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## Executive Summary

This report presents data describing the US organ transplantation system before and after the removal of Donation Service Area (DSA) and OPTN Region from deceased donor kidney allocation. The analyses include data on waiting list registrations, transplant recipients, and deceased donors submitted to the OPTN between March 16, 2019 and March 14, 2023. Data are current as of March 03, 2023 and are subject to change based on future submission or correction.

In general, the results of the current two-year monitoring are consistent with those of the one-year monitoring report and are summarized, below.

### Equity in Access to Transplant

Transplant rates increased by 29.38% overall after the removal of DSA and OPTN Region from deceased donor kidney allocation. Several subpopulations saw a significant increase in transplant rate after policy implementation. The transplant rates increased by: 37.89% for Black candidates, 34.78% for Hispanic candidates, and 34.75% for Asian candidates; 80.76% for candidates with CPRA 80-97% and 46.4% for candidates with 3+ years of dialysis time at listing. Transplant rates also increased for all pediatric age groups.

Note that there are OPTN dashboards for monitoring equity in access to deceased donor transplant that complement this report (found here: <https://insights.unos.org/equity-in-access/>). The methodology presented in the dashboards differs from what is presented here.

### Geography

Median distance between the donor and transplant hospitals for deceased donor kidney transplants increased from 71 to 120 NM after policy implementation. The proportion of transplants at hospitals within 250 NM of the donor hospital increased from 78.74% to 84.53%. The proportion of transplants occurring at transplant hospitals outside the DSA of the recovering OPO doubled from 30.02% to 59.89%. The number of transplants increased for 35 DSAs and decreased for 21 DSAs.

### Efficient Allocation and Utilization of Organs

Median cold ischemic time increased from 17.2 to 19.5 hours after policy implementation. The rate of delayed graft function increased from 29.24% to 32.89% under the new policy. The overall non-use rate for deceased donor kidneys increased from 21.14% to 26.04%. One year unadjusted post-transplant patient and graft survival did not change.

### Pediatrics

The two-year monitoring report contains additional metrics on the pediatric recipient, wait list and donor populations which can be found in the appendix. Pediatric transplant rates increased for all pediatric age groups. The transplant rates increased by: 40.05% for pediatric candidates aged 0-5, 62.25% for pediatric candidates aged 6-11, 49.44% for pediatric candidates aged 12-17. Transplant rates among the pediatric population increased notably for registrations with CPRA 0-79% at listing, with blood types A, B, and O as well with a pre-emptive listing or on dialysis 0-1 years or 2+ years.

The proportion of transplants at hospitals within 250 NM of the donor hospital increased slightly and the proportion of transplants occurring at transplant hospitals outside the DSA of the recovering OPO increased. Median distance from the donor hospital increased from 29 NM to 129 NM after policy implementation. Median cold ischemic time increased from 11.24 to 14 hours after policy implementation. One year unadjusted post-transplant patient and graft survival did not change.

## Background

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

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

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

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





## Released Organs

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

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

## Pediatrics

Includes metrics described above.

## Data and Methods

### Data Sources

This analysis is based on OPTN data as of March 03, 2023. Candidate information was submitted through the OPTN Waiting List and on the Transplant Candidate Registration (TCR). Recipient and transplant data were submitted on the Transplant Recipient Registration (TRR). Donor data were submitted via the OPTN Donor Data and Matching System and on the Deceased Donor Registration (DDR). Match run data were submitted through the OPTN Donor Data and Matching System. Data are subject to change based on future submission or correction.

### Cohort

All kidney alone registrations added to the waiting list, ever waiting, or transplanted between March 16, 2019 and March 14, 2023 were included in this analysis, as were all deceased kidney donors recovered during this time. We also looked at all deceased donor kidney offers sent over this period. Donor was defined as an individual for which at least one solid organ was recovered for the purpose of transplant.

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 sources.

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

Post-transplant patient and death-censored graft survival were calculated using the Kaplan-Meier survival estimate. Due to insufficient follow-up and concerns about informative censoring, this report only looks at survival for deceased donor kidney transplants through February 28, 2022.

