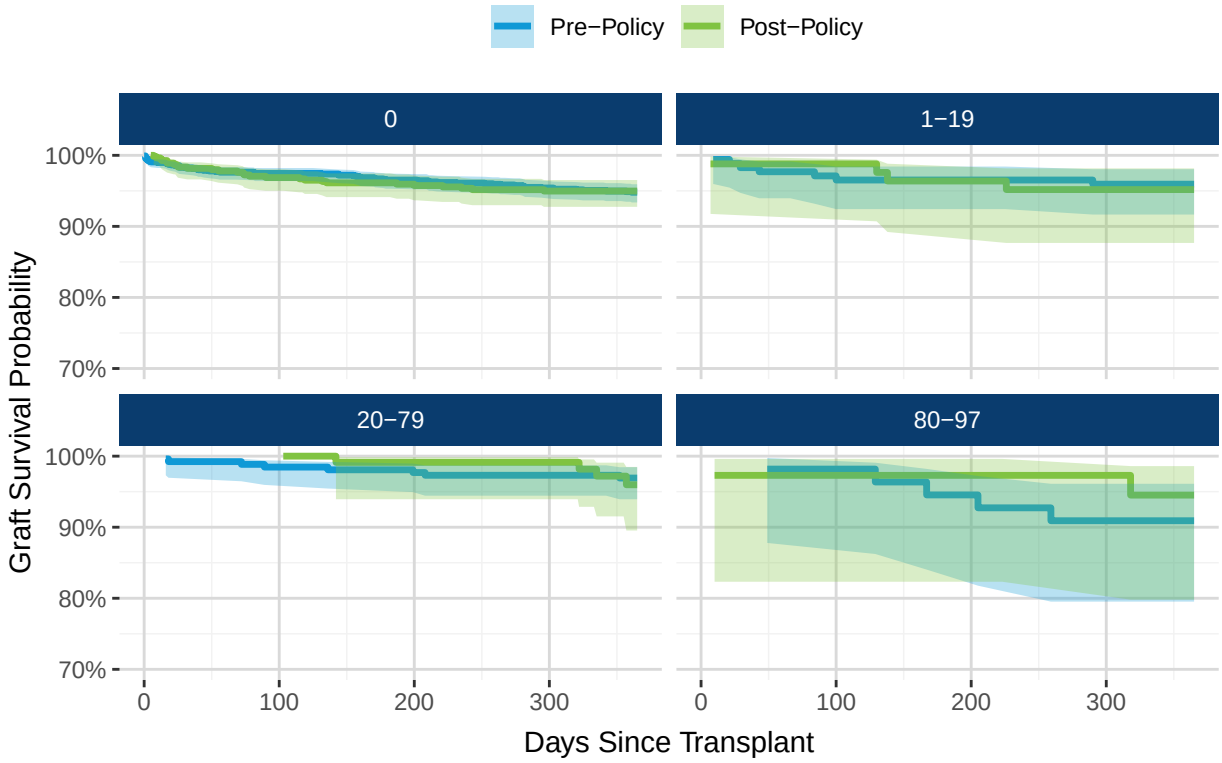
Other, Non−Hispanic omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A37: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Race/Ethnicity

Recipient Race/Ethnicity	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
White, Non-Hispanic	Pre-Policy	821	41	758	95	(93.2, 96.3)
	Post-Policy	335	17	182	94.7	(91.6, 96.7)
Black, Non-Hispanic	Pre-Policy	498	26	457	94.8	(92.4, 96.4)
	Post-Policy	252	12	131	95	(91.4, 97.1)
Hispanic/Latino	Pre-Policy	274	14	251	94.8	(91.5, 96.9)
	Post-Policy	141	7	97	95	(89.8, 97.6)
Asian, Non-Hispanic	Pre-Policy	74	2	72	97.3	(89.6, 99.3)
	Post-Policy	44	2	23	95.4	(82.8, 98.8)
Other, Non-Hispanic	Pre-Policy	18	0	18	100	–
	Post-Policy	14	0	9	–	–

Figure A35 and **Table A38** show one year post-transplant kidney graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient CPRA. There were no statistically significant differences in the probability of kidney graft survival at one year post-transplant within CPRA groups.

Figure A35: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and CPRA



CPRA 98−100% omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A38: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and CPRA

CPRA (%)	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
0	Pre-Policy	1180	61	1086	94.8	(93.4, 95.9)
	Post-Policy	547	27	307	95	(92.7, 96.5)
1-19	Pre-Policy	173	7	159	95.9	(91.7, 98.0)
	Post-Policy	83	4	43	95.2	(87.7, 98.2)
20-79	Pre-Policy	260	8	247	96.9	(93.9, 98.4)
	Post-Policy	115	4	65	96	(89.5, 98.5)
80-97	Pre-Policy	55	5	49	90.9	(79.5, 96.1)
	Post-Policy	37	2	26	94.5	(79.8, 98.6)
98-100	Pre-Policy	17	2	15	88.2	(60.6, 96.9)
	Post-Policy	4	1	1	–	–

Figure A36 and **Table A39** show one year post-transplant kidney graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient blood type. There were no statistically significant differences in the probability of kidney graft survival at one year post-transplant within blood type groups.

Figure A36: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Blood Type

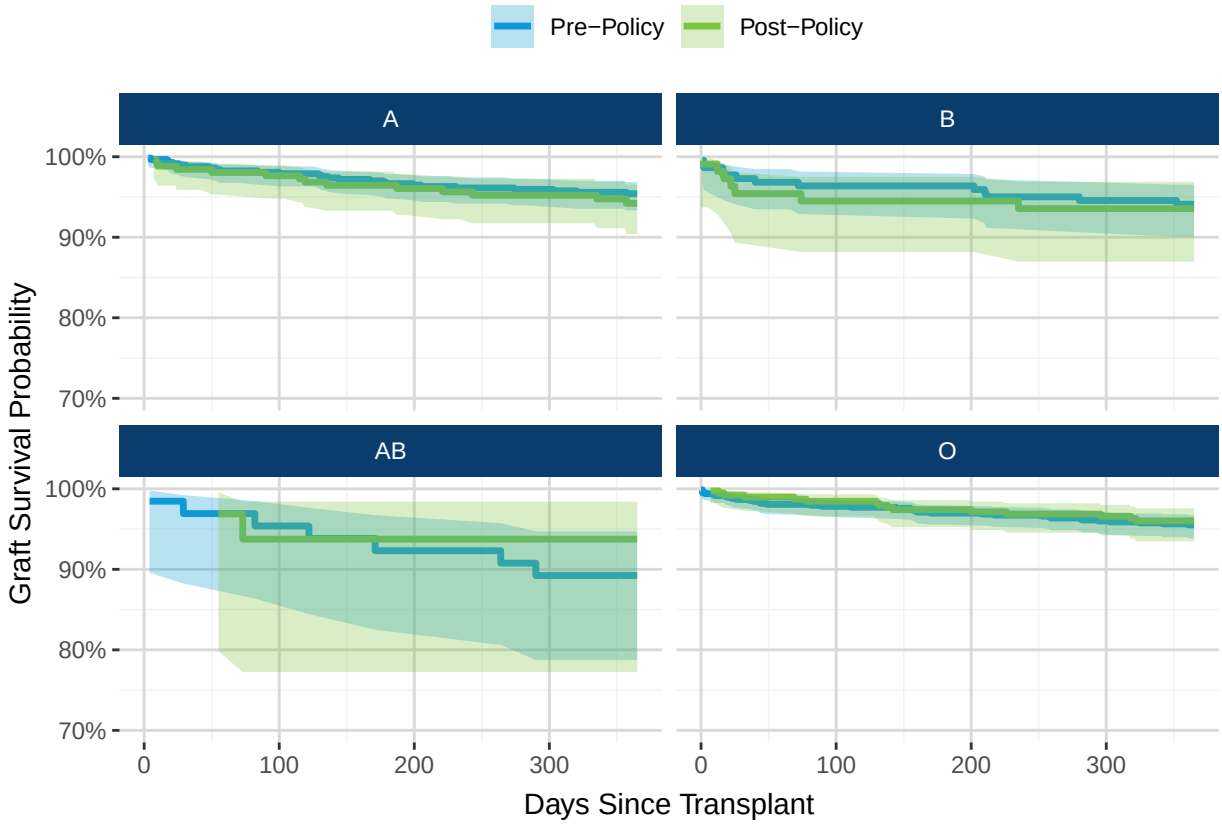


Table A39: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Blood Type

Blood Type	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
A	Pre-Policy	570	26	526	95.4	(93.3, 96.9)
	Post-Policy	256	14	141	94.2	(90.4, 96.5)
B	Pre-Policy	221	13	204	94.1	(90.1, 96.5)
	Post-Policy	110	7	57	93.6	(87.0, 96.9)
AB	Pre-Policy	65	7	58	89.2	(78.7, 94.7)
	Post-Policy	32	2	18	93.8	(77.3, 98.4)
O	Pre-Policy	829	37	768	95.5	(93.9, 96.7)
	Post-Policy	388	15	226	96	(93.5, 97.6)

Figure A37 and **Table A40** show one year post-transplant kidney graft survival for deceased donor kidney-pancreas alone transplants by policy era and cold ischemic time. There were no statistically significant differences in the probability of kidney graft survival at one year post-transplant within quartiles of cold ischemic time.

Figure A37: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Cold Ischemic Time

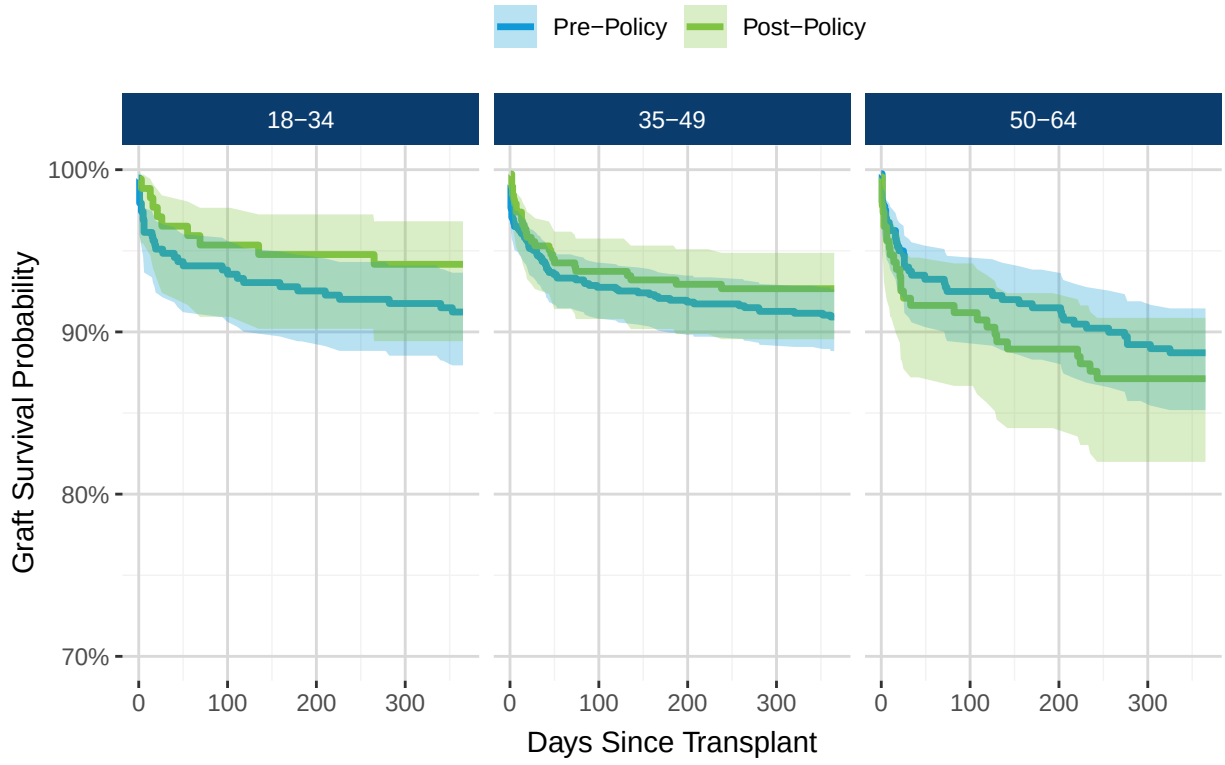
Table A40: One Year Post-Transplant Kidney Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Cold Ischemic Time

Cold Ischemic Time	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Q1 (0-6 hours)	Pre-Policy	511	16	485	96.9	(94.9, 98.1)
	Post-Policy	187	8	107	95.6	(91.5, 97.8)
Q2 (7-9 hours)	Pre-Policy	477	20	446	95.8	(93.6, 97.3)
	Post-Policy	208	7	121	96.6	(92.9, 98.3)
Q3 (10-12 hours)	Pre-Policy	312	17	287	94.5	(91.3, 96.6)
	Post-Policy	147	12	84	91.6	(85.7, 95.1)
Q4 (13-99 hours)	Pre-Policy	371	29	326	92.1	(88.9, 94.5)
	Post-Policy	233	10	126	95.5	(91.7, 97.6)

Pancreas Graft Survival

Figure A38 and **Table A41** show one year post-transplant pancreas graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient age at transplant. There were no statistically significant differences in the probability of pancreas graft survival at one year post-transplant within the 18-34, 35-49, or 50-64 age groups.

Figure A38: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Recipient Age



<18 and 65+ age groups omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A41: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Recipient Age

Recipient Age	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
<18	Pre-Policy	2	0	2	–	–
	Post-Policy	0	0	0	–	–
18-34	Pre-Policy	388	34	343	91.2	(87.9, 93.7)
	Post-Policy	173	10	94	94.2	(89.4, 96.8)
35-49	Pre-Policy	884	80	780	90.9	(88.8, 92.6)
	Post-Policy	383	28	207	92.7	(89.6, 94.9)
50-64	Pre-Policy	400	45	346	88.7	(85.2, 91.4)
	Post-Policy	228	29	126	87.1	(82.0, 90.9)
65+	Pre-Policy	11	0	11	100	–
	Post-Policy	2	0	2	–	–

Figure A39 and **Table A42** show one year post-transplant pancreas graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient gender. There were no statistically significant differences in the probability of pancreas graft survival at one year post-transplant for female or male recipients.

Figure A39: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Gender

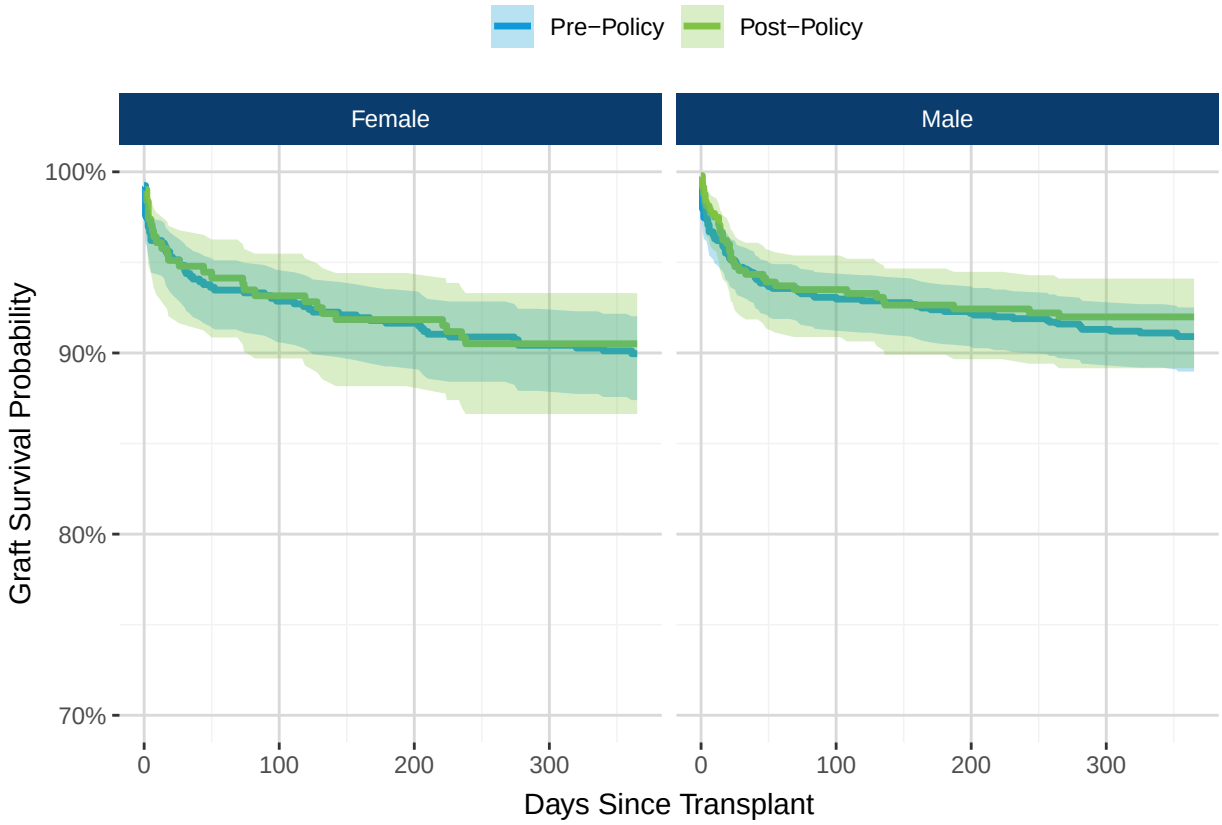
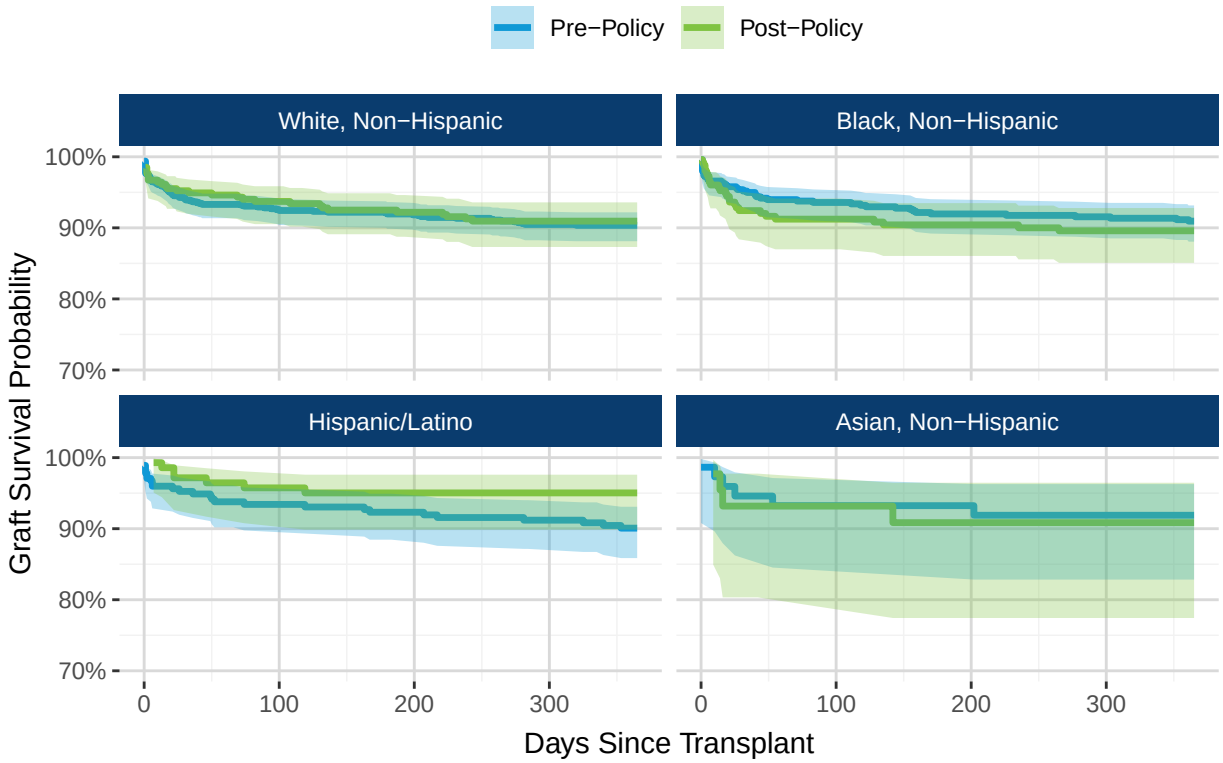


Table A42: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Gender

Recipient Gender	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Female	Pre-Policy	659	66	576	90	(87.4, 92.0)
	Post-Policy	307	29	168	90.5	(86.6, 93.3)
Male	Pre-Policy	1026	93	906	90.9	(89.0, 92.5)
	Post-Policy	479	38	261	92	(89.2, 94.1)

Figure A40 and **Table A43** show one year post-transplant pancreas graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient race/ethnicity. There were no statistically significant differences in the probability of pancreas graft survival at one year post-transplant within racial/ethnic groups.

Figure A40: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Race/Ethnicity



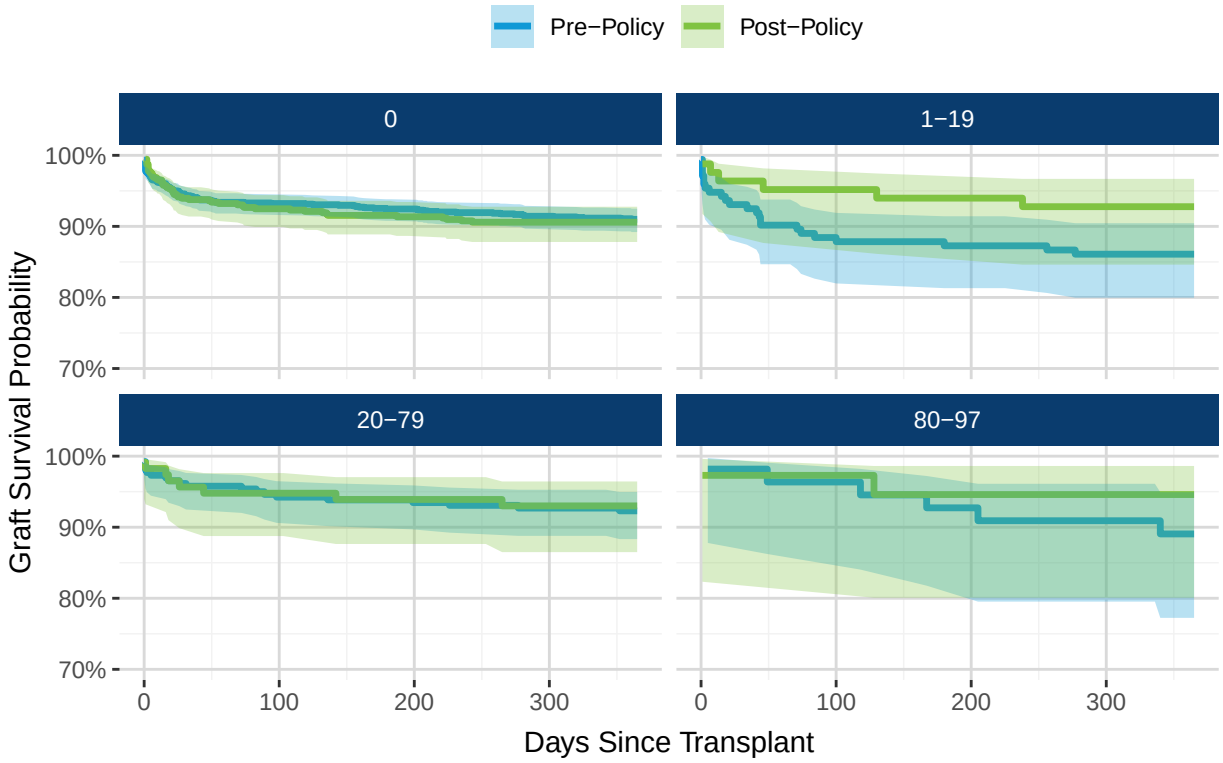
Other, Non−Hispanic omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A43: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Race/Ethnicity

Recipient Race/Ethnicity	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
White, Non-Hispanic	Pre-Policy	821	79	721	90.4	(88.1, 92.2)
	Post-Policy	335	30	176	90.9	(87.3, 93.6)
Black, Non-Hispanic	Pre-Policy	498	45	439	90.9	(88.1, 93.2)
	Post-Policy	252	26	125	89.6	(85.1, 92.8)
Hispanic/Latino	Pre-Policy	274	27	238	90.1	(85.9, 93.1)
	Post-Policy	141	7	97	95	(89.9, 97.6)
Asian, Non-Hispanic	Pre-Policy	74	6	68	91.9	(82.8, 96.3)
	Post-Policy	44	4	22	90.9	(77.4, 96.5)
Other, Non-Hispanic	Pre-Policy	18	2	16	88.9	(62.4, 97.1)
	Post-Policy	14	0	9	–	–

Figure A41 and **Table A44** show one year post-transplant pancreas graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient CPRA. There were no statistically significant differences in the probability of pancreas graft survival at one year post-transplant within CPRA groups.

Figure A41: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and CPRA



CPRA 98−100% omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A44: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and CPRA

CPRA (%)	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
0	Pre-Policy	1180	106	1041	91	(89.2, 92.5)
	Post-Policy	547	51	294	90.6	(87.8, 92.8)
1-19	Pre-Policy	173	24	143	86.1	(80.0, 90.4)
	Post-Policy	83	6	42	92.8	(84.6, 96.7)
20-79	Pre-Policy	260	20	236	92.3	(88.3, 95.0)
	Post-Policy	115	8	65	93	(86.5, 96.4)
80-97	Pre-Policy	55	6	48	89.1	(77.2, 94.9)
	Post-Policy	37	2	26	94.6	(80.1, 98.6)
98-100	Pre-Policy	17	3	14	82.4	(54.7, 93.9)
	Post-Policy	4	0	2	–	–

Figure A42 and **Table A45** show one year post-transplant pancreas graft survival for deceased donor kidney-pancreas alone transplants by policy era and recipient blood type. There were no statistically significant differences in the probability of pancreas graft survival at one year post-transplant within blood type groups.