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

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

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

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

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

On January 26th, 2023, the CPRA calculator used in allocation was updated. A result of this change was that for all candidates that have no unacceptable antigens reported, their CPRA will no longer be displayed as 0% like it had been previously. Under the new calculation, candidates with no unacceptable antigens report will now show a CPRA that is blank, or NULL. For the purpose of this report, any candidates with a NULL CPRA from January 26th to the end of the cohort on March 14th, 2023 were recorded as a 0% CPRA, to mirror how candidates with no unacceptable antigens were reported in the old calculation. There are also candidates who will have an "Unknown" CPRA. These are candidates whose CPRA are truly missing due to these candidates being listed prior to October 1st, 2009, when CPRA was implemented in allocation, meaning their CPRA is unknown due to it not being calculated yet in allocation when they were originally listed. NULL CPRAs differ from unknown in that there is no CPRA as an artifact of the calculation, whereas Unknown CPRA is a CPRA that is truly missing.

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 1/5/23 (<https://unos.org/news/implementation-notice-race-neutral-egfr-formulas/>). Any wait time modifications submitted on or after 1/5/23 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 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](https://unos.org/covid)), the true impact of this policy change may be very challenging to determine.

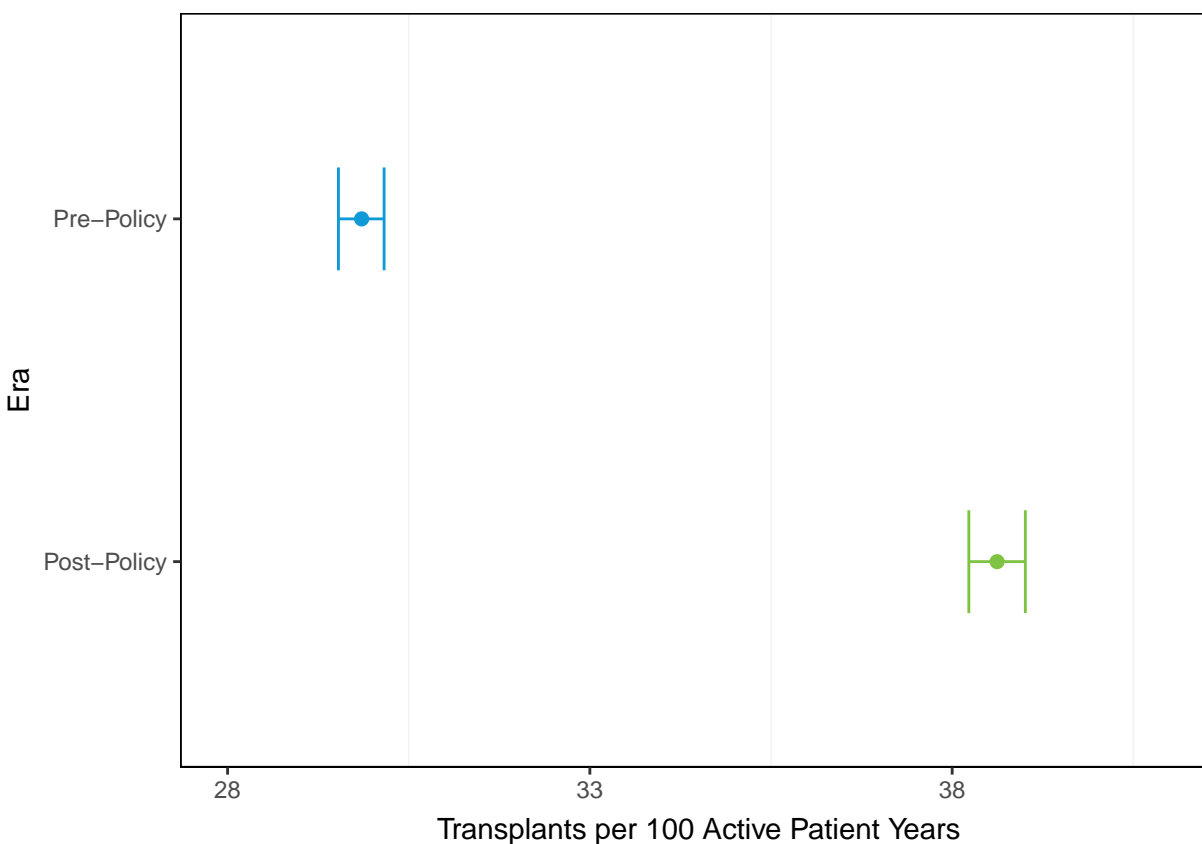


## Results

### Equity in Access to Transplant

**Figure 1** and **Table 1** show deceased donor transplants per 100 active patient years for kidney registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era (note: includes pediatrics and adults ever-waiting). The overall deceased donor kidney transplant rate significantly increased from 29.85 to 38.62 transplants per 100 active patient years after policy implementation.

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



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

| Era         | Registrations | Transplants | Transplants per 100 Active Patient Years | 95% CI         |
|-------------|---------------|-------------|--|----------------|
| Pre-Policy  | 127250        | 34368       | 29.85                                    | (29.53, 30.16) |
| Post-Policy | 125670        | 38707       | 38.62                                    | (38.23, 39.01) |

























































































































































































































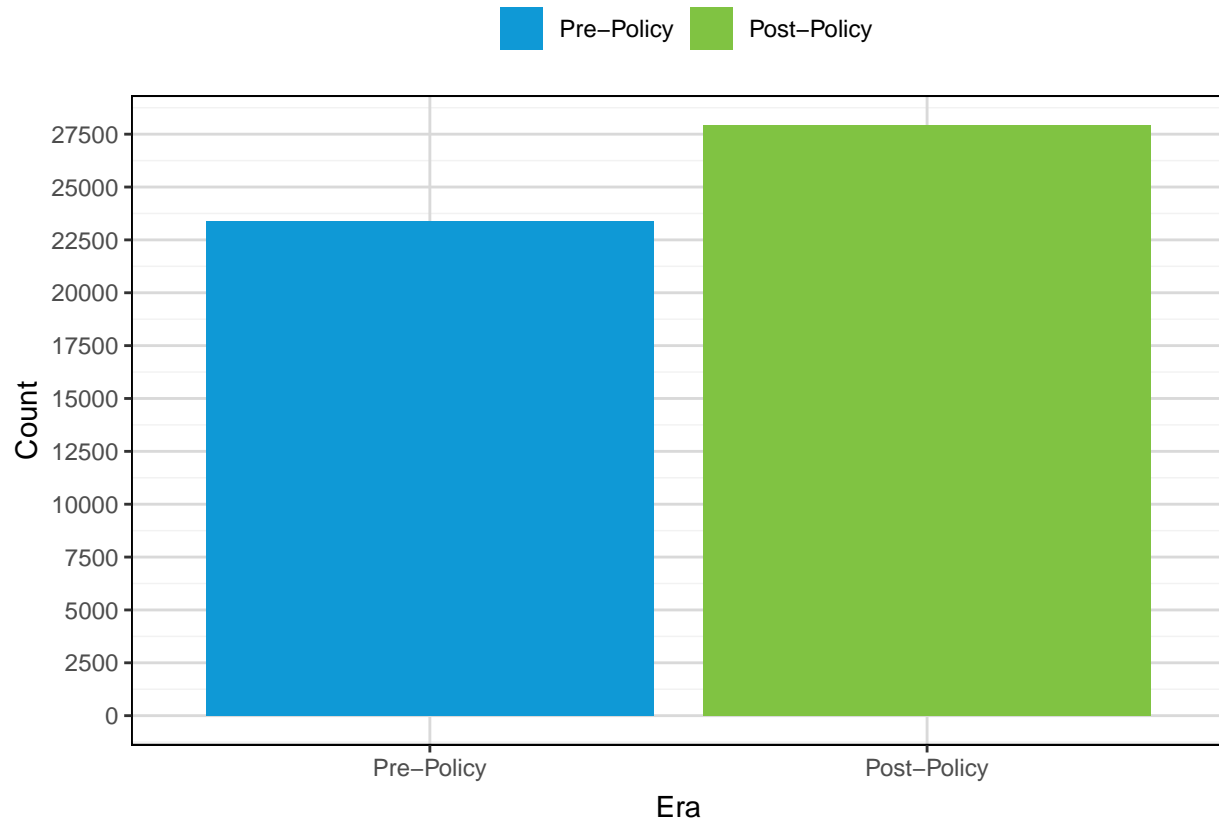




## Utilization and Efficiency of Allocation

**Figure A63** and **Table A66** show total deceased kidney donors recovered for the purpose of transplant from March 16, 2019 to March 14, 2023 by policy era. There were 23407 kidney donors recovered pre-policy, and another 27926 recovered post-policy.

**Figure A63: Deceased Kidney Donors Recovered March 16, 2019 - March 14, 2023 by Policy Era**

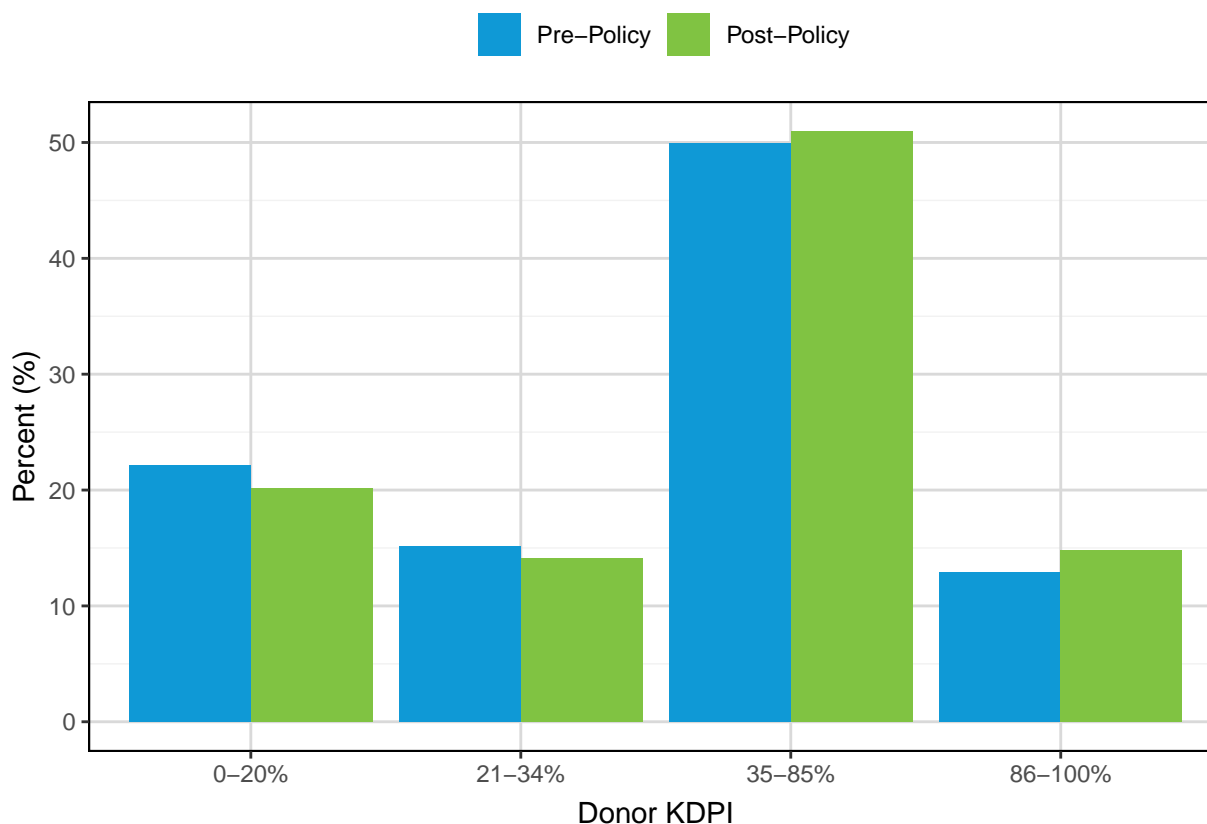


**Table A66: Deceased Kidney Donors Recovered March 16, 2019 - March 14, 2023 by Policy Era**

| Era         | Kidney Donors Recovered |
|-------------|-------------------------|
| Pre-Policy  | 23407                   |
| Post-Policy | 27926                   |

**Figure A64** and **Table A67** show deceased kidney donors recovered from March 16, 2019 to March 14, 2023 by policy era and KDPI. The number of donors increased across all KDPI categories after policy implementation. The distribution of KDPI did not change pre- to post-policy.