Figure A42: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Blood Type

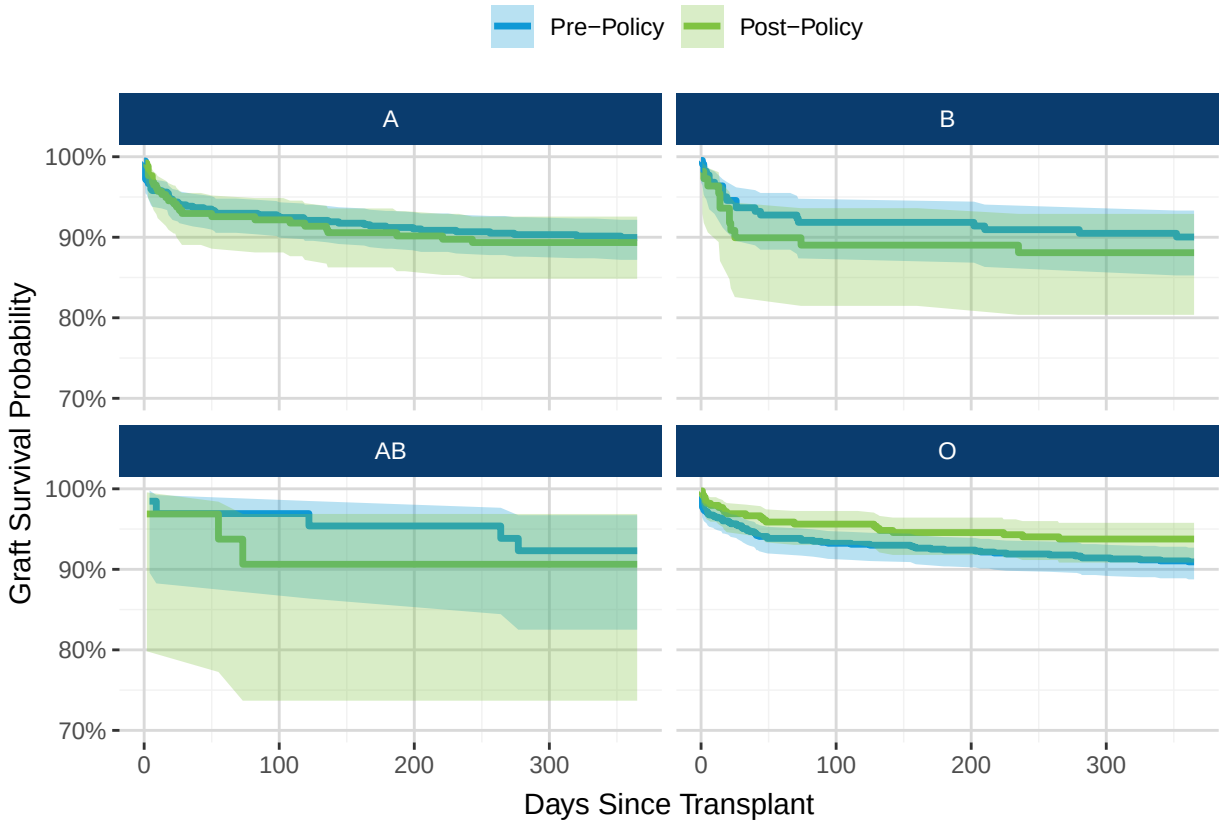


Table A45: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Blood Type

Blood Type	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
A	Pre-Policy	570	57	496	90	(87.2, 92.2)
	Post-Policy	256	27	134	89.3	(84.8, 92.6)
B	Pre-Policy	221	22	196	90	(85.3, 93.3)
	Post-Policy	110	13	52	88.1	(80.4, 92.9)
AB	Pre-Policy	65	5	60	92.3	(82.5, 96.7)
	Post-Policy	32	3	17	90.6	(73.7, 96.9)
O	Pre-Policy	829	75	730	90.9	(88.8, 92.7)
	Post-Policy	388	24	226	93.8	(90.8, 95.8)

Figure A43 and **Table A46** show one year post-transplant pancreas graft survival for deceased donor kidney-pancreas alone transplants by policy era and preservation time. There were no statistically significant differences in the probability of pancreas graft survival at one year post-transplant within quartiles of preservation time.

Figure A43: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Preservation Time

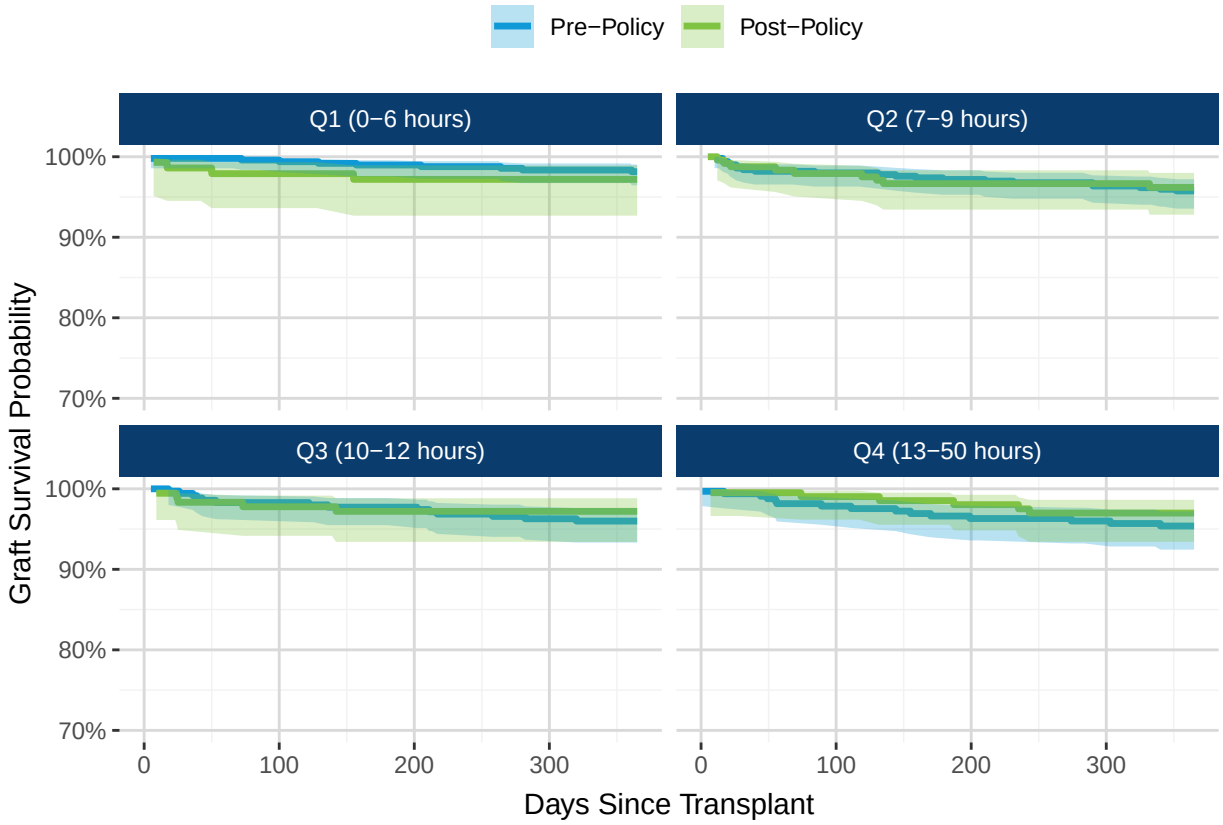


Table A46: One Year Post-Transplant Pancreas Graft Survival for Kidney-Pancreas Alone Transplants March 16, 2019 - February 28, 2022 by Policy Era and Preservation Time

Preservation Time	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Q1 (0-6 hours)	Pre-Policy	489	9	462	98.1	(96.5, 99.0)
	Post-Policy	143	4	84	97.2	(92.7, 98.9)
Q2 (7-9 hours)	Pre-Policy	498	21	465	95.7	(93.6, 97.2)
	Post-Policy	242	9	138	96.2	(92.8, 98.0)
Q3 (10-12 hours)	Pre-Policy	352	14	328	96	(93.3, 97.6)
	Post-Policy	180	5	112	97.2	(93.4, 98.8)
Q4 (13-50 hours)	Pre-Policy	326	15	298	95.4	(92.4, 97.2)
	Post-Policy	207	6	110	97	(93.4, 98.6)

Released Organs

Table 47 shows the disposition of kidneys and pancreata from kidney-pancreas matches with a final acceptance by policy era and OPTN region. The majority of kidneys and pancreata with a final acceptance were transplanted to the originally accepting patient both pre- and post-policy across all regions. Pre-policy, this ranged from 66.2% to 100% for kidneys, and from 69.3% to 100% for pancreata. Post-policy, this proportion ranged from 59.8% to 94.4% for kidneys and from 62.1% to 93.5% for pancreata. Overall, the proportion of kidneys and pancreata that were transplanted to the originally accepting patient decreased post-policy (kidney: 86% vs 80.8%; pancreas: 87.4% vs 82.6%).

Table 47: Disposition of Kidneys and Pancreata from Kidney-Pancreas Matches with a Final Acceptance March 16, 2019-March 14, 2023 by Policy Era and OPTN Region

Organ	Era	Region	N	Same Patient	Same Center	Different Center	Non-Use	Non-Recovery
Kidney	Pre-Policy	1	18	17 (94.4%)	1 (5.6%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
		2	183	178 (97.3%)	4 (2.2%)	1 (0.5%)	0 (0.0%)	0 (0.0%)
		3	314	284 (90.4%)	13 (4.1%)	17 (5.4%)	0 (0.0%)	0 (0.0%)
		4	197	157 (79.7%)	10 (5.1%)	24 (12.2%)	0 (0.0%)	6 (3.0%)
		5	217	205 (94.5%)	5 (2.3%)	6 (2.8%)	0 (0.0%)	1 (0.5%)
		6	55	55 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
		7	222	147 (66.2%)	18 (8.1%)	33 (14.9%)	5 (2.3%)	19 (8.6%)
		8	134	126 (94.0%)	4 (3.0%)	3 (2.2%)	0 (0.0%)	1 (0.7%)
		9	57	52 (91.2%)	3 (5.3%)	1 (1.8%)	0 (0.0%)	1 (1.8%)
		10	158	124 (78.5%)	14 (8.9%)	15 (9.5%)	2 (1.3%)	3 (1.9%)
		11	228	188 (82.5%)	12 (5.3%)	22 (9.6%)	2 (0.9%)	4 (1.8%)
		Total	1783	1,533 (86.0%)	84 (4.7%)	122 (6.8%)	9 (0.5%)	35 (2.0%)
	Post-Policy	1	42	39 (92.9%)	1 (2.4%)	2 (4.8%)	0 (0.0%)	0 (0.0%)
		2	178	168 (94.4%)	7 (3.9%)	3 (1.7%)	0 (0.0%)	0 (0.0%)
		3	316	291 (92.1%)	11 (3.5%)	11 (3.5%)	3 (0.9%)	0 (0.0%)
		4	162	120 (74.1%)	6 (3.7%)	29 (17.9%)	2 (1.2%)	5 (3.1%)
		5	234	208 (88.9%)	9 (3.8%)	14 (6.0%)	1 (0.4%)	2 (0.9%)
		6	54	44 (81.5%)	3 (5.6%)	5 (9.3%)	2 (3.7%)	0 (0.0%)
		7	201	126 (62.7%)	18 (9.0%)	36 (17.9%)	0 (0.0%)	21 (10.4%)
		8	146	120 (82.2%)	7 (4.8%)	17 (11.6%)	0 (0.0%)	2 (1.4%)
		9	49	40 (81.6%)	3 (6.1%)	6 (12.2%)	0 (0.0%)	0 (0.0%)
		10	199	119 (59.8%)	18 (9.0%)	42 (21.1%)	3 (1.5%)	17 (8.5%)
		11	220	180 (81.8%)	14 (6.4%)	20 (9.1%)	2 (0.9%)	4 (1.8%)
		Total	1801	1,455 (80.8%)	97 (5.4%)	185 (10.3%)	13 (0.7%)	51 (2.8%)

(continued)

Organ	Era	Region	N	Same Patient	Same Center	Different Center	Non-Use	Non-Recovery
Pancreas	Pre-Policy	1	17	17 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
		2	182	177 (97.3%)	2 (1.1%)	0 (0.0%)	3 (1.6%)	0 (0.0%)
		3	307	281 (91.5%)	9 (2.9%)	3 (1.0%)	10 (3.3%)	4 (1.3%)
		4	189	157 (83.1%)	7 (3.7%)	7 (3.7%)	5 (2.6%)	13 (6.9%)
		5	217	204 (94.0%)	3 (1.4%)	2 (0.9%)	3 (1.4%)	5 (2.3%)
		6	55	55 (100.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
		7	212	147 (69.3%)	11 (5.2%)	10 (4.7%)	9 (4.2%)	35 (16.5%)
		8	133	124 (93.2%)	2 (1.5%)	1 (0.8%)	4 (3.0%)	2 (1.5%)
		9	57	52 (91.2%)	3 (5.3%)	0 (0.0%)	1 (1.8%)	1 (1.8%)
		10	152	122 (80.3%)	8 (5.3%)	2 (1.3%)	8 (5.3%)	12 (7.9%)
		11	220	186 (84.5%)	8 (3.6%)	12 (5.5%)	6 (2.7%)	8 (3.6%)
		Total	1741	1,522 (87.4%)	53 (3.0%)	37 (2.1%)	49 (2.8%)	80 (4.6%)
	Post-Policy	1	42	39 (92.9%)	1 (2.4%)	1 (2.4%)	1 (2.4%)	0 (0.0%)
		2	178	166 (93.3%)	6 (3.4%)	2 (1.1%)	3 (1.7%)	1 (0.6%)
		3	310	290 (93.5%)	5 (1.6%)	4 (1.3%)	7 (2.3%)	4 (1.3%)
		4	156	120 (76.9%)	3 (1.9%)	13 (8.3%)	4 (2.6%)	16 (10.3%)
		5	229	208 (90.8%)	7 (3.1%)	7 (3.1%)	1 (0.4%)	6 (2.6%)
		6	50	43 (86.0%)	0 (0.0%)	1 (2.0%)	4 (8.0%)	2 (4.0%)
		7	192	124 (64.6%)	7 (3.6%)	11 (5.7%)	9 (4.7%)	41 (21.4%)
		8	143	120 (83.9%)	6 (4.2%)	6 (4.2%)	5 (3.5%)	6 (4.2%)
		9	45	40 (88.9%)	2 (4.4%)	2 (4.4%)	0 (0.0%)	1 (2.2%)
		10	190	118 (62.1%)	10 (5.3%)	12 (6.3%)	7 (3.7%)	43 (22.6%)
		11	217	180 (82.9%)	8 (3.7%)	9 (4.1%)	5 (2.3%)	15 (6.9%)
		Total	1752	1,448 (82.6%)	55 (3.1%)	68 (3.9%)	46 (2.6%)	135 (7.7%)

Table 48 shows the disposition of kidneys from kidney-pancreas matches with a final acceptance by policy era and KDPI. The proportion of kidneys transplanted to the originally accepting patient was highest for KDPI 0-20% kidneys both pre-policy (89.5%) and post-policy (82.9%). There were no kidney-pancreas matches with a final acceptance for kidneys with KDPI >85% either pre- or post-policy.

Table 48: Disposition of Kidneys from Kidney-Pancreas Matches with a Final Acceptance March 16, 2019-March 14, 2023 by Policy Era and KDPI

Era	KDPI (%)	N	Same Patient	Same Center	Different Center	Non-Use	Non-Recovery
Pre-Policy	0-20	1088	974 (89.5%)	37 (3.4%)	60 (5.5%)	2 (0.2%)	15 (1.4%)
	21-34	408	339 (83.1%)	29 (7.1%)	28 (6.9%)	1 (0.2%)	11 (2.7%)
	35-85	287	220 (76.7%)	18 (6.3%)	34 (11.8%)	6 (2.1%)	9 (3.1%)
	Total	1783	1,533 (86.0%)	84 (4.7%)	122 (6.8%)	9 (0.5%)	35 (2.0%)
Post-Policy	0-20	1183	981 (82.9%)	64 (5.4%)	112 (9.5%)	4 (0.3%)	22 (1.9%)
	21-34	374	285 (76.2%)	17 (4.5%)	48 (12.8%)	6 (1.6%)	18 (4.8%)
	35-85	244	189 (77.5%)	16 (6.6%)	25 (10.2%)	3 (1.2%)	11 (4.5%)
	Total	1801	1,455 (80.8%)	97 (5.4%)	185 (10.3%)	13 (0.7%)	51 (2.8%)

Table 49 shows the disposition of kidneys from kidney-pancreas matches with a final acceptance by policy era and CPRA of the accepting patient. The proportion of kidneys transplanted to the originally accepting patient was highest for patients with CPRA 98-100% pre-policy (87.5%), and highest for patients with CPRA 80-97% post-policy (86%).

Table 49: Disposition of Kidneys from Kidney-Pancreas Matches with a Final Acceptance March 16, 2019-March 14, 2023 by Policy Era and Accepting Patient CPRA

Era	CPRA (%)	N	Same Patient	Same Center	Different Center	Non-Use	Non-Recovery
Pre-Policy	0	1192	1,027 (86.2%)	57 (4.8%)	75 (6.3%)	7 (0.6%)	26 (2.2%)
	1-19	233	201 (86.3%)	8 (3.4%)	19 (8.2%)	0 (0.0%)	5 (2.1%)
	20-79	276	237 (85.9%)	13 (4.7%)	20 (7.2%)	2 (0.7%)	4 (1.4%)
	80-97	66	54 (81.8%)	5 (7.6%)	7 (10.6%)	0 (0.0%)	0 (0.0%)
	98-100	16	14 (87.5%)	1 (6.2%)	1 (6.2%)	0 (0.0%)	0 (0.0%)
	Total	1783	1,533 (86.0%)	84 (4.7%)	122 (6.8%)	9 (0.5%)	35 (2.0%)
Post-Policy	0	1153	927 (80.4%)	59 (5.1%)	119 (10.3%)	11 (1.0%)	37 (3.2%)
	1-19	266	219 (82.3%)	16 (6.0%)	25 (9.4%)	1 (0.4%)	5 (1.9%)
	20-79	284	225 (79.2%)	18 (6.3%)	34 (12.0%)	1 (0.4%)	6 (2.1%)
	80-97	86	74 (86.0%)	4 (4.7%)	6 (7.0%)	0 (0.0%)	2 (2.3%)
	98-100	12	10 (83.3%)	0 (0.0%)	1 (8.3%)	0 (0.0%)	1 (8.3%)
	Total	1801	1,455 (80.8%)	97 (5.4%)	185 (10.3%)	13 (0.7%)	51 (2.8%)

Additional Pancreas Information

Waiting List

Figure A44 and **Table A50** show the number of registrations waiting for a pancreas on the last day of each month from March 16, 2019 to March 14, 2023.

Figure A44: Pancreas Registrations Waiting on the Last Day of Each Month, March 16, 2019-March 14, 2023

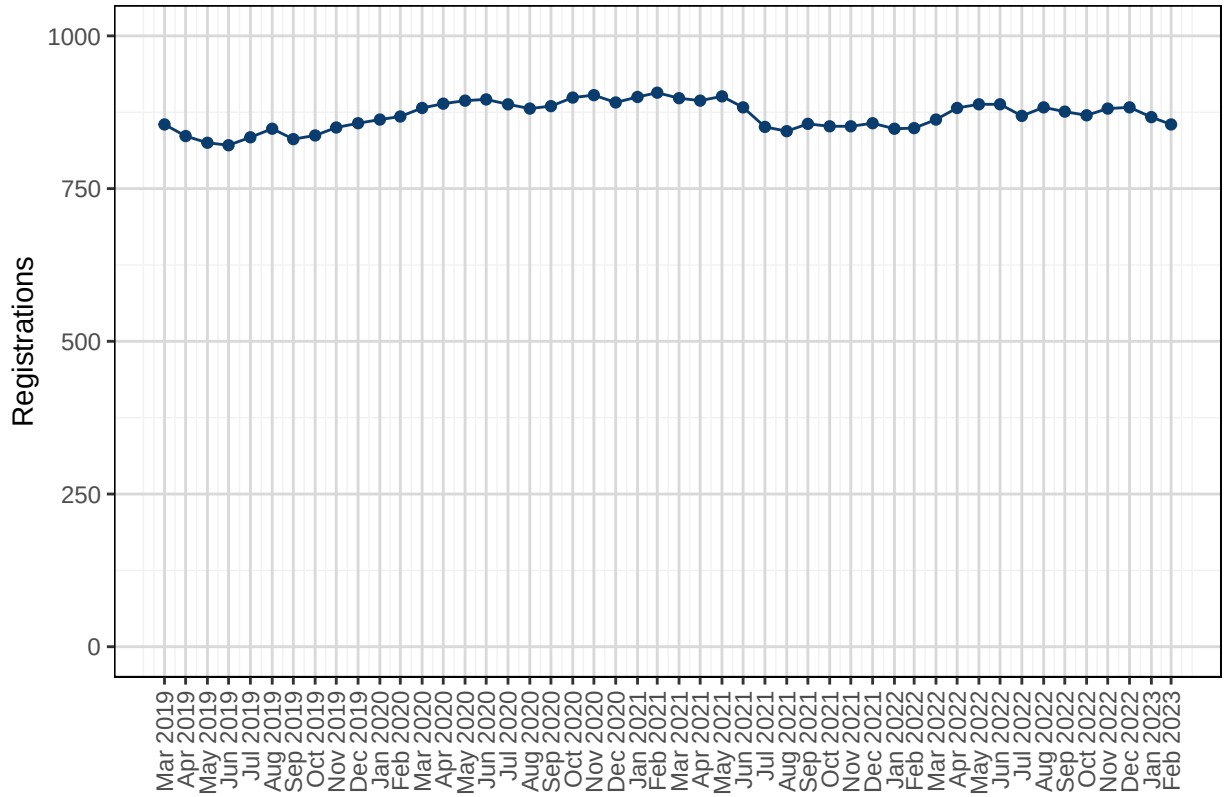


Table A50: Pancreas Registrations Waiting on the Last Day of Each Month, March 16, 2019-March 14, 2023

Date	Registrations
March 2019	855
April 2019	836
May 2019	825
June 2019	821
July 2019	834
August 2019	848
September 2019	831
October 2019	837
November 2019	850
December 2019	857
January 2020	863
February 2020	868
March 2020	882
April 2020	889
May 2020	894
June 2020	896
July 2020	888
August 2020	881
September 2020	885
October 2020	899
November 2020	903
December 2020	891
January 2021	900
February 2021	907
March 2021	898
April 2021	894
May 2021	901
June 2021	883
July 2021	851
August 2021	844
September 2021	856
October 2021	852
November 2021	852
December 2021	857
January 2022	848
February 2022	849
March 2022	863
April 2022	882
May 2022	888
June 2022	888
July 2022	869
August 2022	883
September 2022	876
October 2022	870
November 2022	881
December 2022	883
January 2023	867
February 2023	855

Figure A45 and **Table A51** show the percentage of registrations waiting for a pancreas on the last day of each month from March 16, 2019 to March 14, 2023 by status.