**Figure A64: Deceased Kidney Donors Recovered March 16, 2019 - March 14, 2023 by Policy Era and KDPI**

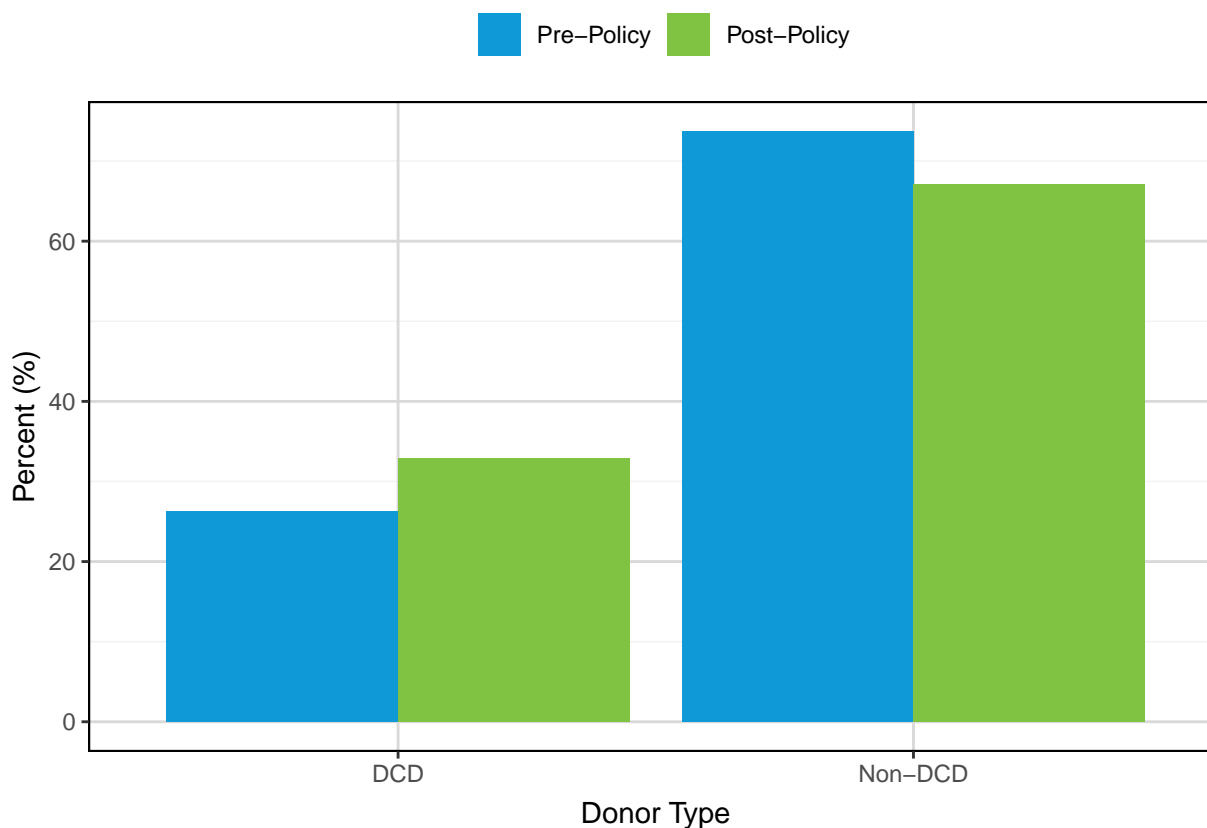


**Table A67: Deceased Kidney Donors Recovered March 16, 2019 - March 14, 2023 by Policy Era and KDPI**

| KDPI    | Pre-Policy |        | Post-Policy |        |
|---------|------------|--------|-------------|--------|
|         | N          | %      | N           | %      |
| 0-20%   | 5177       | 22.12  | 5626        | 20.15  |
| 21-34%  | 3537       | 15.11  | 3942        | 14.12  |
| 35-85%  | 11678      | 49.89  | 14233       | 50.97  |
| 86-100% | 3013       | 12.87  | 4125        | 14.77  |
| Total   | 23407      | 100.00 | 27926       | 100.00 |

**Figure A65** and **Table A68** show deceased kidney donors recovered from March 16, 2019 to March 14, 2023 by policy era and DCD status. The proportion of donors that were DCD increased from 26.28% to 32.86% after policy implementation.

**Figure A65: Deceased Kidney Donors Recovered March 16, 2019 - March 14, 2023 by Policy Era and DCD Status**

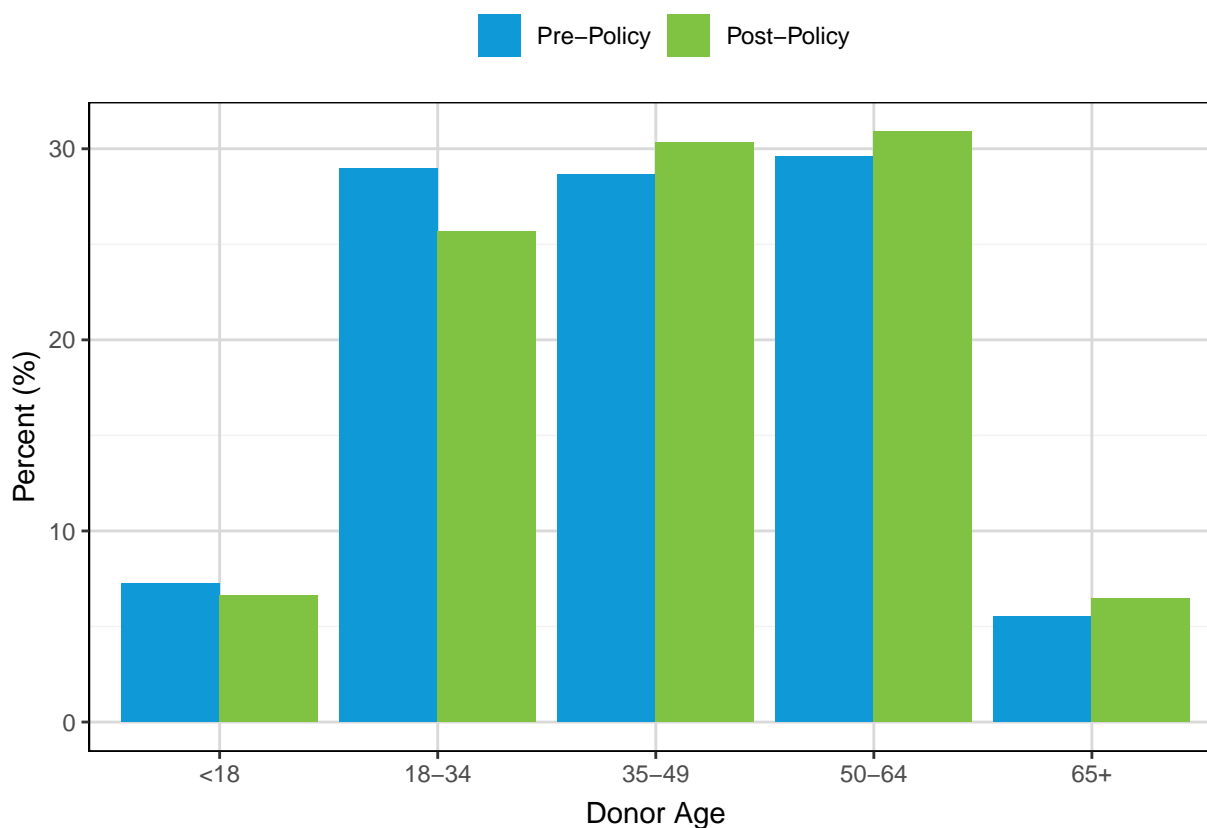


**Table A68: Deceased Kidney Donors Recovered March 16, 2019 - March 14, 2023 by Policy Era and DCD Status**

| Donor Type | Pre-Policy |        | Post-Policy |        |
|------------|------------|--------|-------------|--------|
|            | N          | %      | N           | %      |
| DCD        | 6151       | 26.28  | 9177        | 32.86  |
| Non-DCD    | 17256      | 73.72  | 18749       | 67.14  |
| Total      | 23407      | 100.00 | 27926       | 100.00 |