Figure A45: Pancreas Registrations Waiting on the Last Day of Each Month by Status, March 16, 2019-March 14, 2023

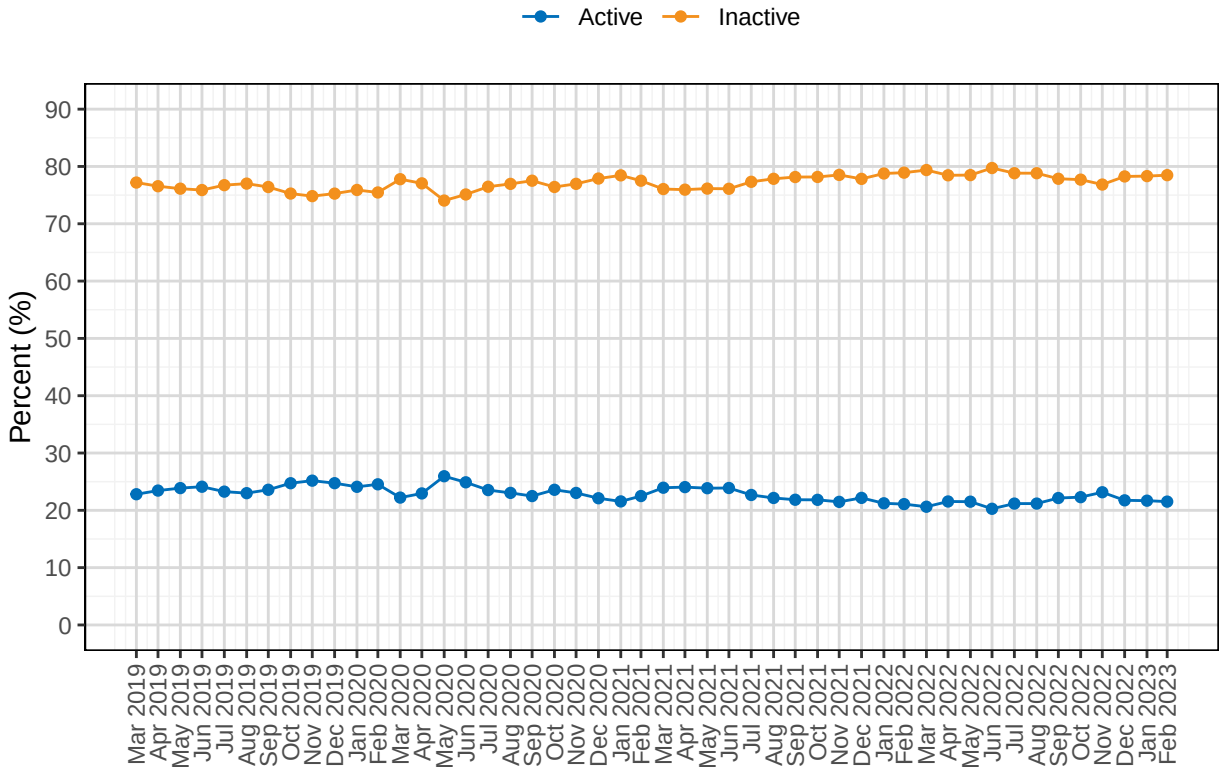


Table A51: Pancreas Registrations Waiting on the Last Day of Each Month by Status, March 16, 2019-March 14, 2023

	Active		Inactive		Total	
Date	N	%	N	%	N	%
March 2019	195	22.81	660	77.19	855	100.00
April 2019	196	23.44	640	76.56	836	100.00
May 2019	197	23.88	628	76.12	825	100.00
June 2019	198	24.12	623	75.88	821	100.00
July 2019	194	23.26	640	76.74	834	100.00
August 2019	195	23.00	653	77.00	848	100.00
September 2019	196	23.59	635	76.41	831	100.00
October 2019	207	24.73	630	75.27	837	100.00
November 2019	214	25.18	636	74.82	850	100.00
December 2019	212	24.74	645	75.26	857	100.00
January 2020	208	24.10	655	75.90	863	100.00
February 2020	213	24.54	655	75.46	868	100.00
March 2020	196	22.22	686	77.78	882	100.00
April 2020	204	22.95	685	77.05	889	100.00
May 2020	232	25.95	662	74.05	894	100.00
June 2020	223	24.89	673	75.11	896	100.00
July 2020	209	23.54	679	76.46	888	100.00
August 2020	203	23.04	678	76.96	881	100.00
September 2020	199	22.49	686	77.51	885	100.00
October 2020	212	23.58	687	76.42	899	100.00
November 2020	208	23.03	695	76.97	903	100.00
December 2020	197	22.11	694	77.89	891	100.00
January 2021	194	21.56	706	78.44	900	100.00
February 2021	204	22.49	703	77.51	907	100.00
March 2021	215	23.94	683	76.06	898	100.00
April 2021	215	24.05	679	75.95	894	100.00
May 2021	215	23.86	686	76.14	901	100.00
June 2021	211	23.90	672	76.10	883	100.00
July 2021	193	22.68	658	77.32	851	100.00
August 2021	187	22.16	657	77.84	844	100.00
September 2021	187	21.85	669	78.15	856	100.00
October 2021	186	21.83	666	78.17	852	100.00
November 2021	183	21.48	669	78.52	852	100.00
December 2021	190	22.17	667	77.83	857	100.00
January 2022	180	21.23	668	78.77	848	100.00
February 2022	179	21.08	670	78.92	849	100.00
March 2022	178	20.63	685	79.37	863	100.00
April 2022	190	21.54	692	78.46	882	100.00
May 2022	191	21.51	697	78.49	888	100.00
June 2022	180	20.27	708	79.73	888	100.00
July 2022	184	21.17	685	78.83	869	100.00
August 2022	187	21.18	696	78.82	883	100.00
September 2022	194	22.15	682	77.85	876	100.00
October 2022	194	22.30	676	77.70	870	100.00
November 2022	204	23.16	677	76.84	881	100.00
December 2022	192	21.74	691	78.26	883	100.00
January 2023	188	21.68	679	78.32	867	100.00
February 2023	184	21.52	671	78.48	855	100.00

Figure A46 and **Table A52** show total pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era. There were 1111 registrations added to the waiting list in the pre-policy era, and 1011 added in the post-policy era.

Figure A46: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era

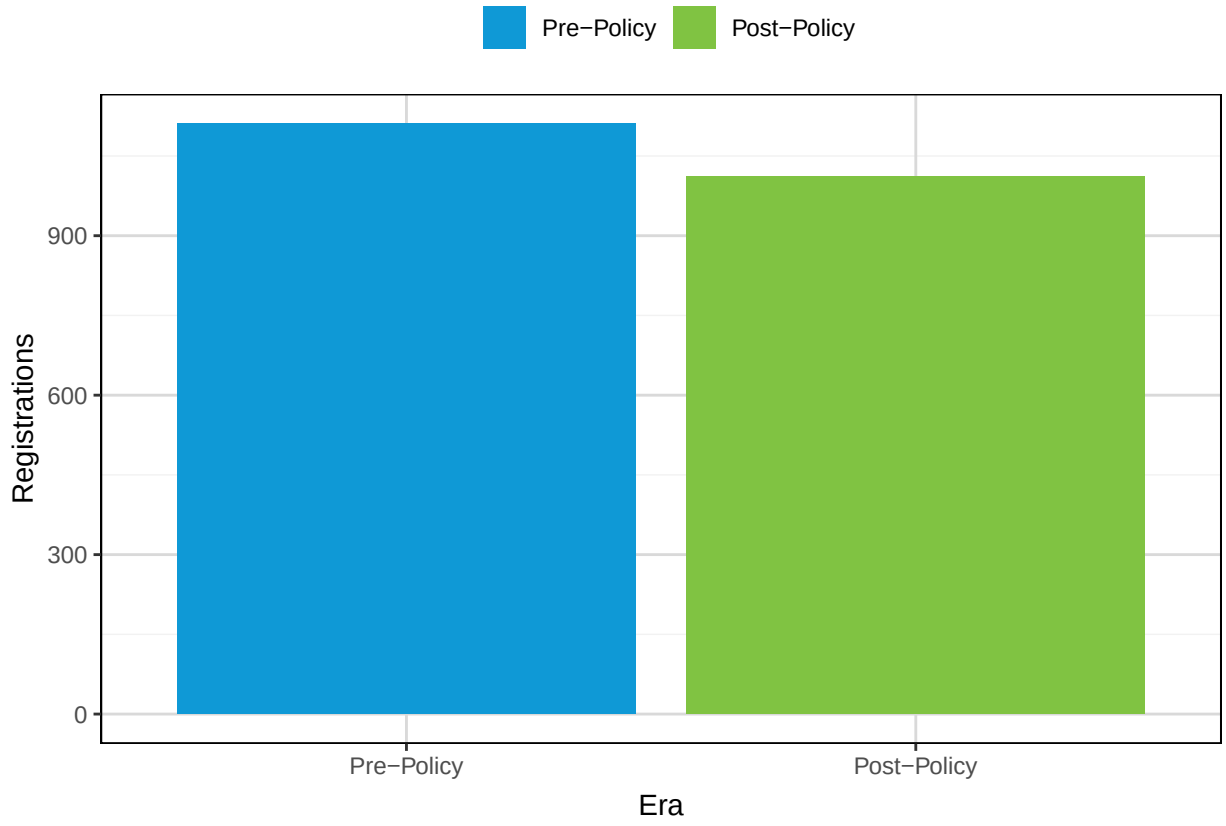


Table A52: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era

Era	Registrations
Pre-Policy	1111
Post-Policy	1011

Figure A47 and **Table A53** show pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and age at listing. The proportion of registrations added for candidates in the 0-17 and 18-34 age groups increased after implementation, while the proportion of registrations for candidates aged 35-49 decreased. There was little change in the proportion of registrations for candidates in the 50-64 or 65+ age groups.

Figure A47: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Age at Listing

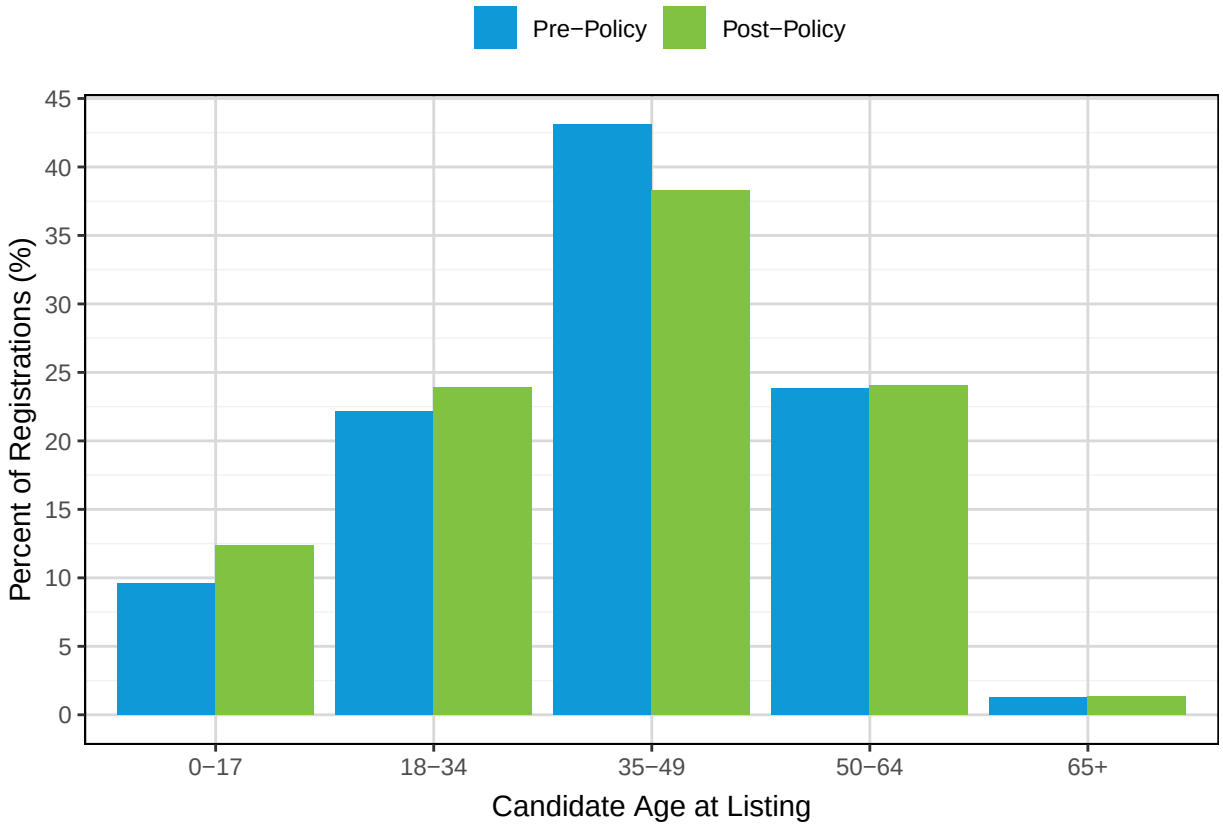


Table A53: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Age at Listing

	Pre-Policy		Post-Policy	
Age at Listing	N	%	N	%
0-17	107	9.63	125	12.36
18-34	246	22.14	242	23.94
35-49	479	43.11	387	38.28
50-64	265	23.85	243	24.04
65+	14	1.26	14	1.38
Total	1111	100.00	1011	100.00

Figure A48 and **Table A54** show pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and gender. The proportion of registrations added for female candidates decreased post-policy from 48.7% to 44.6%.

Figure A48: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Gender

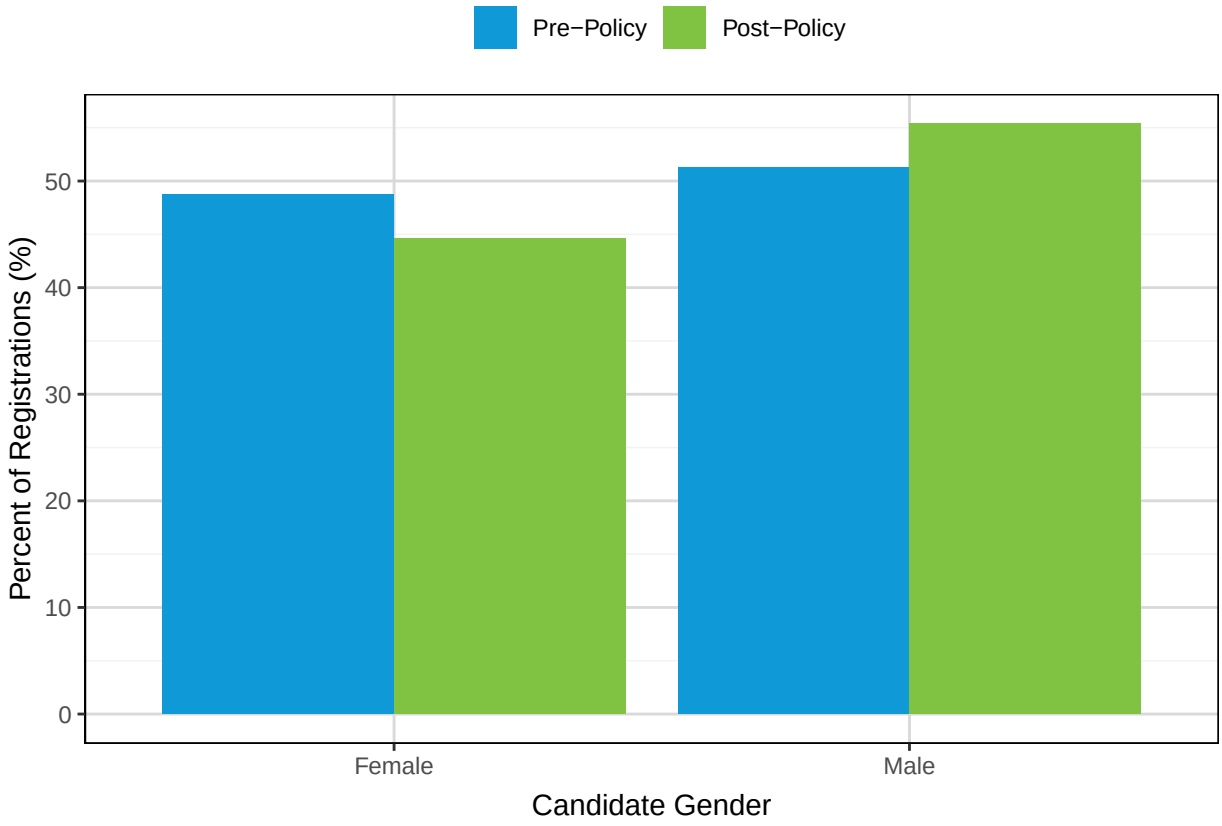


Table A54: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Gender

	Pre-Policy		Post-Policy	
Gender	N	%	N	%
Female	541	48.69	451	44.61
Male	570	51.31	560	55.39
Total	1111	100.00	1011	100.00

Figure A49 and **Table A55** show pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and candidate race/ethnicity. There was little change in the distribution of waiting list additions by race/ethnicity after policy implementation.

Figure A49: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Race/Ethnicity

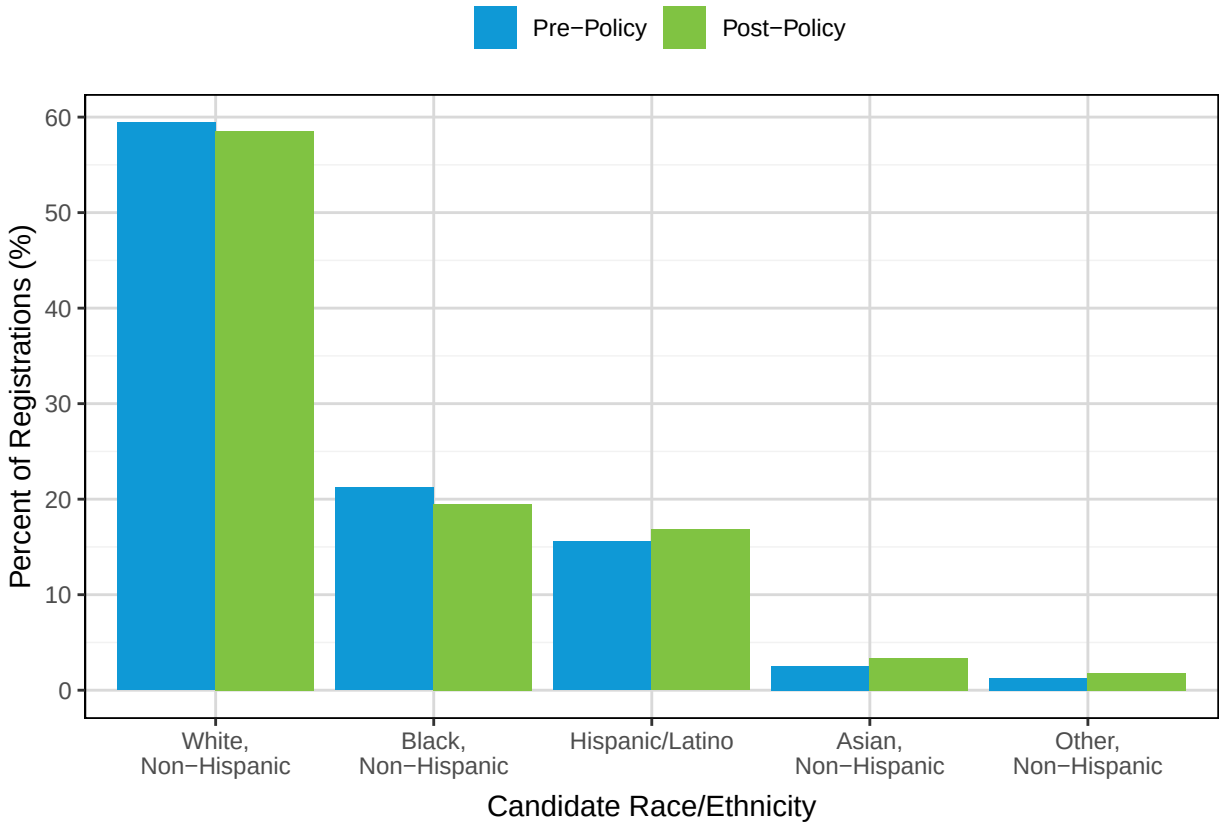


Table A55: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Race/Ethnicity

	Pre-Policy		Post-Policy	
Race/Ethnicity	N	%	N	%
White, Non-Hispanic	660	59.41	592	58.56
Black, Non-Hispanic	236	21.24	197	19.49
Hispanic/Latino	173	15.57	170	16.82
Asian, Non-Hispanic	28	2.52	34	3.36
Other, Non-Hispanic	14	1.26	18	1.78
Total	1111	100.00	1011	100.00

Figure A50 and **Table A56** show pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and blood type. The proportions of new registrations for candidates with blood types A, B, and AB increased slightly after implementation, while the proportion of new registrations for blood type O candidates decreased.

Figure A50: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Blood Type

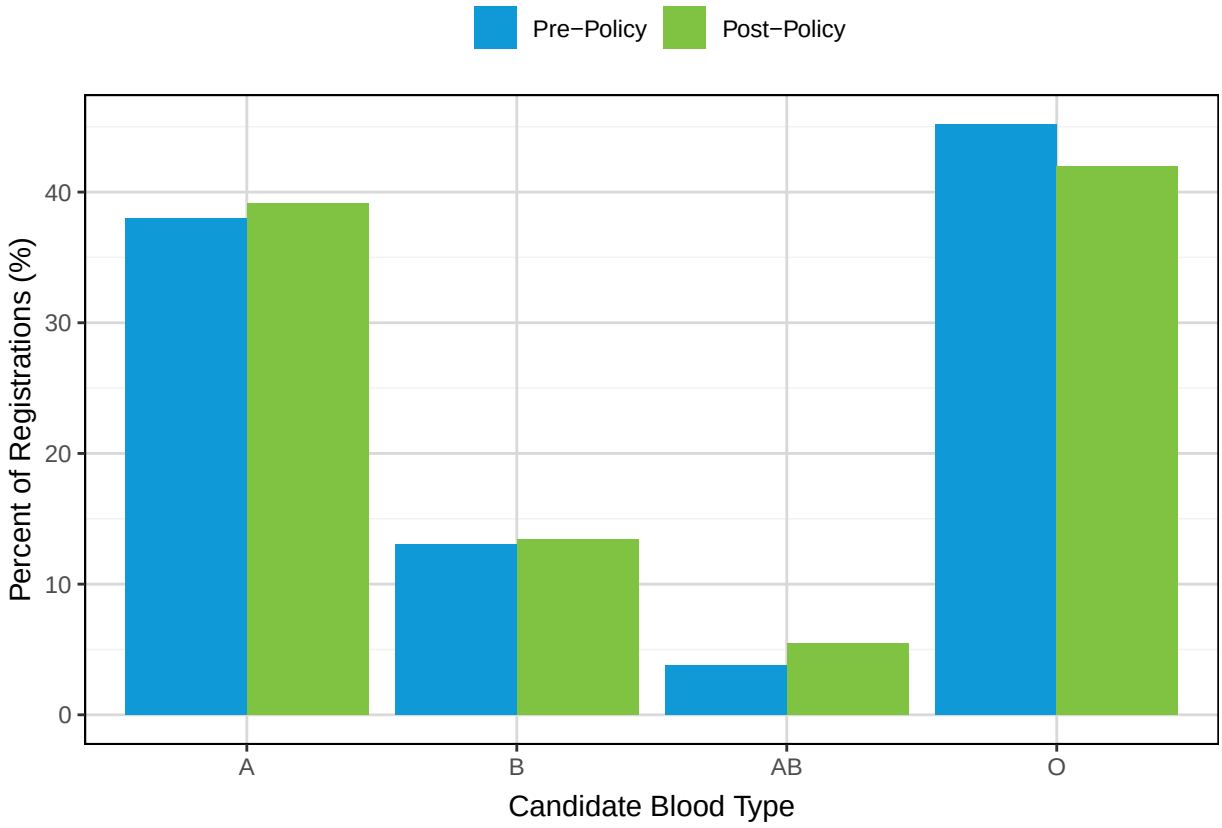


Table A56: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Blood Type

	Pre-Policy		Post-Policy	
Blood Type	N	%	N	%
A	422	37.98	396	39.17
B	145	13.05	136	13.45
AB	42	3.78	55	5.44
O	502	45.18	424	41.94
Total	1111	100.00	1011	100.00

Figure A51 and **Table A57** show pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and CPRA at listing. The majority of waiting list additions in both policy eras were for candidates with CPRA 0% and there was little change in the distribution of CPRA at listing after policy implementation.

Figure A51: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and CPRA

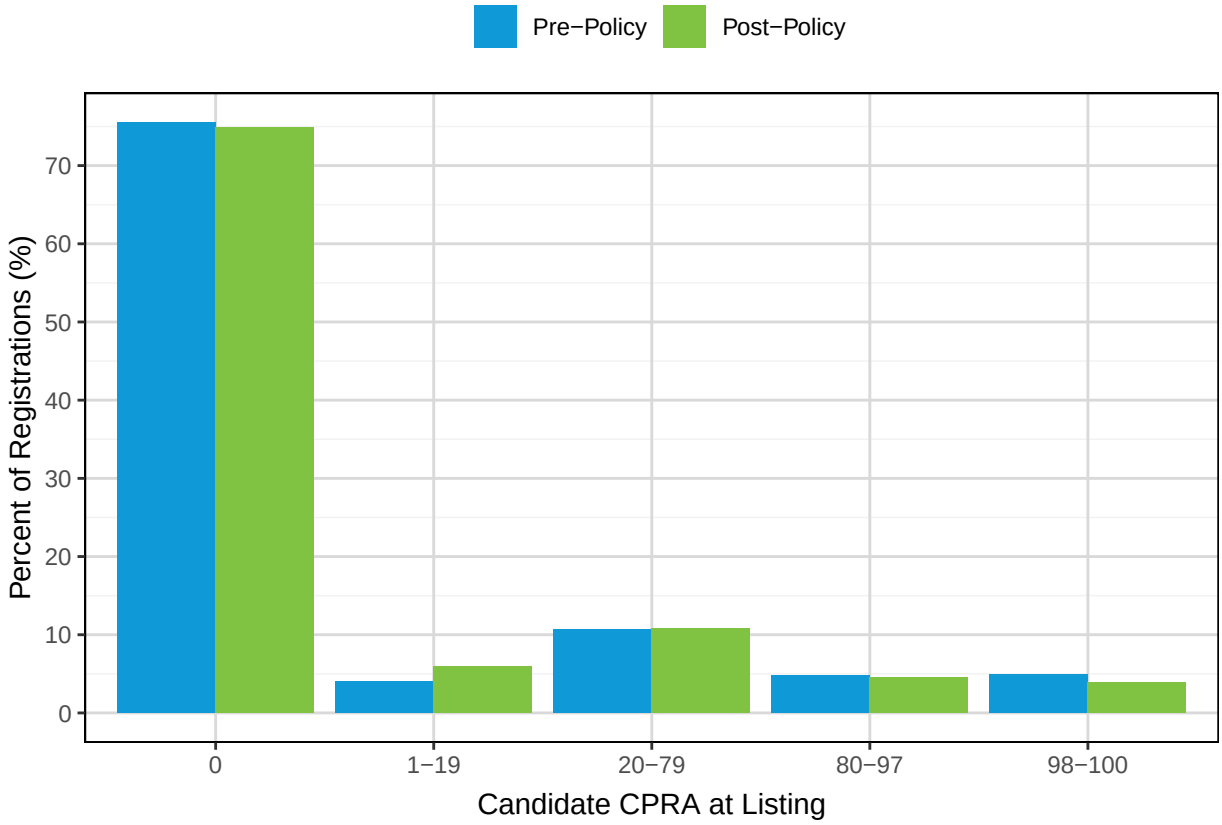


Table A57: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and CPRA

	Pre-Policy		Post-Policy	
CPRA (%)	N	%	N	%
0	839	75.52	757	74.88
1-19	45	4.05	60	5.93
20-79	118	10.62	109	10.78
80-97	54	4.86	46	4.55
98-100	55	4.95	39	3.86
Total	1111	100.00	1011	100.00

Figure A52 and **Table A58** show pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and insurance status at listing. There was little change in the distribution of candidate insurance status at listing after policy implementation.

Figure A52: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Insurance Status at Listing

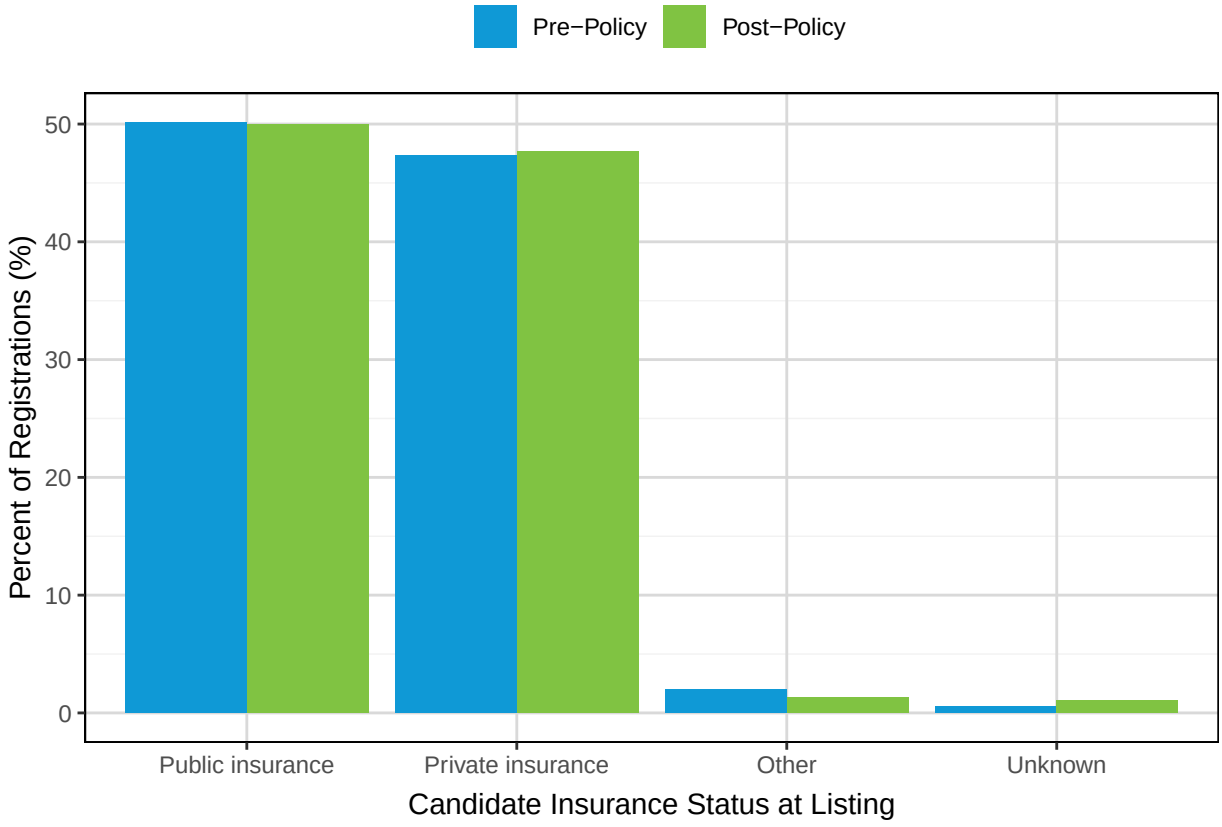


Table A58: Pancreas Registrations Added March 16, 2019-March 14, 2023 by Policy Era and Insurance Status at Listing

	Pre-Policy		Post-Policy	
Insurance at Listing	N	%	N	%
Public insurance	557	50.14	505	49.95
Private insurance	526	47.34	482	47.68
Other	22	1.98	13	1.29
Unknown	6	0.54	11	1.09
Total	1111	100.00	1011	100.00

Figure A53 and **Table A59** show pancreas registrations added to the waiting list from March 16, 2019 to March 14, 2023 by policy era and primary diagnosis at listing. The proportion of waiting list additions for candidates with type 1 diabetes decreased after policy implementation, while the proportion of waiting list additions for candidates with diagnoses other than type 1 or 2 diabetes increased. There was little change in the proportion of new registrations for candidates with type 2 diabetes.

Figure A53: Pancreas Registrations Added March 16, 2019 - March 14, 2023 by Policy Era and Diagnosis at Listing

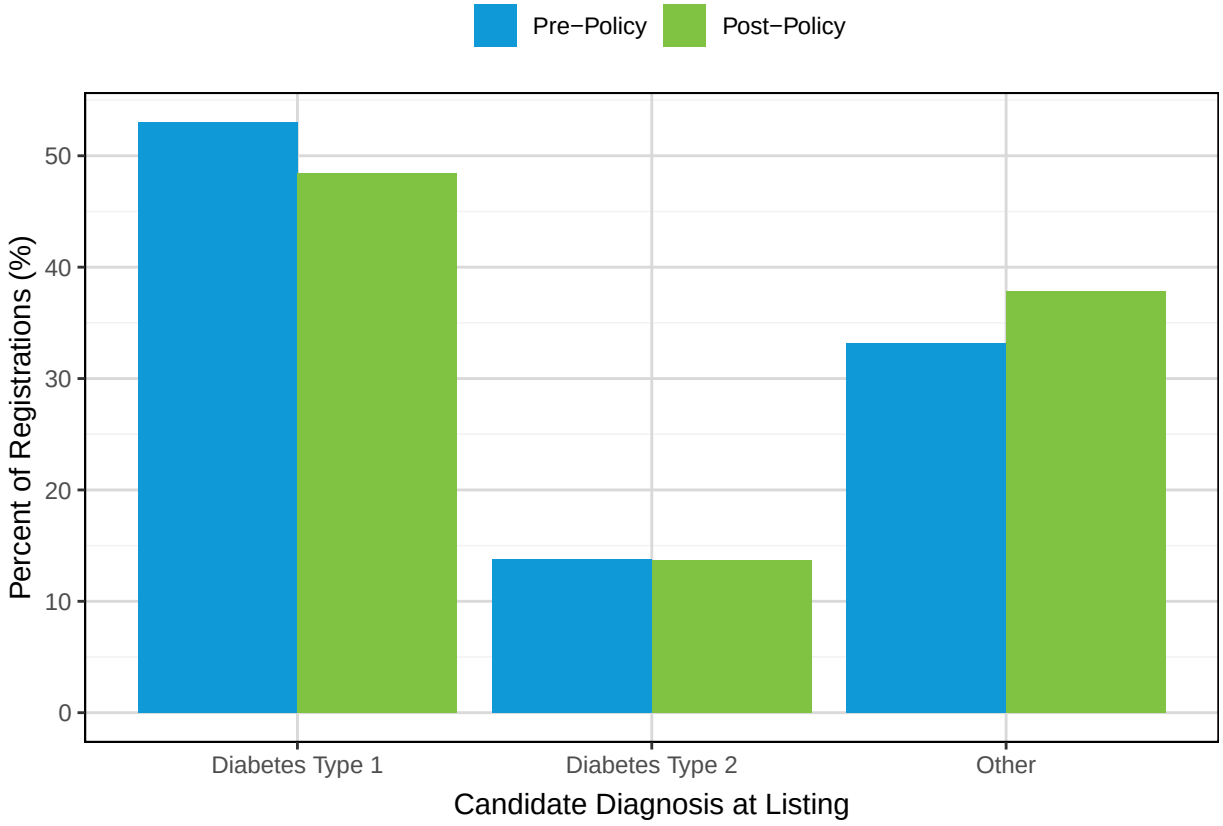


Table A59: Pancreas Registrations Added March 16, 2019 - March 14, 2023 by Policy Era and Diagnosis at Listing

	Pre-Policy		Post-Policy	
Diagnosis	N	%	N	%
Diabetes Type 1	589	53.02	490	48.47
Diabetes Type 2	153	13.77	138	13.65
Other	369	33.21	383	37.88
Total	1111	100.00	1011	100.00

Figure A54 and **Table A60** show waiting list mortality rates for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era. There were 54 deaths on the waiting list pre-policy and 55 deaths post-policy. There was little change in the overall pancreas waiting list mortality rate after policy implementation (3.1 vs 3.2 deaths per 100 patient years).

Figure A54: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era

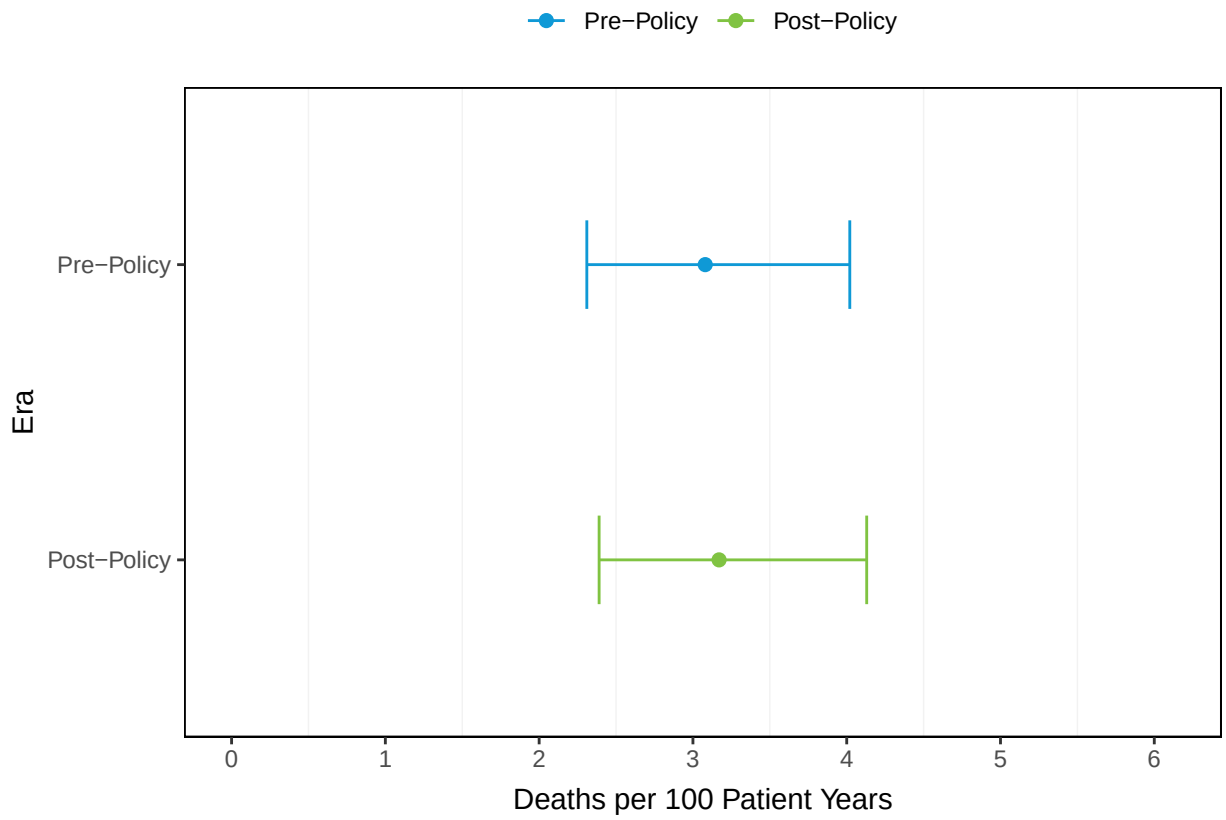
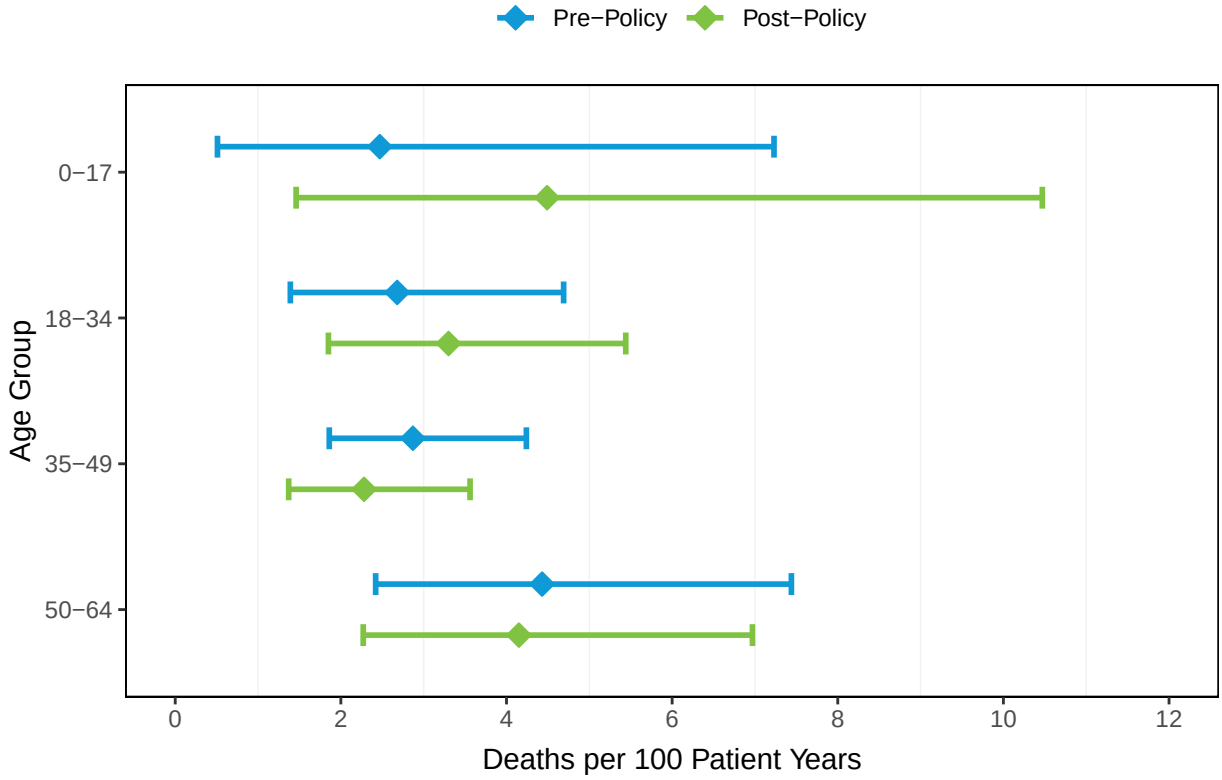


Table A60: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era

Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
Pre-Policy	1705	54	3.08	(2.31, 4.02)
Post-Policy	1647	55	3.17	(2.39, 4.13)

Figure A55 and **Table A61** show waiting list mortality rates for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and age at listing. Waiting list mortality rates decreased post-policy for the 35-49 and 50-64 age groups, and increased for the 0-17 and 18-34 age groups. These changes were not statistically significant. There were no deaths on the waiting list for registrations aged 65+ at listing in the pre-policy era, and two deaths on the waiting list post-policy.

Figure A55: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing



65+ age group omitted from figure due to small number of events and wide confidence intervals.

Table A61: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing

Age at Listing	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
0-17	Pre-Policy	120	3	2.47	(0.51, 7.23)
	Post-Policy	120	5	4.49	(1.46, 10.47)
18-34	Pre-Policy	421	12	2.68	(1.39, 4.69)
	Post-Policy	425	15	3.30	(1.85, 5.44)
35-49	Pre-Policy	837	25	2.87	(1.86, 4.24)
	Post-Policy	772	19	2.28	(1.37, 3.56)
50-64	Pre-Policy	367	14	4.43	(2.42, 7.44)
	Post-Policy	376	14	4.15	(2.27, 6.97)
65+	Pre-Policy	12	0	0.00	-
	Post-Policy	15	2	25.57	(3.1, 92.36)

Figure A56 and **Table A62** show waiting list mortality rates for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and gender. The waiting list mortality rate increased post-policy for male registrations, and decreased for female registrations. These changes were not statistically significant.

Figure A56: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Gender

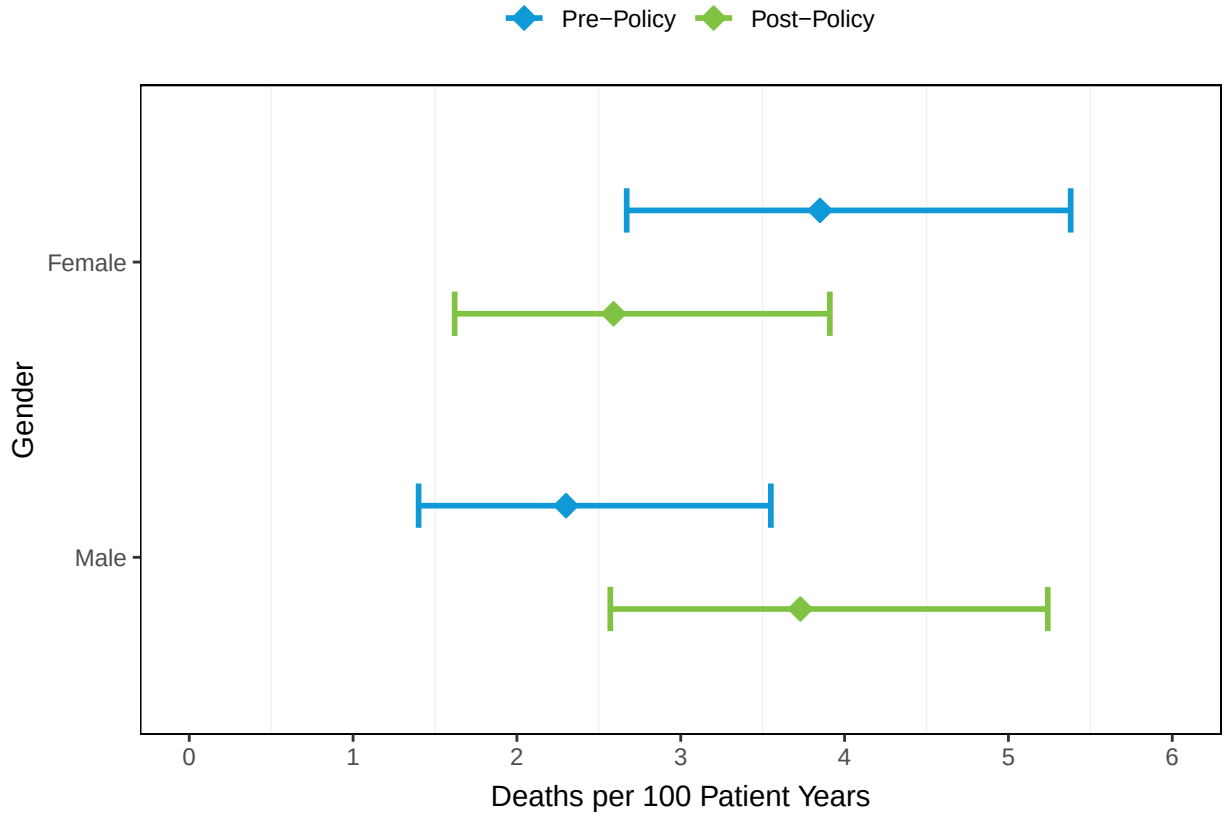


Table A62: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Gender

Gender	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
Female	Pre-Policy	850	34	3.85	(2.67, 5.38)
	Post-Policy	798	22	2.59	(1.62, 3.91)
Male	Pre-Policy	855	20	2.30	(1.4, 3.55)
	Post-Policy	849	33	3.73	(2.57, 5.24)

Figure A57 and **Table A63** show waiting list mortality rates for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and race/ethnicity. Waiting list mortality rates decreased for Hispanic/Latino and Asian, Non-Hispanic candidates after policy implementation, while the waiting list mortality rate for Black, Non-Hispanic candidates increased. These changes were not statistically significant. There was little change in the waiting list mortality rate for White, Non-Hispanic candidates after policy implementation.

Figure A57: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

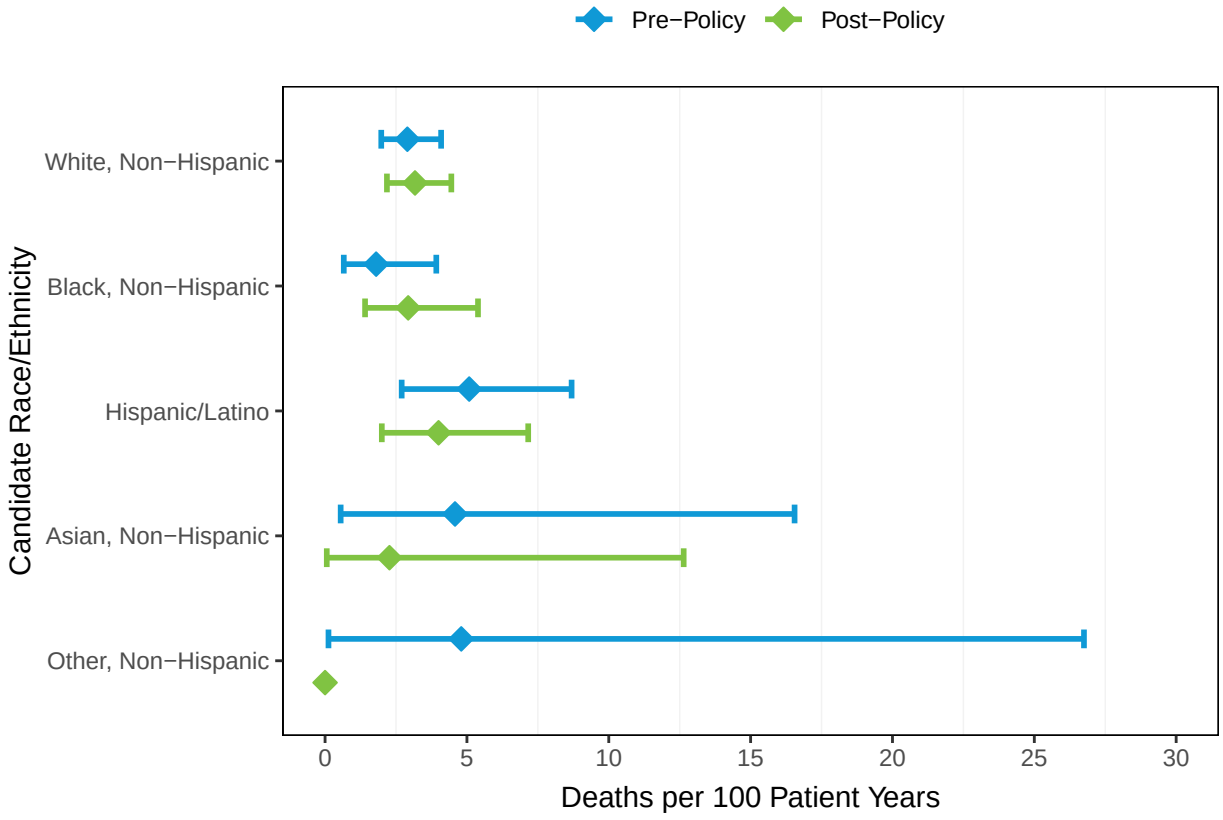
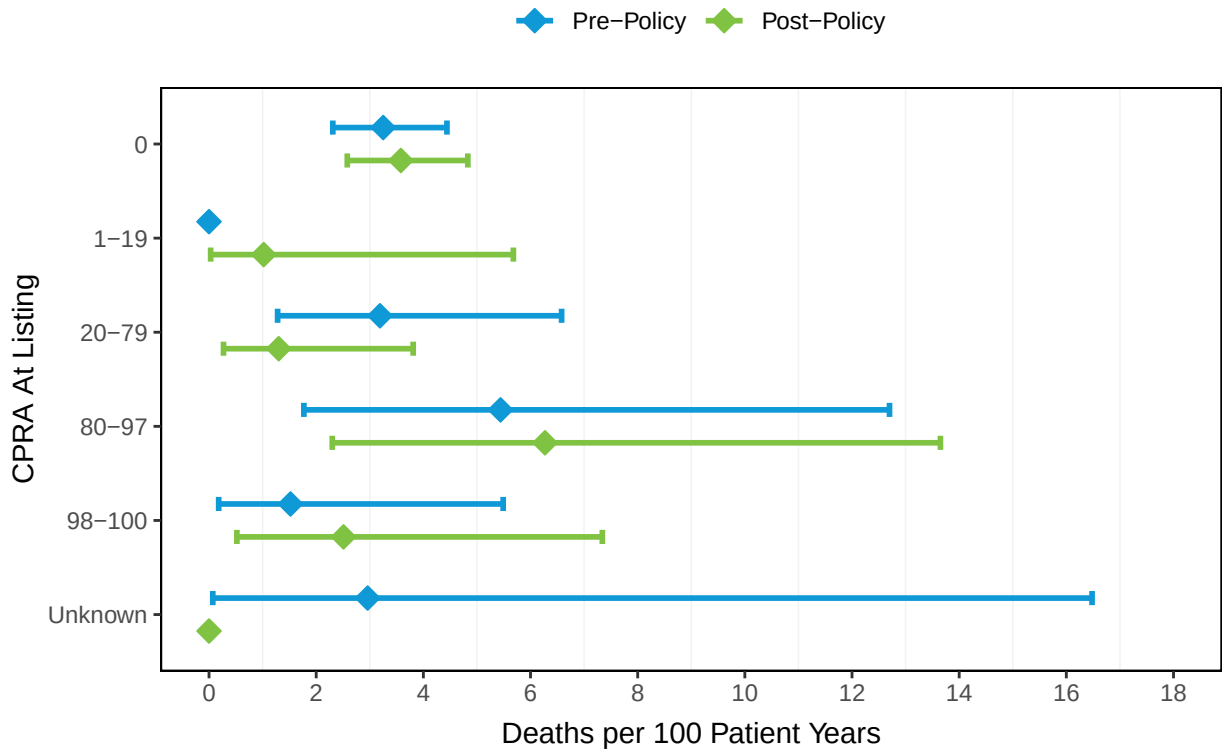


Table A63: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

Race/Ethnicity	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
White, Non-Hispanic	Pre-Policy	1070	32	2.90	(1.98, 4.09)
	Post-Policy	981	33	3.17	(2.18, 4.45)
Black, Non-Hispanic	Pre-Policy	327	6	1.80	(0.66, 3.92)
	Post-Policy	333	10	2.93	(1.41, 5.39)
Hispanic/Latino	Pre-Policy	246	13	5.08	(2.7, 8.69)
	Post-Policy	266	11	4.00	(2, 7.16)
Asian, Non-Hispanic	Pre-Policy	44	2	4.58	(0.55, 16.55)
	Post-Policy	46	1	2.27	(0.06, 12.64)
Other, Non-Hispanic	Pre-Policy	21	1	4.80	(0.12, 26.75)
	Post-Policy	26	0	0.00	-

Figure A58 and **Table A64** show waiting list mortality rates for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and CPRA at listing. Waiting list mortality rates decreased post-policy for candidates with CPRA 20-79%, and increased for candidates with CPRA 0%, 80-97%, and 98-100%. These changes were not statistically significant. There were no deaths on the waiting list for candidates with CPRA 1-19% in the pre-policy era, and one death on the waiting list post-policy. For candidates with unknown CPRA, there was one death on the waiting list pre-policy, and no deaths on the waiting list post-policy.

Figure A58: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing



Candidates with unknown CPRA were listed prior to October 1st, 2009, when CPRA was implemented in allocation. Registrations listed on or after January 26th, 2023 with a NULL CPRA due to not reporting unacceptable antigens were recoded to have a CPRA of 0%.

Table A64: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing

CPRA (%)	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
0	Pre-Policy	1198	39	3.25	(2.31, 4.44)
	Post-Policy	1156	42	3.58	(2.58, 4.83)
1-19	Pre-Policy	86	0	0.00	-
	Post-Policy	97	1	1.02	(0.03, 5.68)
20-79	Pre-Policy	219	7	3.19	(1.28, 6.58)
	Post-Policy	213	3	1.30	(0.27, 3.81)
80-97	Pre-Policy	96	5	5.44	(1.77, 12.7)
	Post-Policy	92	6	6.27	(2.3, 13.65)
98-100	Pre-Policy	105	2	1.52	(0.18, 5.49)
	Post-Policy	100	3	2.51	(0.52, 7.34)
Unknown	Pre-Policy	24	1	2.96	(0.07, 16.48)
	Post-Policy	15	0	0.00	-

Figure A59 and **Table A65** show waiting list mortality rates for pancreas registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and blood type. Waiting list mortality rates decreased post-policy for blood type AB candidates, and increased for blood type A candidates. These changes were not statistically significant. There was little change in the waiting list mortality rates for candidates with blood type B or O.

Figure A59: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

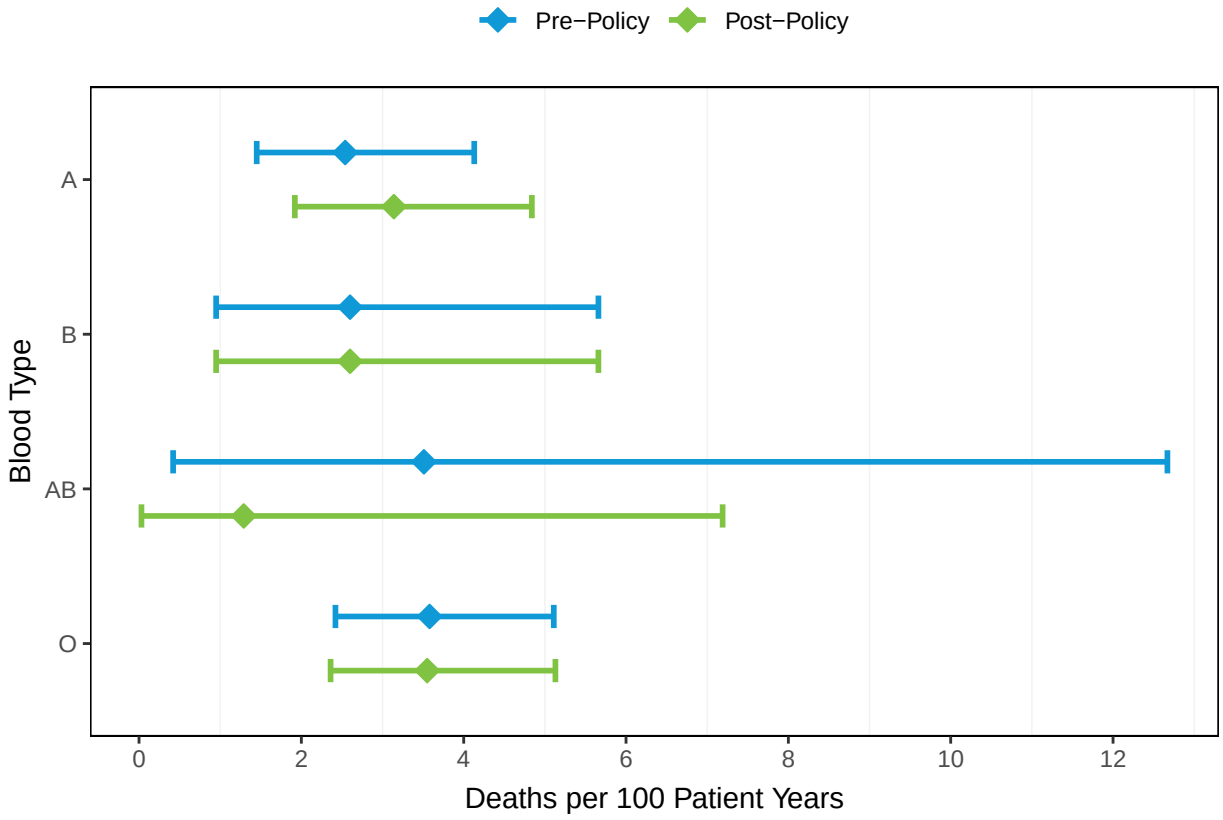


Table A65: Waiting List Mortality Rates for Pancreas Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

Blood Type	Era	Registrations	Deaths	Deaths per 100 Patient Years	95% CI
A	Pre-Policy	632	16	2.54	(1.45, 4.13)
	Post-Policy	614	20	3.14	(1.92, 4.84)
B	Pre-Policy	229	6	2.60	(0.95, 5.66)
	Post-Policy	216	6	2.60	(0.95, 5.66)
AB	Pre-Policy	58	2	3.51	(0.42, 12.67)
	Post-Policy	72	1	1.29	(0.03, 7.19)
O	Pre-Policy	786	30	3.58	(2.42, 5.11)
	Post-Policy	745	28	3.55	(2.36, 5.13)

Deceased Donor Transplants

Figure A60 and **Table A66** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. There were 271 transplants in the pre-policy era, and 244 in the post-policy era.

Figure A60: Deceased Donor Pancreas Transplants March 16, 2019- March 14, 2023 by Policy Era

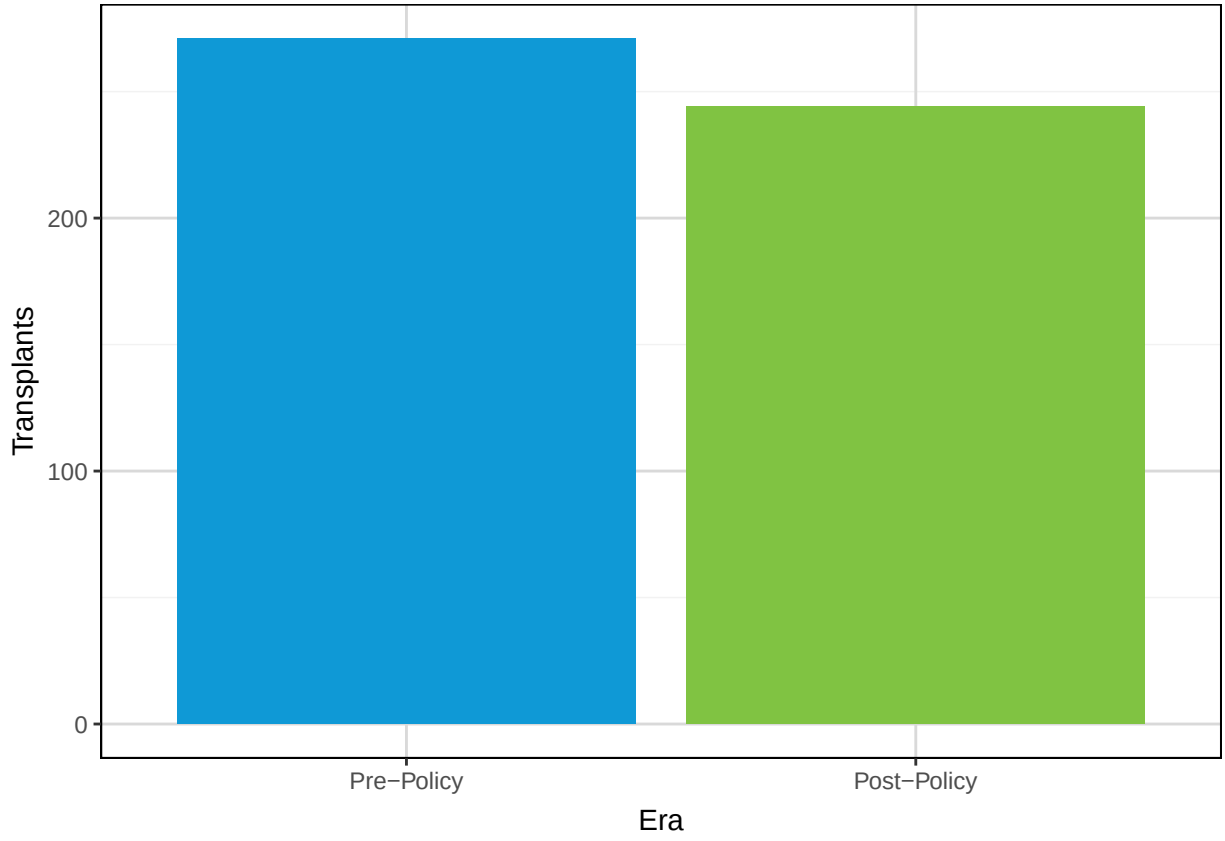


Table A66: Deceased Donor Pancreas Transplants March 16, 2019- March 14, 2023 by Policy Era

Era	Transplants
Pre-Policy	271
Post-Policy	244

Figure A61 and **Table A67** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and recipient age at transplant. The proportion of transplants to recipients in the 35-49 age group increased after policy implementation, while the proportion of transplants to recipients aged 50-64 decreased; there was little change in the proportion of transplants to recipients in the 0-17, 18-34, or 65+ age groups.

Figure A61: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Age at Transplant

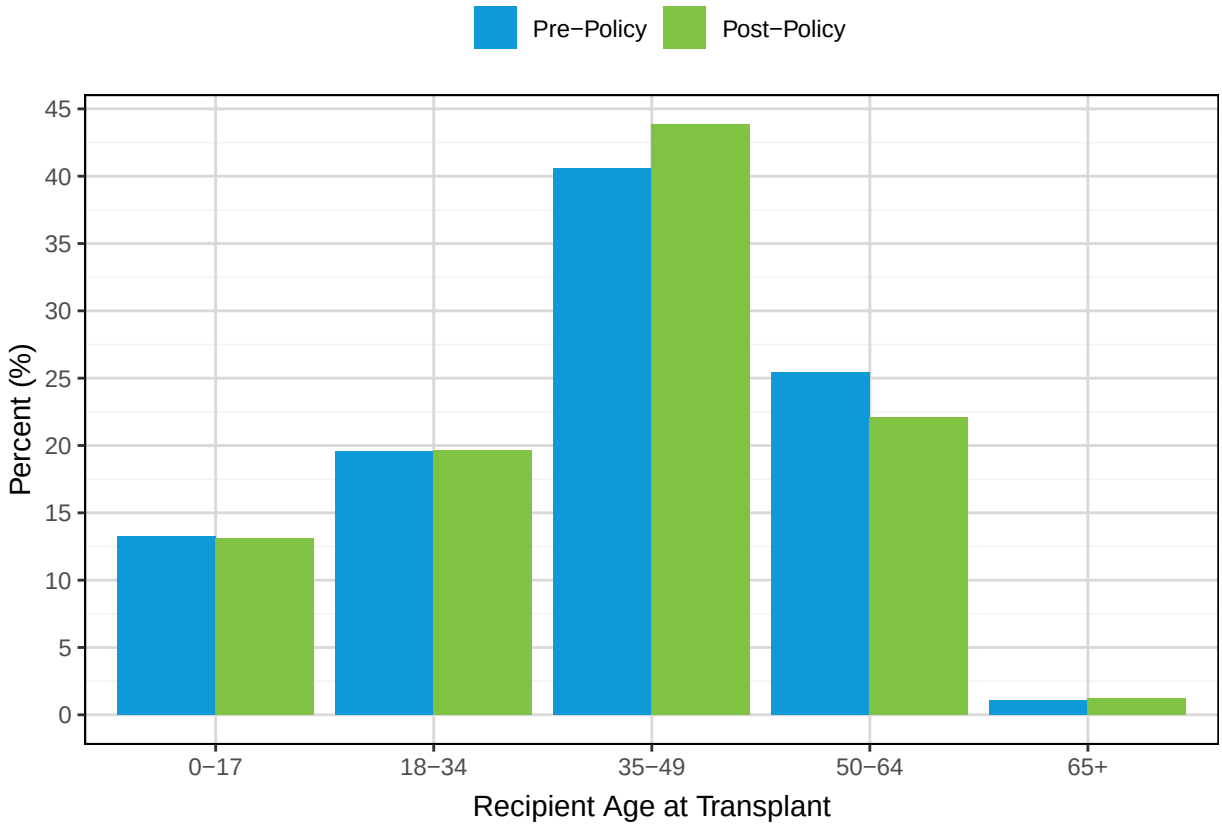


Table A67: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Age at Transplant

	Pre-Policy		Post-Policy	
Age at Transplant	N	%	N	%
0-17	36	13.28	32	13.11
18-34	53	19.56	48	19.67
35-49	110	40.59	107	43.85
50-64	69	25.46	54	22.13
65+	3	1.11	3	1.23
Total	271	100.00	244	100.00

Figure A62 and **Table A68** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and recipient race/ethnicity. There was little change in the distribution of transplants by recipient race/ethnicity after policy implementation.

Figure A62: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Race/Ethnicity

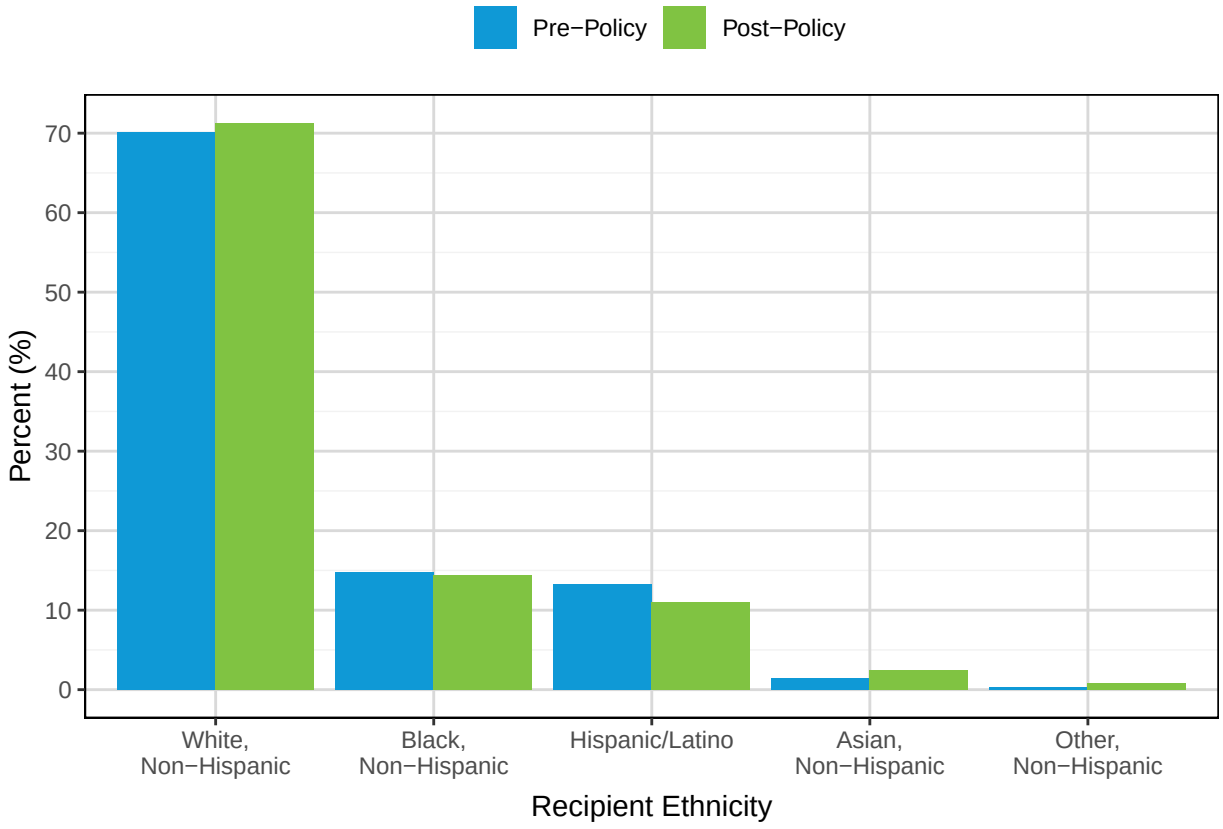


Table A68: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Race/Ethnicity

	Pre-Policy		Post-Policy	
Race/Ethnicity	N	%	N	%
White, Non-Hispanic	190	70.11	174	71.31
Black, Non-Hispanic	40	14.76	35	14.34
Hispanic/Latino	36	13.28	27	11.07
Asian, Non-Hispanic	4	1.48	6	2.46
Other, Non-Hispanic	1	0.37	2	0.82
Total	271	100.00	244	100.00

Figure A63 and **Table A69** show the distribution of waiting time in years for deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era. Median time from listing to transplant increased from 0.54 to 0.76 years after policy implementation.

Figure A63: Distribution of Waiting Time for Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

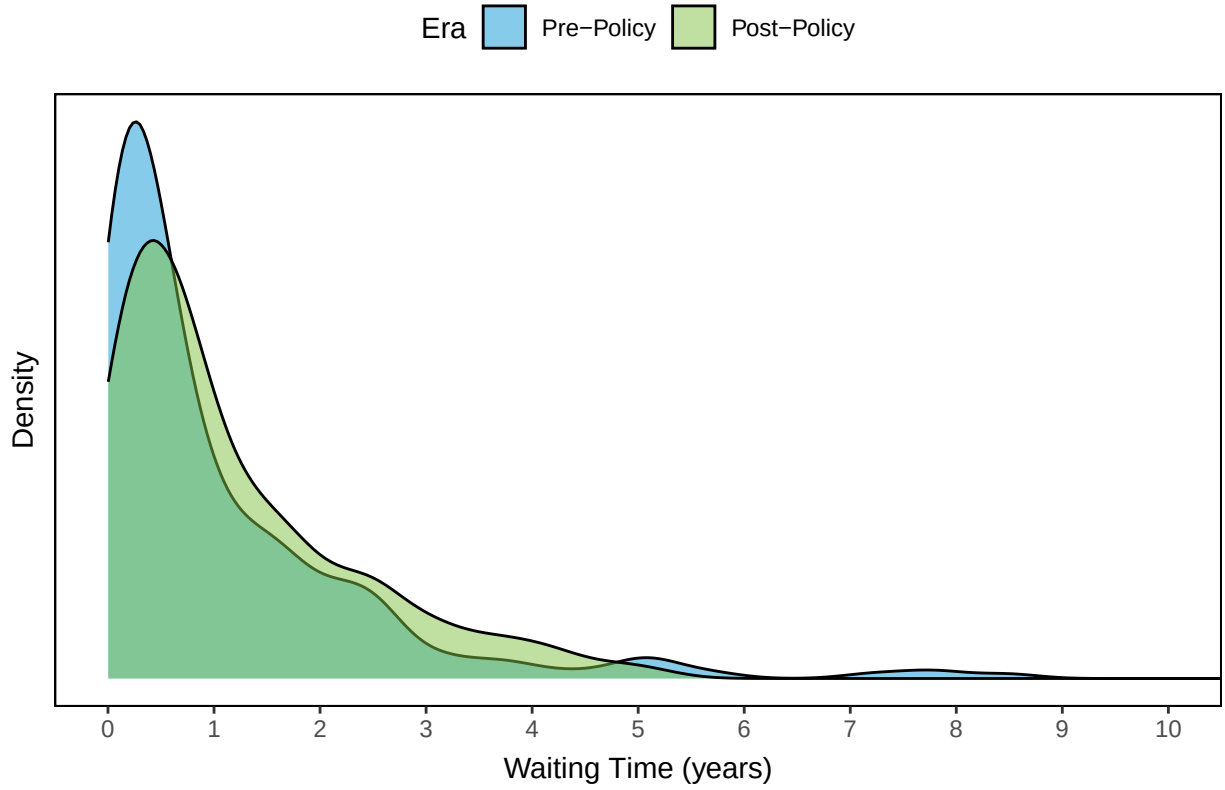


Table A69: Distribution of Waiting Time for Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era

Era	Total	Missing	Min	25th %-tile	Median	Mean	75th %-tile	Max
Pre-Policy	271	0	0	0.18	0.54	1.1	1.48	12.26
Post-Policy	244	0	0	0.34	0.76	1.3	1.73	16.97

Figure A64 and **Table A70** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and recipient blood type. There was little change in the distribution of transplants by candidate blood type after policy implementation.

Figure A64: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Blood Type

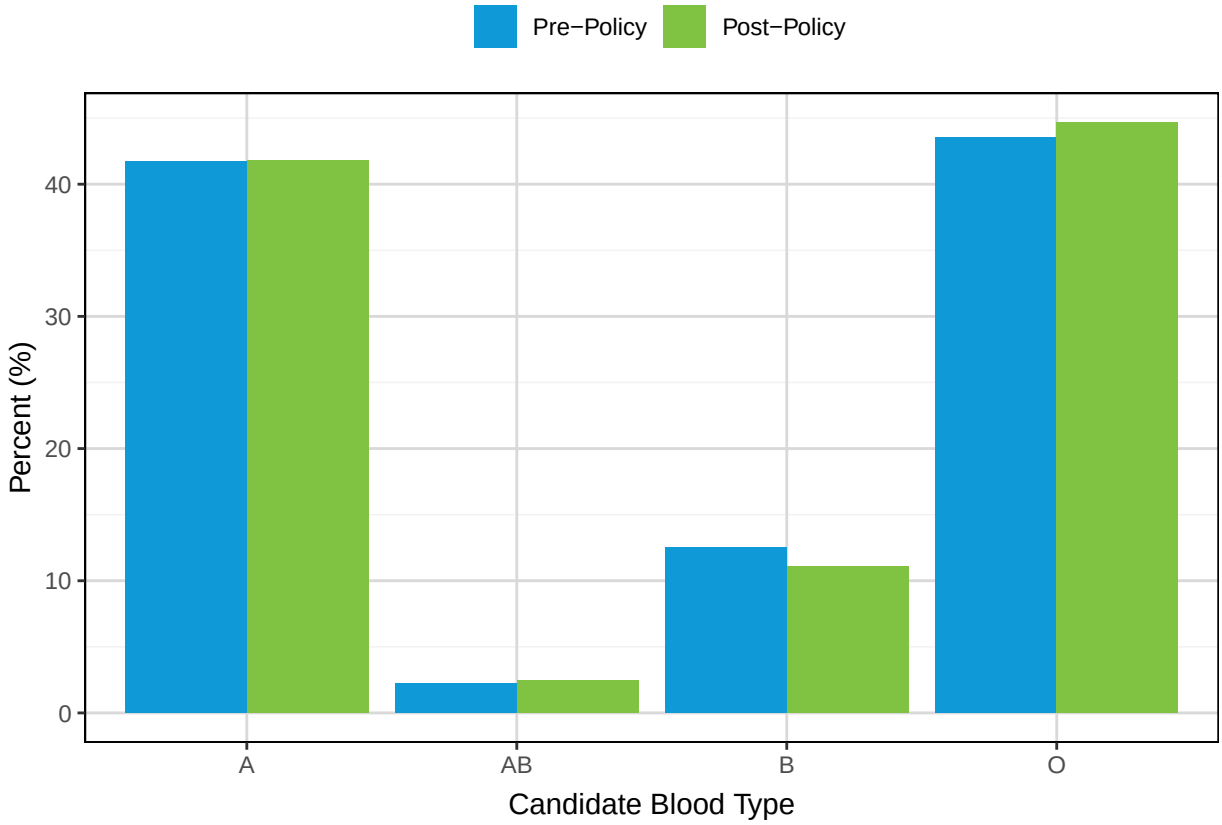


Table A70: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Recipient Blood Type

	Pre-Policy		Post-Policy	
Blood Type	N	%	N	%
A	113	41.70	102	41.80
AB	6	2.21	6	2.46
B	34	12.55	27	11.07
O	118	43.54	109	44.67
Total	271	100.00	244	100.00

Figure A65 and **Table A71** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and CPRA at transplant. The proportion of transplants to recipients in the CPRA 80-97% group increased from 6.3% to 8.6% after policy implementation, while the proportion of transplants to recipients in the CPRA 98-100% group decreased from 2.6% to 0.4%.

Figure A65: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and CPRA

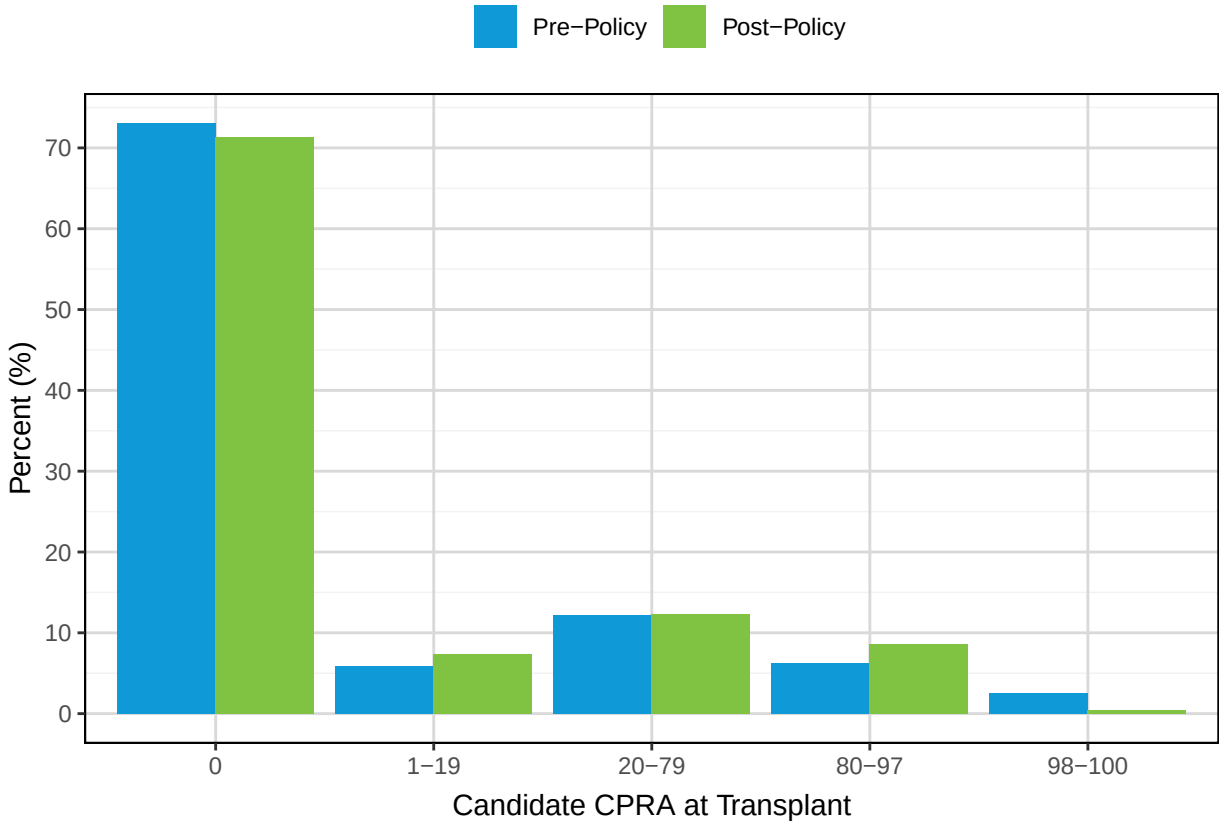


Table A71: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and CPRA

	Pre-Policy		Post-Policy	
CPRA (%)	N	%	N	%
0	198	73.06	174	71.31
1-19	16	5.90	18	7.38
20-79	33	12.18	30	12.30
80-97	17	6.27	21	8.61
98-100	7	2.58	1	0.41
Total	271	100.00	244	100.00

Figure A66 and **Table A72** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and level of HLA mismatch. Multi-organ transplants including a pancreas were excluded.

Figure A66: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and HLA Mismatch

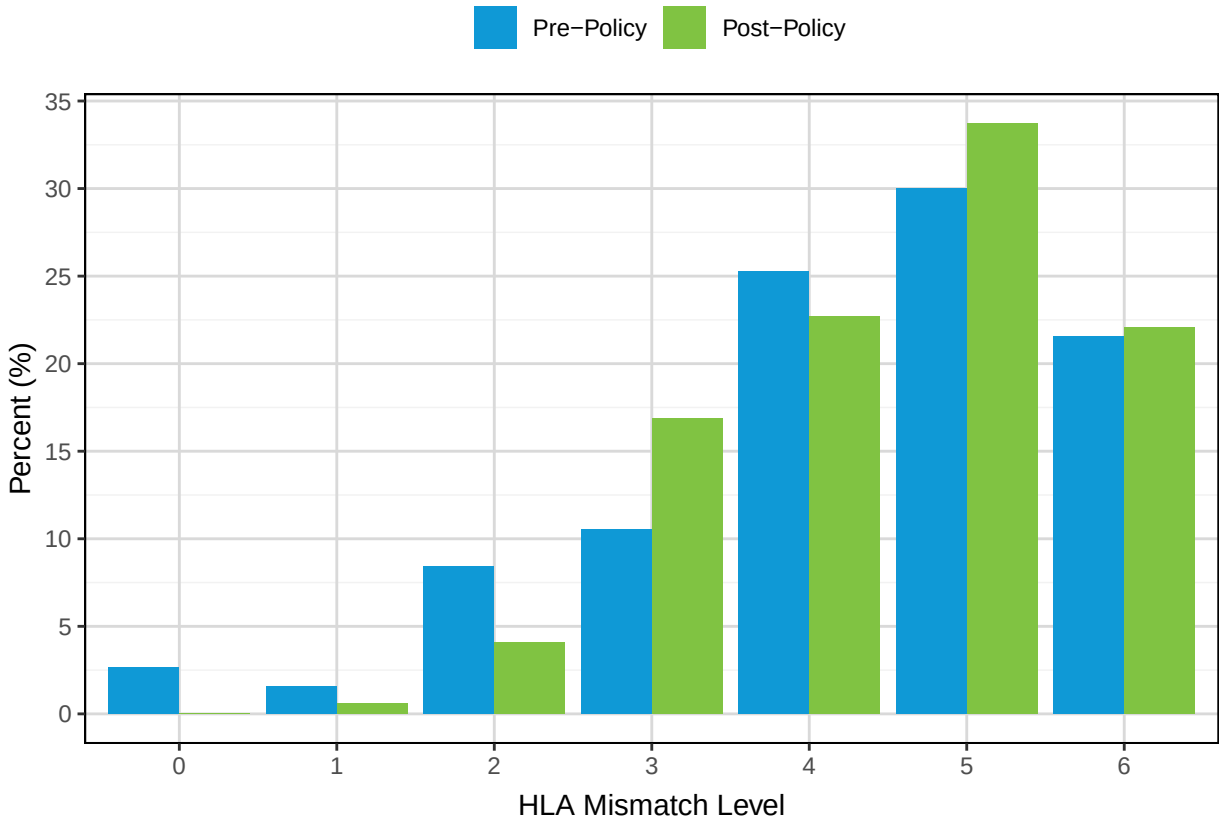


Table A72: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and HLA Mismatch

	Pre-Policy		Post-Policy	
HLA Mismatch Level	N	%	N	%
0	5	2.63	0	0.00
1	3	1.58	1	0.58
2	16	8.42	7	4.07
3	20	10.53	29	16.86
4	48	25.26	39	22.67
5	57	30.00	58	33.72
6	41	21.58	38	22.09
Total	190	100.00	172	100.00

Figure A67 and **Table A73** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and primary diagnosis. There was little change in the distribution of transplants by recipient diagnosis after policy implementation.

Figure A67: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Diagnosis

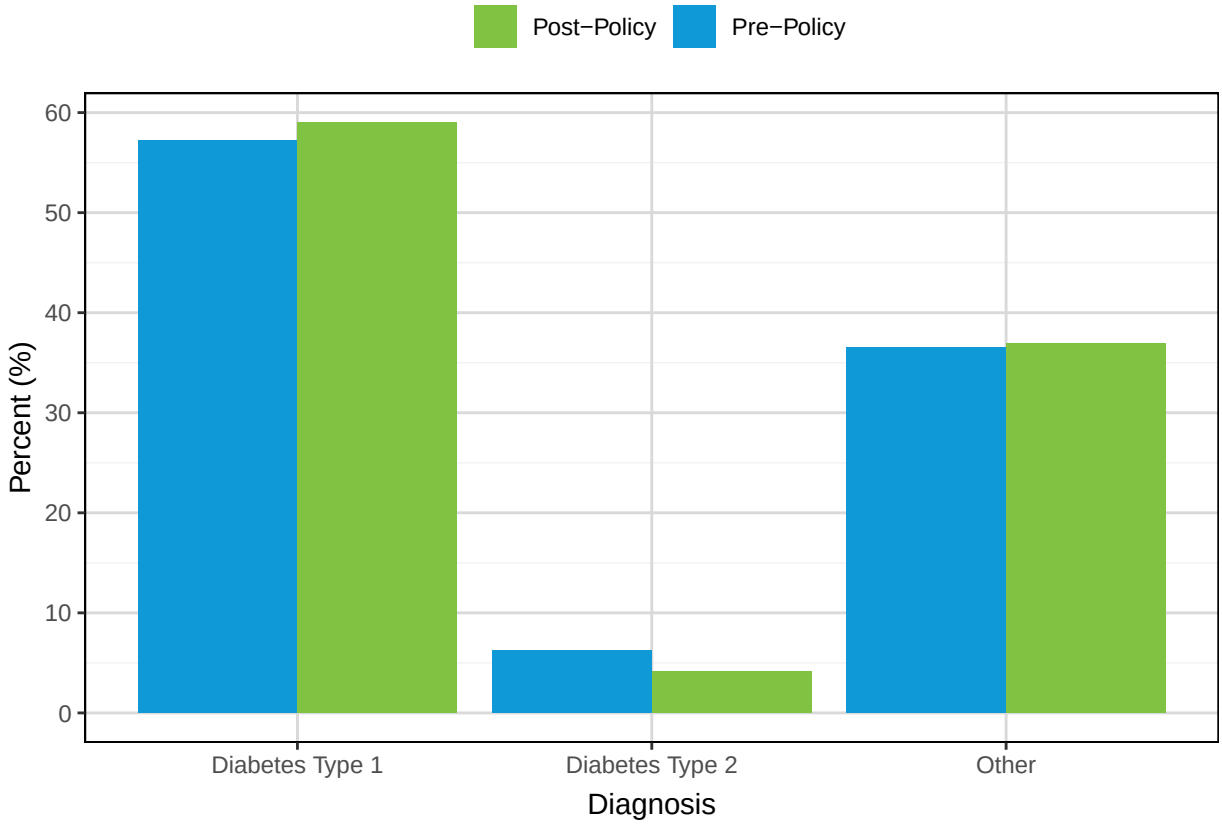


Table A73: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and Diagnosis

	Pre-Policy		Post-Policy	
Diagnosis	N	%	N	%
Diabetes Type 1	155	57.20	144	59.02
Diabetes Type 2	17	6.27	10	4.10
Other	99	36.53	90	36.89
Total	271	100.00	244	100.00

Figure A68 and **Table A74** show deceased donor pancreas transplants from March 16, 2019 to March 14, 2023 by policy era and donor DCD status. There was little change in the volume or proportion of transplants from DCD donors after policy implementation.

Figure A68: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and DCD Status

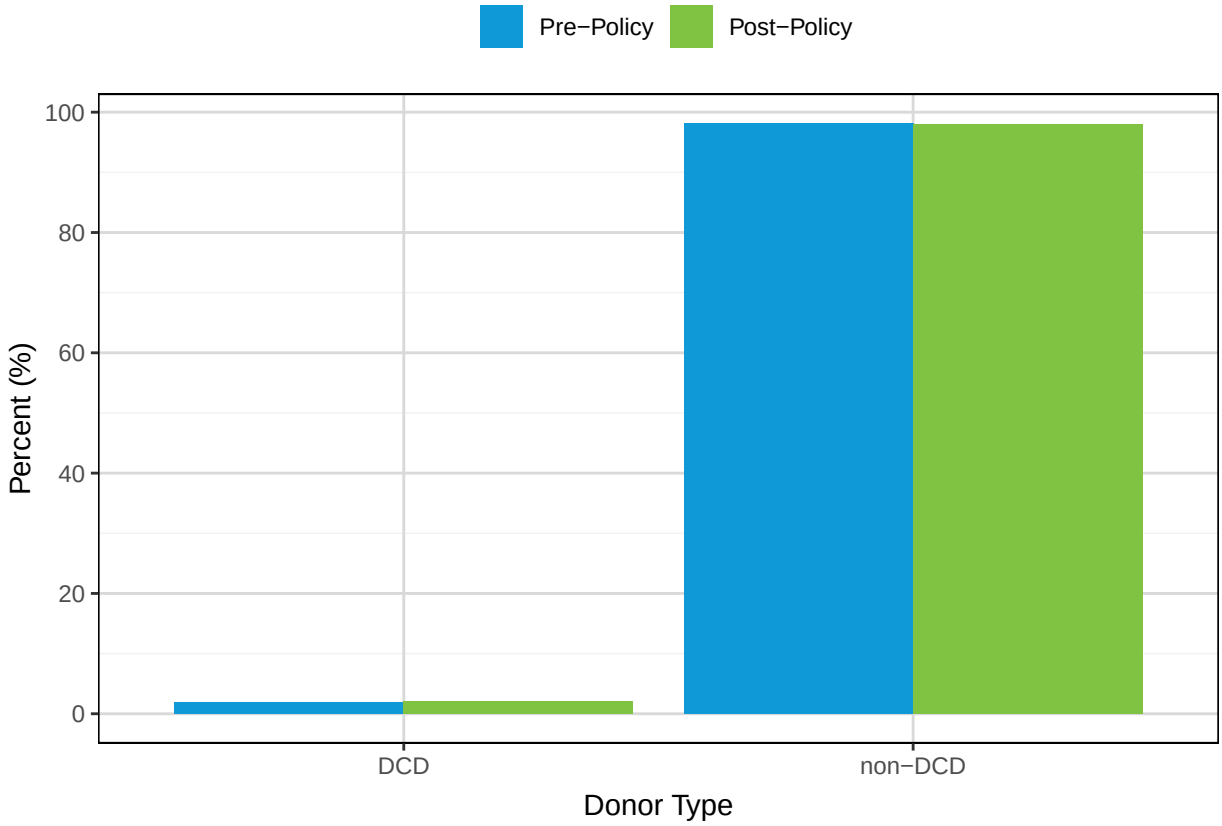


Table A74: Deceased Donor Pancreas Transplants from March 16, 2019-March 14, 2023 by Policy Era and DCD Status

	Pre-Policy		Post-Policy	
DCD Donor	N	%	N	%
DCD	5	1.85	5	2.05
non-DCD	266	98.15	239	97.95
Total	271	100.00	244	100.00

Post-Transplant Outcomes

Patient Survival

Figure A69 and **Table A75** show one year post-transplant patient survival for deceased donor pancreas alone transplants by policy era and recipient gender. There was no statistically significant difference in the probability of patient survival at one year post-transplant for female recipients. For male recipients, there was one recipient death in the pre-policy era and zero deaths post-policy.

Figure A69: One Year Post-Transplant Patient Survival for Pancreas Alone Transplants by Policy Era and Gender

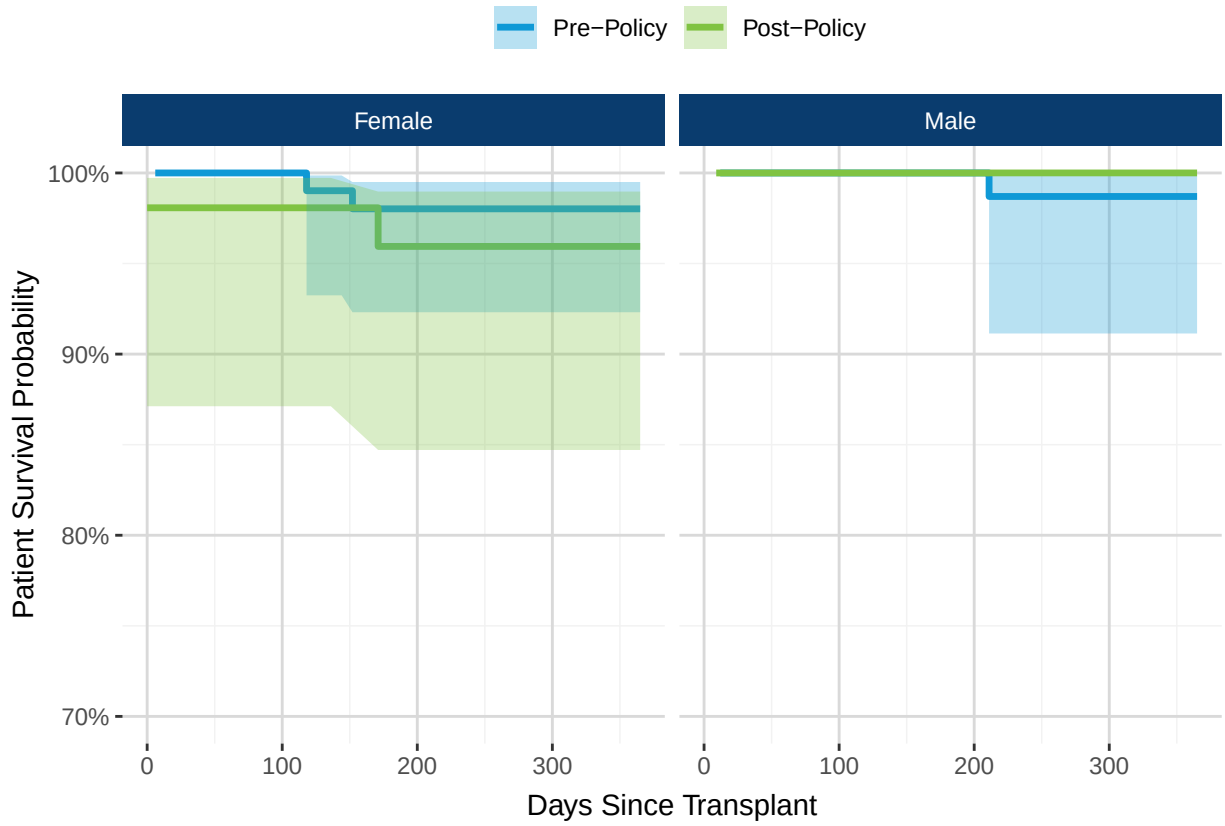


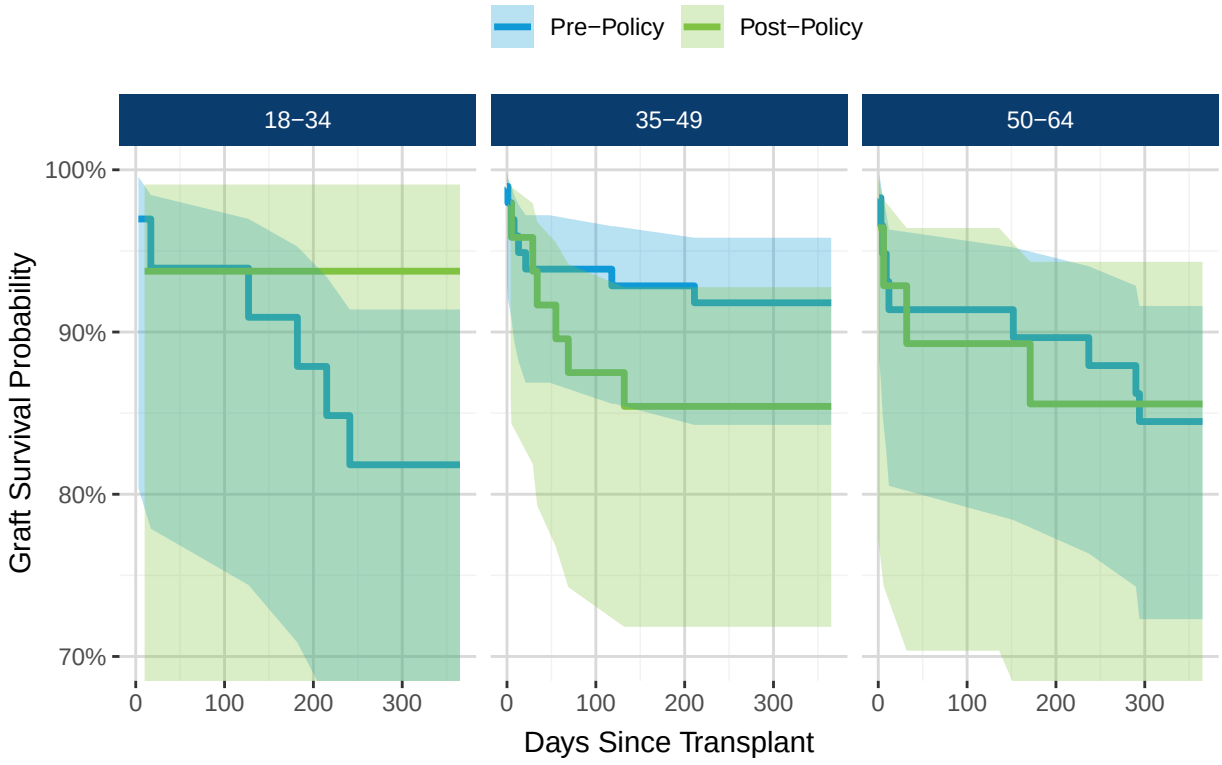
Table A75: One Year Post-Transplant Patient Survival for Pancreas Alone Transplants by Policy Era and Gender

Recipient Gender	Era	N Transplants	N Deaths	N at Risk	Estimate	95% Confidence Interval
Female	Pre-Policy	109	2	92	98	(92.3, 99.5)
	Post-Policy	52	2	25	95.9	(84.7, 99.0)
Male	Pre-Policy	81	1	75	98.7	(91.1, 99.8)
	Post-Policy	43	0	25	100	–

Pancreas Graft Survival

Figure A70 and **Table A76** show one year post-transplant pancreas graft survival for deceased donor pancreas alone transplants by policy era and recipient age at transplant. There were no statistically significant differences in the probability of pancreas graft survival at one year post-transplant within the 18-34, 35-49 or 50-64 age groups.

Figure A70: One Year Post-Transplant Pancreas Graft Survival for Pancreas Alone Transplants by Policy Era and Recipient Age



<18 and 65+ age groups omitted from figure.
Survival estimates were not computed for groups with N <10 at risk at one year post−transplant.

Table A76: One Year Post-Transplant Pancreas Graft Survival for Pancreas Alone Transplants by Policy Era and Recipient Age

Recipient Age	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
<18	Pre-Policy	0	0	0	–	–
	Post-Policy	0	0	0	–	–
18-34	Pre-Policy	33	6	27	81.8	(63.9, 91.4)
	Post-Policy	16	1	11	93.8	(63.2, 99.1)
35-49	Pre-Policy	98	8	86	91.8	(84.3, 95.8)
	Post-Policy	48	7	21	85.4	(71.8, 92.8)
50-64	Pre-Policy	58	9	49	84.5	(72.3, 91.6)
	Post-Policy	28	4	16	85.6	(66.0, 94.3)
65+	Pre-Policy	1	0	1	–	–
	Post-Policy	3	0	2	–	–

Figure A71 and **Table A77** show one year post-transplant pancreas graft survival for deceased donor pancreas alone transplants by policy era and recipient gender. There were no statistically significant differences in the probability of pancreas graft survival at one year post-transplant for female or male recipients.

Figure A71: One Year Post-Transplant Pancreas Graft Survival for Pancreas Alone Transplants by Policy Era and Gender

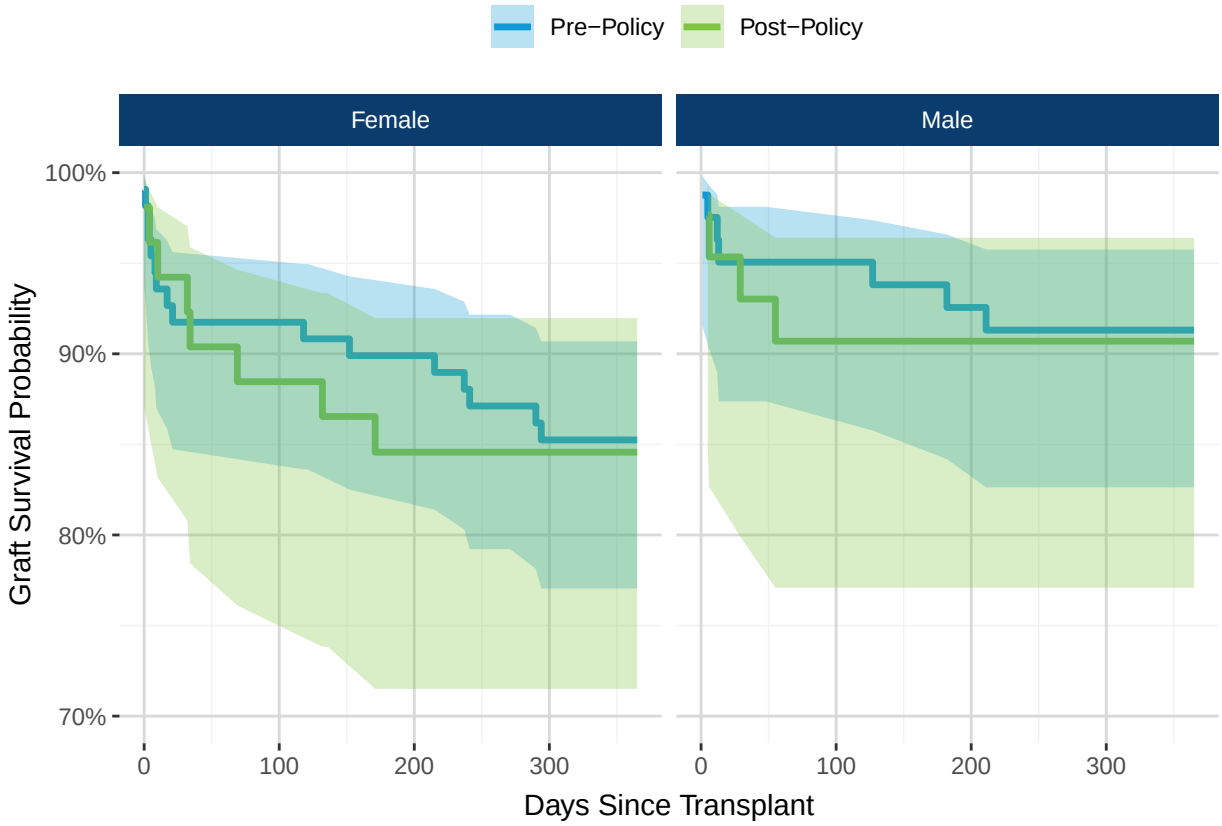


Table A77: One Year Post-Transplant Pancreas Graft Survival for Pancreas Alone Transplants by Policy Era and Gender

Recipient Gender	Era	N Transplants	N Graft Failures	N at Risk	Estimate	95% Confidence Interval
Female	Pre-Policy	109	16	90	85.2	(77.0, 90.7)
	Post-Policy	52	8	25	84.6	(71.5, 92.0)
Male	Pre-Policy	81	7	73	91.3	(82.6, 95.8)
	Post-Policy	43	4	25	90.7	(77.1, 96.4)

Released Organs

Table 78 shows the disposition of pancreata from pancreas matches with a final acceptance by policy era and OPTN region. The proportion of pancreata with a final acceptance that were transplanted to the originally accepting patient varied by region, ranging from 33.3% to 90% pre-policy and from 20% to 58.1% post-policy.

Table 78: Disposition of Pancreata from Pancreas Matches with a Final Acceptance March 16, 2019-March 14, 2023 by Policy Era and OPTN Region

Era	Region	N	Same Patient	Same Center	Different Center	Non-Use	Non-Recovery
Pre-Policy	1	15	12 (80.0%)	0 (0.0%)	0 (0.0%)	1 (6.7%)	2 (13.3%)
	2	25	16 (64.0%)	0 (0.0%)	0 (0.0%)	6 (24.0%)	3 (12.0%)
	3	44	31 (70.5%)	0 (0.0%)	1 (2.3%)	4 (9.1%)	8 (18.2%)
	4	43	18 (41.9%)	1 (2.3%)	3 (7.0%)	7 (16.3%)	14 (32.6%)
	5	39	13 (33.3%)	0 (0.0%)	0 (0.0%)	5 (12.8%)	21 (53.8%)
	6	10	9 (90.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	1 (10.0%)
	7	39	22 (56.4%)	1 (2.6%)	4 (10.3%)	3 (7.7%)	9 (23.1%)
	8	38	22 (57.9%)	2 (5.3%)	0 (0.0%)	5 (13.2%)	9 (23.7%)
	9	16	10 (62.5%)	0 (0.0%)	2 (12.5%)	3 (18.8%)	1 (6.2%)
	10	46	24 (52.2%)	1 (2.2%)	3 (6.5%)	3 (6.5%)	15 (32.6%)
	11	43	17 (39.5%)	0 (0.0%)	1 (2.3%)	9 (20.9%)	16 (37.2%)
	Total	358	194 (54.2%)	5 (1.4%)	14 (3.9%)	46 (12.8%)	99 (27.7%)
Post-Policy	1	6	2 (33.3%)	0 (0.0%)	0 (0.0%)	3 (50.0%)	1 (16.7%)
	2	37	18 (48.6%)	2 (5.4%)	1 (2.7%)	8 (21.6%)	8 (21.6%)
	3	35	15 (42.9%)	0 (0.0%)	1 (2.9%)	8 (22.9%)	11 (31.4%)
	4	42	21 (50.0%)	0 (0.0%)	0 (0.0%)	5 (11.9%)	16 (38.1%)
	5	48	17 (35.4%)	0 (0.0%)	1 (2.1%)	7 (14.6%)	23 (47.9%)
	6	10	2 (20.0%)	0 (0.0%)	0 (0.0%)	3 (30.0%)	5 (50.0%)
	7	65	22 (33.8%)	2 (3.1%)	2 (3.1%)	6 (9.2%)	33 (50.8%)
	8	31	18 (58.1%)	3 (9.7%)	0 (0.0%)	3 (9.7%)	7 (22.6%)
	9	28	15 (53.6%)	1 (3.6%)	0 (0.0%)	6 (21.4%)	6 (21.4%)
	10	60	15 (25.0%)	1 (1.7%)	7 (11.7%)	6 (10.0%)	31 (51.7%)
	11	45	13 (28.9%)	0 (0.0%)	1 (2.2%)	7 (15.6%)	24 (53.3%)
	Total	407	158 (38.8%)	9 (2.2%)	13 (3.2%)	62 (15.2%)	165 (40.5%)

Additional Information on Efficient Allocation and Utilization of Organs

Figure A72 and **Table A79** show total pancreas donors recovered from March 16, 2019 to March 14, 2023 by policy era. There were 2645 pancreas donors recovered in the pre-policy era, and 2616 recovered in the post-policy era.

Figure A72: Pancreas Donors Recovered March 16, 2019-March 14, 2023 by Policy Era

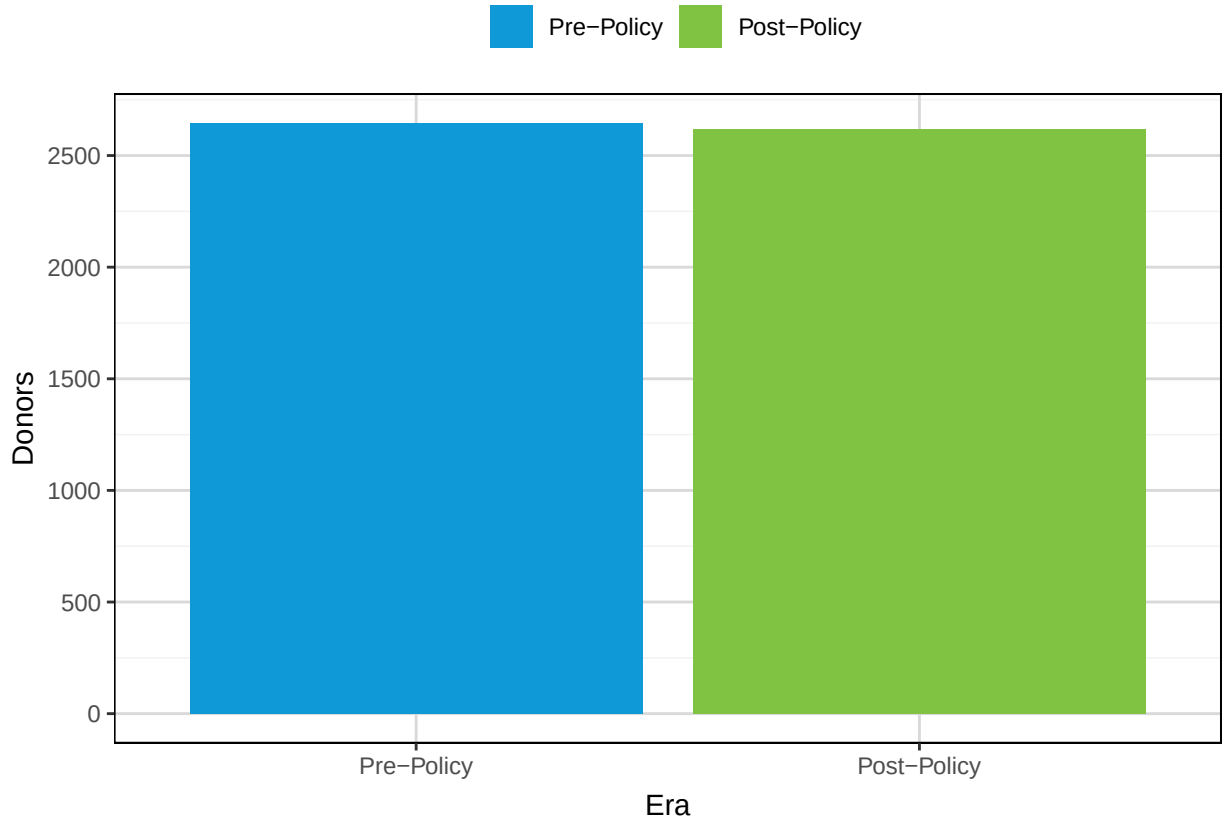


Table A79: Pancreas Donors Recovered March 16, 2019-March 14, 2023 by Policy Era

Era	Donors
Pre-Policy	2645
Post-Policy	2616

Figure A73 and **Table A80** show deceased pancreas donors recovered from March 16, 2019 to March 14, 2023 by policy era and donor DCD status. There was little change in the proportion of DCD pancreas donors recovered after policy implementation.

Figure A73: Deceased Pancreas Donors Recovered March 16, 2019-March 14, 2023 by DCD Status and Policy Era

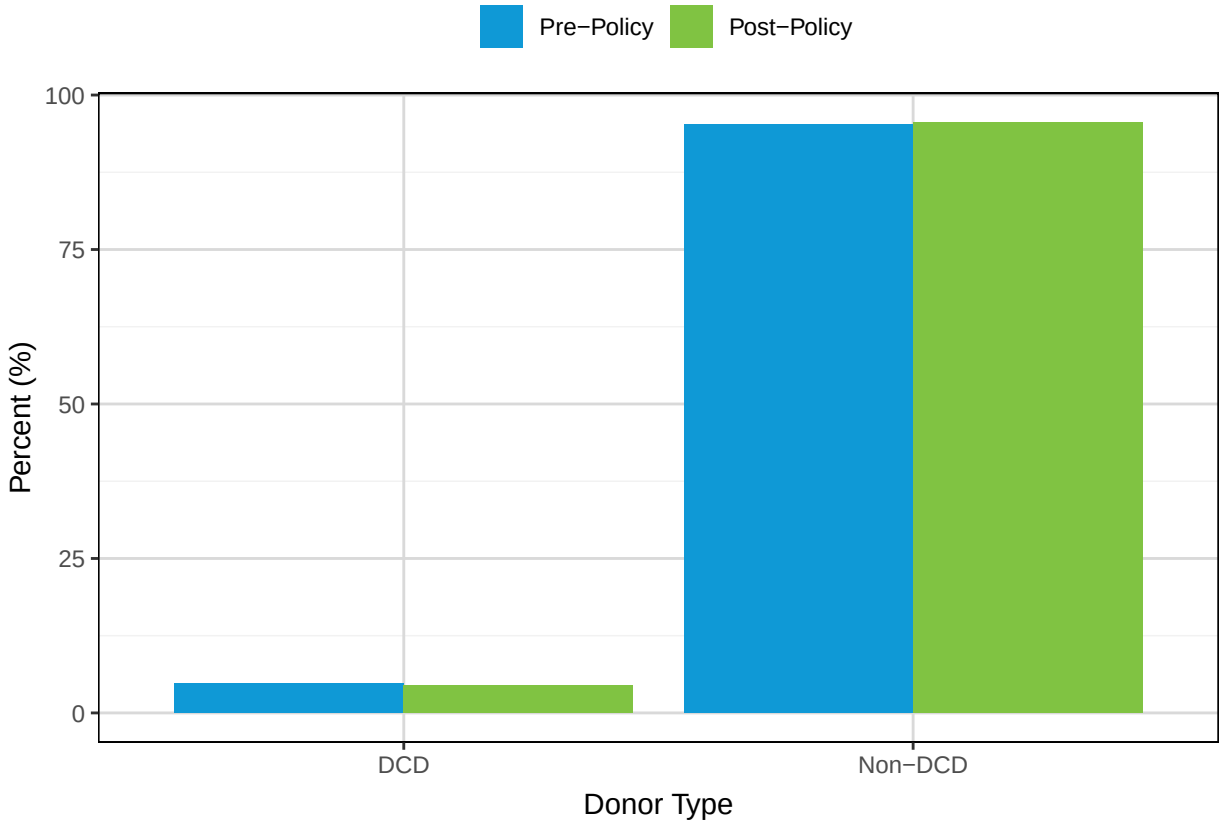


Table A80: Deceased Pancreas Donors Recovered March 16, 2019-March 14, 2023 by DCD Status and Policy Era

	Pre-Policy		Post-Policy	
Donor Type	N	%	N	%
DCD	126	4.76	116	4.43
Non-DCD	2519	95.24	2500	95.57
Total	2645	100.00	2616	100.00

Figure A74 and **Table A81** show deceased pancreas donors recovered from March 16, 2019 to March 14, 2023 by donor age and policy era. There was little change in the distribution of donor age after policy implementation.

Figure A74: Deceased Pancreas Donors Recovered March 16, 2019-March 14, 2023 by Age and Policy Era

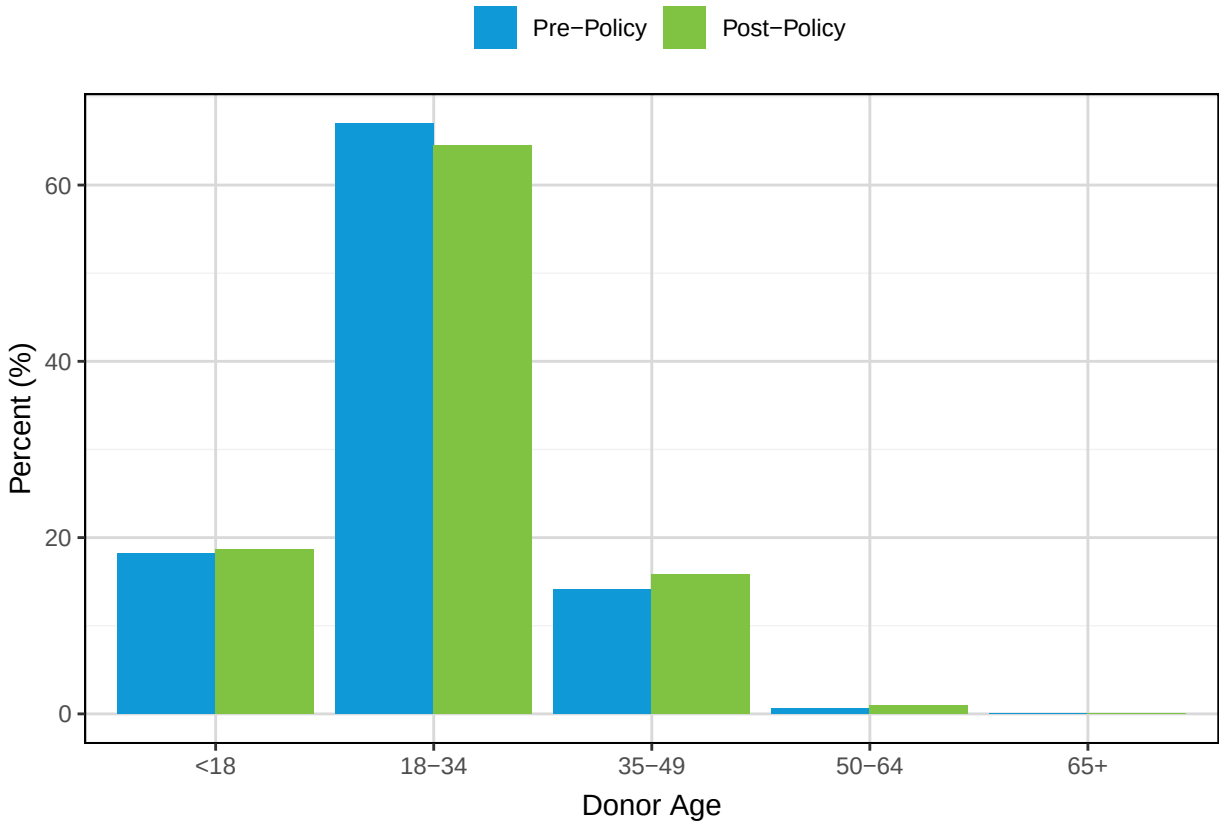


Table A81: Deceased Pancreas Donors Recovered March 16, 2019-March 14, 2023 by Age and Policy Era

	Pre-Policy		Post-Policy	
Donor Age	N	%	N	%
<18	483	18.26	488	18.65
18-34	1772	66.99	1688	64.53
35-49	373	14.10	415	15.86
50-64	17	0.64	24	0.92
65+	0	0.00	1	0.04
Total	2645	100.00	2616	100.00

Figure A75 and **Table A82** show offers per active patient year for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era and candidate age at listing. Offer rates increased after policy implementation for candidates in the 18-34, 35-49, and 50-64 age groups, while offer rates decreased for candidates in the 0-17 and 65+ age groups.

Figure A75: Offers per Active Patient Year for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing

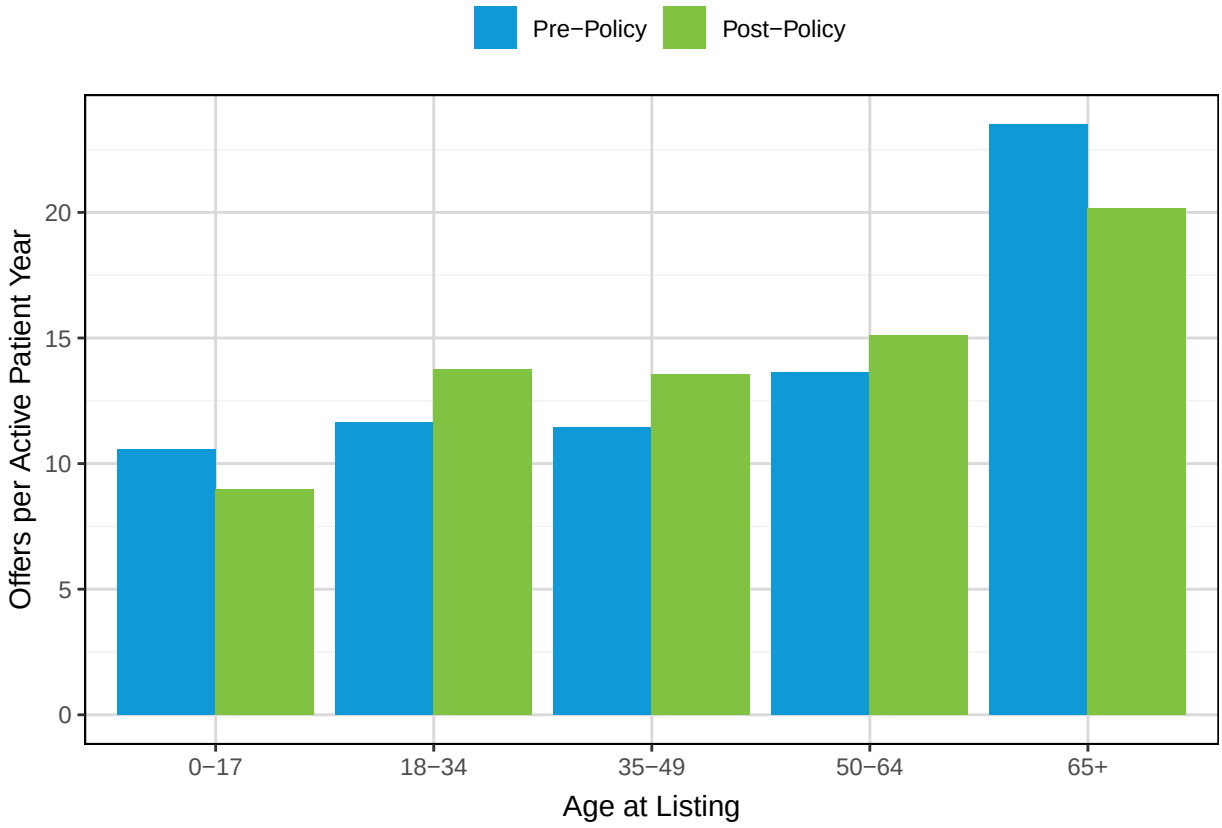


Table A82: Offer and Acceptance Rates for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing

Age	Era	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
0-17	Pre-Policy	73.27	774	10	10.56	12.92
	Post-Policy	78.26	702	5	8.97	7.12
18-34	Pre-Policy	524.34	6102	488	11.64	79.97
	Post-Policy	526.97	7248	463	13.75	63.88
35-49	Pre-Policy	1075.80	12308	1037	11.44	84.25
	Post-Policy	1047.52	14187	966	13.54	68.09
50-64	Pre-Policy	422.78	5771	508	13.65	88.03
	Post-Policy	462.85	6984	482	15.09	69.01
65+	Pre-Policy	3.87	91	11	23.51	120.88
	Post-Policy	11.64	235	11	20.18	46.81

Figure A76 and **Table A82** show acceptances per 1000 offers for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era and age at listing. Acceptance rates decreased for all age groups after policy implementation.

Figure A76: Acceptances per 1000 Offers for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing

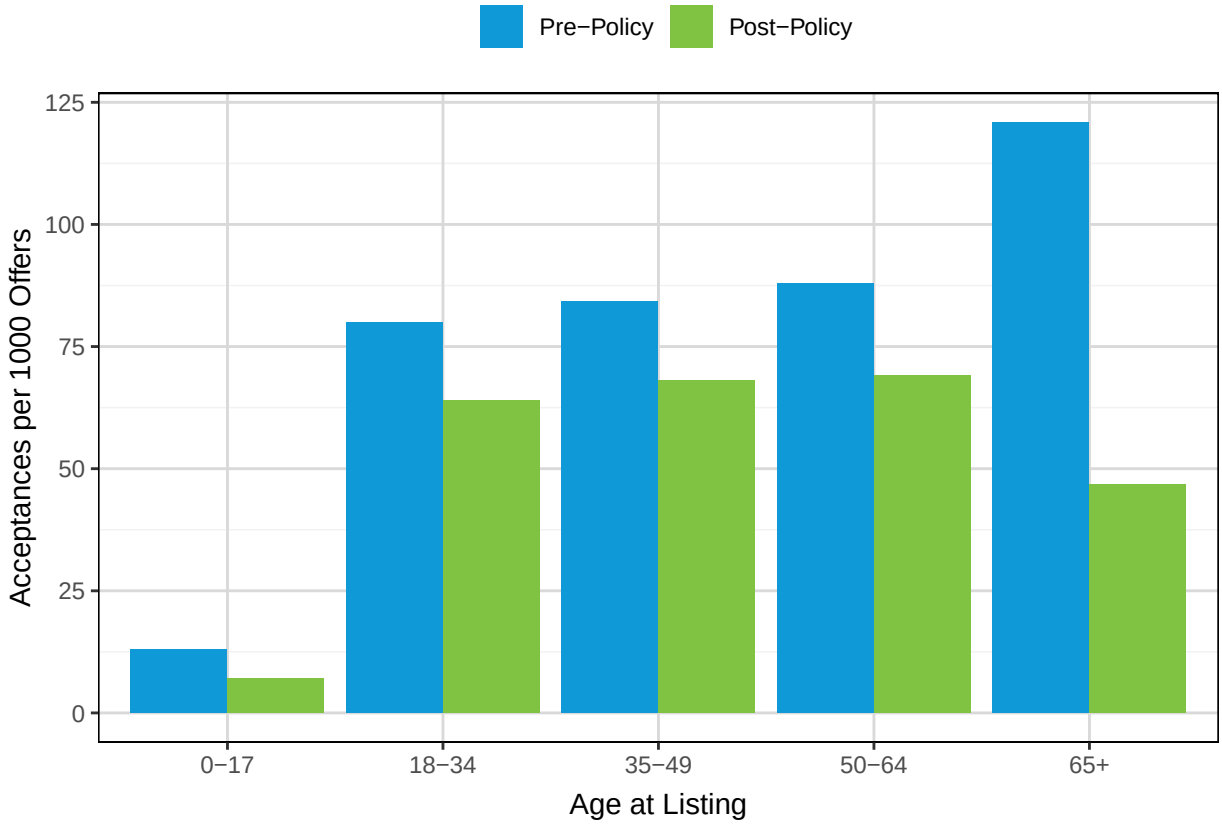


Figure A77 and **Table A83** show offers per active patient year for pancreas/kidney-pancreas matches from March 16, 2019 to March 14, 2023 by policy era and candidate race/ethnicity. Offer rates increased for all racial/ethnic groups after policy implementation.

Figure A77: Offers per Active Patient Year for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

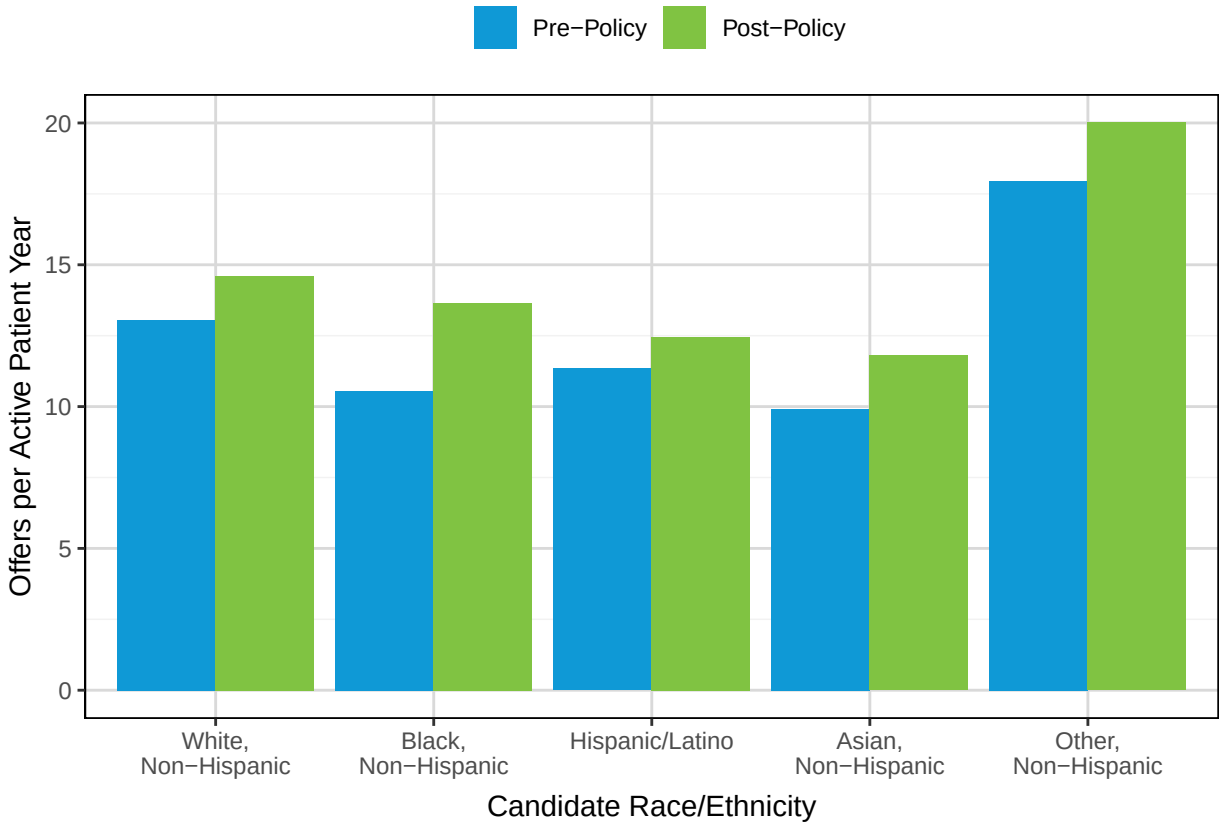


Table A83: Offer and Acceptance Rates for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

Race/Ethnicity	Era	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
White, Non-Hispanic	Pre-Policy	1081.90	14127	1066	13.06	75.46
	Post-Policy	1039.48	15176	881	14.60	58.05
Black, Non-Hispanic	Pre-Policy	576.35	6076	561	10.54	92.33
	Post-Policy	594.65	8122	575	13.66	70.80
Hispanic/Latino	Pre-Policy	313.42	3555	315	11.34	88.61
	Post-Policy	353.34	4400	340	12.45	77.27
Asian, Non-Hispanic	Pre-Policy	72.72	721	77	9.92	106.80
	Post-Policy	79.96	943	85	11.79	90.14
Other, Non-Hispanic	Pre-Policy	32.03	575	35	17.95	60.87
	Post-Policy	36.04	721	46	20.01	63.80

Figure A78 and **Table A83** show acceptances per 1000 offers for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era and race/ethnicity. Acceptance rates increased after implementation for candidates of Other, Non-Hispanic race/ethnicity, while acceptance rates decreased for all other racial/ethnic groups.

Figure A78: Acceptances per 1000 Offers for pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity

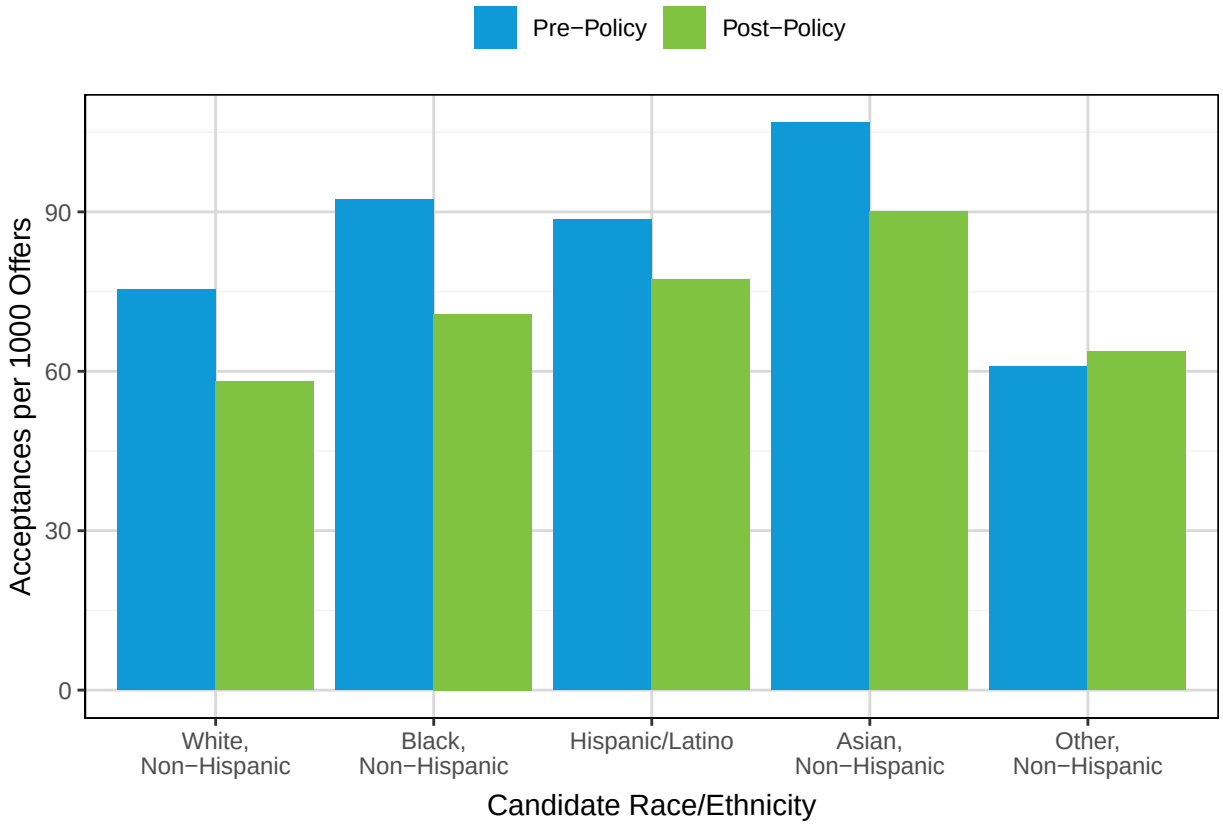


Figure A79 and **Table A84** show offers per active patient year for pancreas/kidney-pancreas matches from March 16, 2019 to March 14, 2023 by policy era and blood type. Offer rates increased after implementation for candidates with blood types A, AB, and O, while the offer rate decreased for blood type B candidates.

Figure A79: Offers per Active Patient Year for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

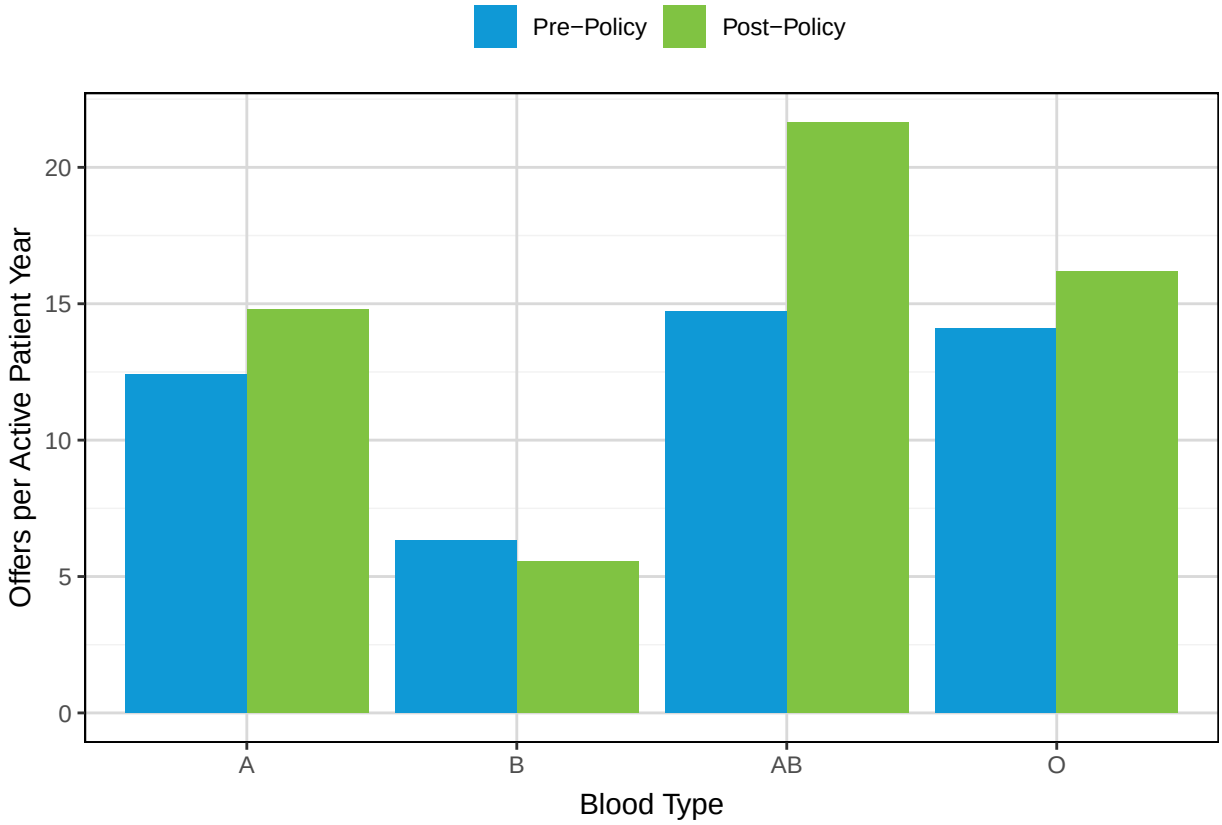


Table A84: Offer and Acceptance Rates for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

Blood Type	Era	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
A	Pre-Policy	612.92	7595	734	12.39	96.64
	Post-Policy	635.95	9412	670	14.80	71.19
B	Pre-Policy	404.11	2558	265	6.33	103.60
	Post-Policy	380.90	2112	251	5.54	118.84
AB	Pre-Policy	46.52	684	72	14.70	105.26
	Post-Policy	56.32	1219	71	21.65	58.24
O	Pre-Policy	1007.87	14217	983	14.11	69.14
	Post-Policy	1027.80	16619	935	16.17	56.26

Figure A80 and **Table A84** show acceptances per 1000 offers for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era and blood type. Acceptance rates increased for blood type B candidates after implementation, while acceptance rates decreased for blood types A, AB, and O.

Figure A80: Acceptances per 1000 Offers for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Blood Type

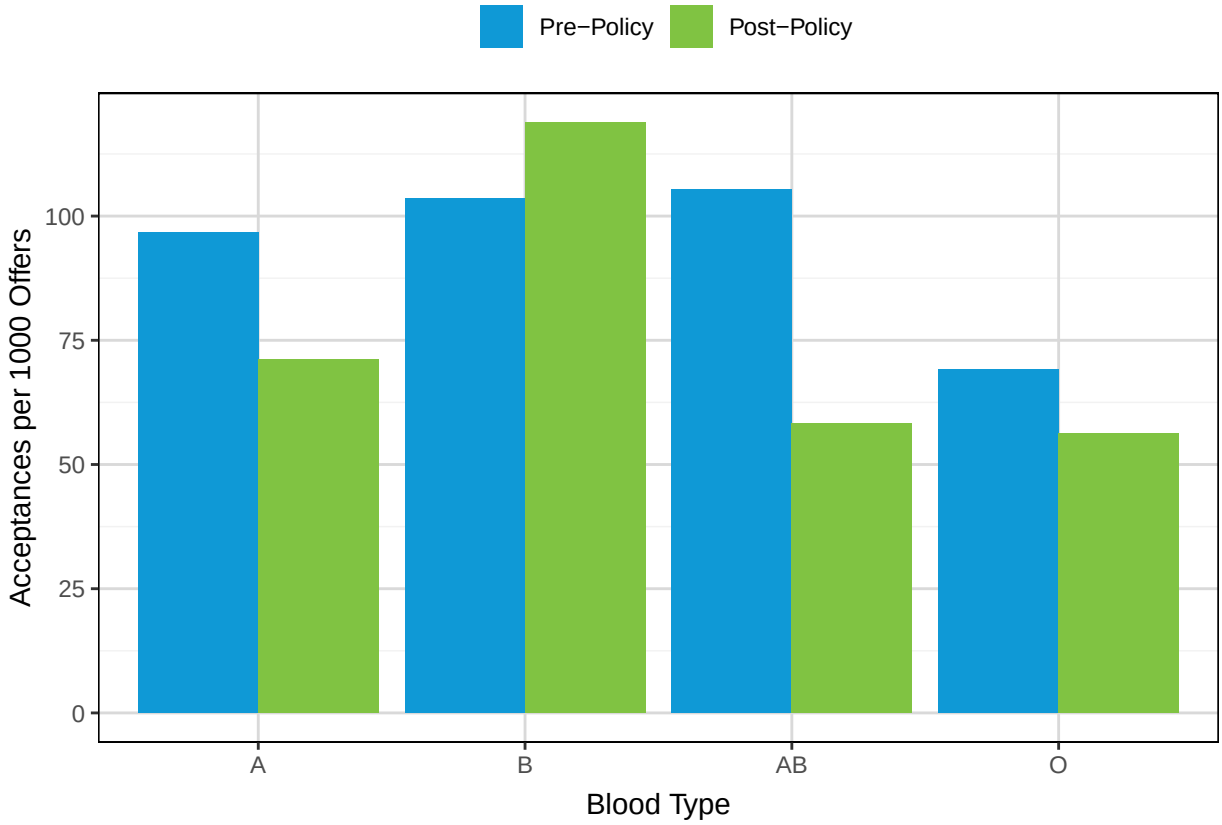


Figure A81 and **Table A85** show offers per active patient year for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era and CPRA at listing. Offer rates increased for all CPRA groups after implementation.

Figure A81: Offers per Active Patient Year for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing

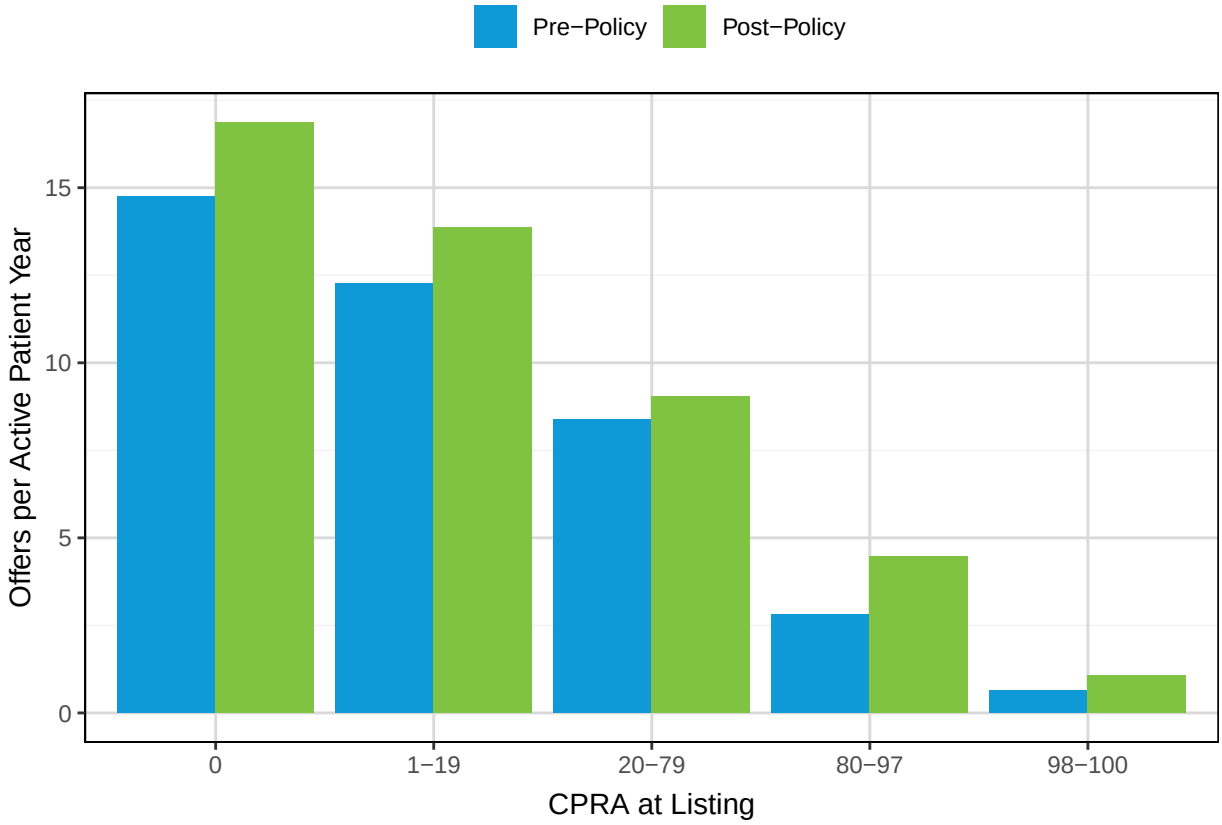


Table A85: Offer and Acceptance Rates for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing

CPRA (%)	Era	Active Patient Years	Offers	Acceptances	Offers per Active Patient Year	Acceptances per 1000 Offers
0	Pre-Policy	1373.78	20268	1514	14.75	74.70
	Post-Policy	1371.73	23134	1394	16.86	60.26
1-19	Pre-Policy	146.12	1792	186	12.26	103.79
	Post-Policy	182.42	2531	193	13.87	76.25
20-79	Pre-Policy	299.44	2509	282	8.38	112.40
	Post-Policy	339.24	3069	258	9.05	84.07
80-97	Pre-Policy	136.77	386	57	2.82	147.67
	Post-Policy	112.46	503	67	4.47	133.20
98-100	Pre-Policy	135.83	86	14	0.63	162.79
	Post-Policy	109.18	118	14	1.08	118.64

Figure A82 and **Table A85** show acceptances per 1000 offers for pancreas/kidney-pancreas match runs from March 16, 2019 to March 14, 2023 by policy era and CPRA at listing. Acceptance rates decreased for all CPRA groups after policy implementation.

Figure A82: Acceptances per 1000 Offers for Pancreas/Kidney-Pancreas Match Runs March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing

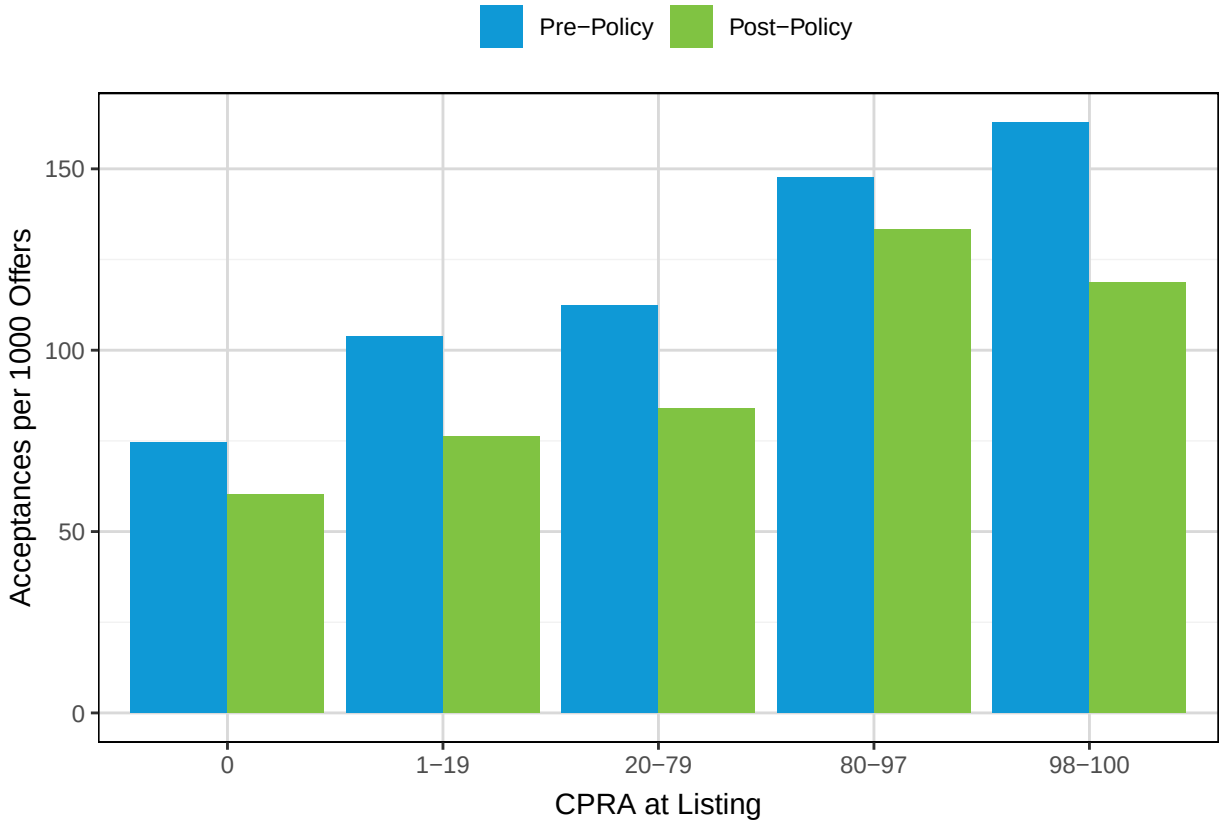


Figure A83 and **Table A86** describe pancreas/kidney-pancreas match run offer refusals due to positive crossmatch by CPRA. The proportion of refusals due to positive crossmatch was highest for candidates with CPRA 98-100% both before and after policy implementation. The proportion of refusals due to positive crossmatch decreased for all CPRA groups after implementation. The overall proportion of refusals due to positive crossmatch decreased from 1.03% to 0.27%.

Figure A83: Percent of Refusals Due to Positive Crossmatch for Pancreas/Kidney-Pancreas Matches March 16, 2019 - March 14, 2023 by Policy Era and CPRA

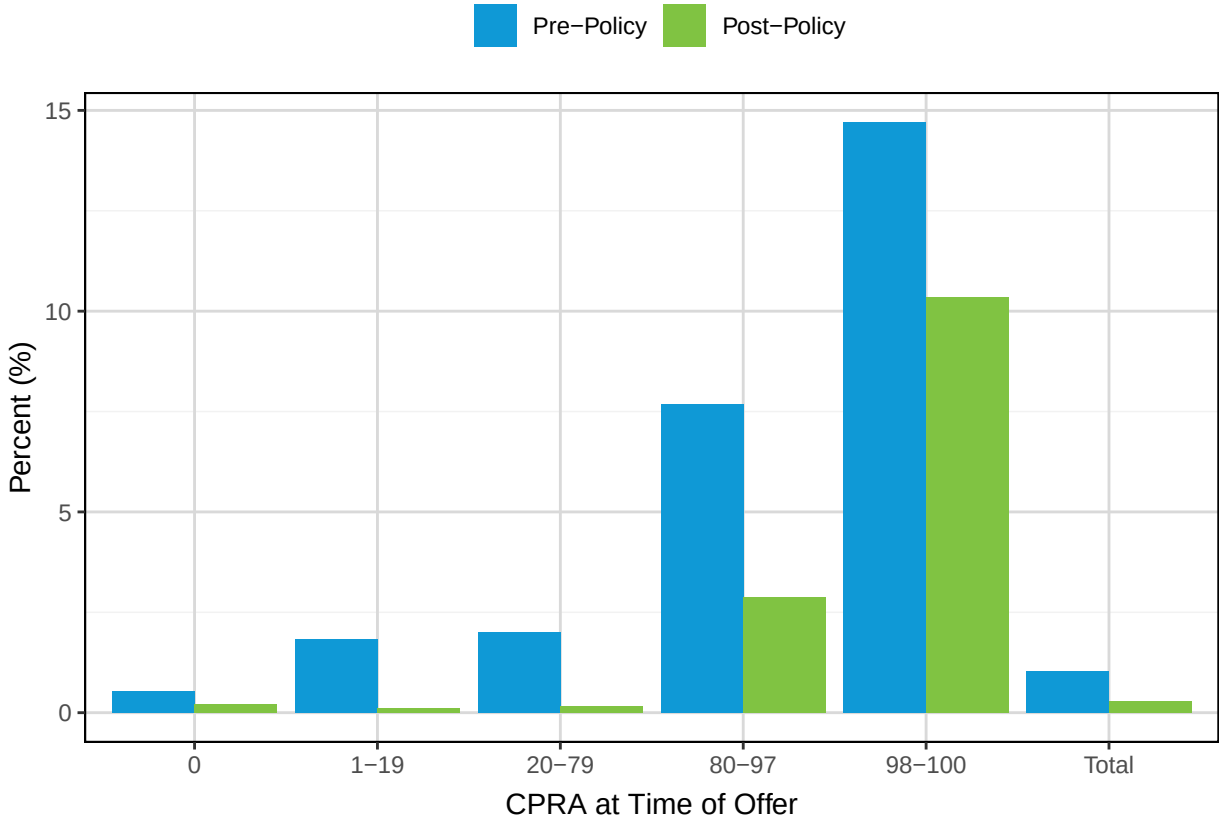


Table A86: Number and Percent of Refusals Due to Positive Crossmatch for Pancreas/Kidney-Pancreas Matches March 16, 2019 - March 14, 2023 by Policy Era and CPRA

	Pre-Policy			Post-Policy		
CPRA (%)	Refusals	Due to Xmatch	%	Refusals	Due to Xmatch	%
0	12764	67	0.52	17523	38	0.22
1-19	1479	27	1.83	2465	3	0.12
20-79	2284	46	2.01	3078	5	0.16
80-97	378	29	7.67	558	16	2.87
98-100	34	5	14.71	29	3	10.34
Total	16939	174	1.03	23653	65	0.27