**Figure A66** and **Table A69** show deceased kidney donors recovered from March 16, 2019 to March 14, 2023 by policy era and age. The proportion of donors aged 18-34 went from 28.97% to 25.67% after policy implementation.

**Figure A66: Deceased Kidney Donors Recovered March 16, 2019 - March 14, 2023 by Policy Era and Donor Age**



**Table A69: Deceased Kidney Donors Recovered March 16, 2019 - March 14, 2023 by Policy Era and Donor Age**

| Donor Age | Pre-Policy |        | Post-Policy |        |
|-----------|------------|--------|-------------|--------|
|           | N          | %      | N           | %      |
| <18       | 1696       | 7.25   | 1854        | 6.64   |
| 18-34     | 6780       | 28.97  | 7169        | 25.67  |
| 35-49     | 6709       | 28.66  | 8467        | 30.32  |
| 50-64     | 6924       | 29.58  | 8629        | 30.90  |
| 65+       | 1298       | 5.55   | 1807        | 6.47   |
| Total     | 23407      | 100.00 | 27926       | 100.00 |

**Table A70** shows deceased donor kidneys recovered for transplant but not transplanted from March 16, 2019 to March 14, 2023 by policy era and non-use reason. The most common reason for non-use both pre- and post-policy implementation was “No recipient located - list exhausted,” increasing from 49.41% to 61.37% after the policy change.

**Table A70: Deceased Donor Kidneys Recovered for Transplant but not Transplanted March 16, 2019 - March 14, 2023 by Policy Era and Non-Use Reason**

| Non-use Reason                                     | Pre-Policy |        | Post-Policy |        |
|--|------------|--------|-------------|--------|
|  | N          | %      | N           | %      |
| Anatomical abnormalities                           | 379        | 3.85   | 434         | 3.00   |
| Biopsy findings                                    | 2167       | 22.00  | 2203        | 15.22  |
| Diseased organ                                     | 215        | 2.18   | 191         | 1.32   |
| Donor Medical history                              | 88         | 0.89   | 154         | 1.06   |
| Donor social history                               | 4          | 0.04   | 0           | 0.00   |
| Inadequate urine output                            | 2          | 0.02   | 8           | 0.06   |
| Infection  | 15         | 0.15   | 28          | 0.19   |
| No recipient located - list exhausted              | 4868       | 49.41  | 8882        | 61.37  |
| Organ not as described                             | 28         | 0.28   | 30          | 0.21   |
| Organ trauma                                       | 99         | 1.00   | 93          | 0.64   |
| Other, specify                                     | 1144       | 11.61  | 1529        | 10.56  |
| Poor organ function                                | 501        | 5.09   | 445         | 3.07   |
| Positive Hepatitis                                 | 28         | 0.28   | 23          | 0.16   |
| Positive HIV                                       | 0          | 0.00   | 5           | 0.03   |
| Recipient determined to be unsuitable for TX in OR | 25         | 0.25   | 38          | 0.26   |
| Too old on ice                                     | 88         | 0.89   | 160         | 1.11   |
| Too old on pump                                    | 29         | 0.29   | 39          | 0.27   |
| Ureteral damage                                    | 26         | 0.26   | 36          | 0.25   |
| Vascular damage                                    | 88         | 0.89   | 89          | 0.61   |
| Warm ischemic time too long                        | 51         | 0.52   | 86          | 0.59   |
| Missing  | 7          | 0.07   | 0           | 0.00   |
| Total  | 9852       | 100.00 | 14473       | 100.00 |



**Table A71** shows the disposition of kidneys with a final acceptance from March 16, 2019 to March 14, 2023 by policy era and OPTN region. The majority of kidneys with an acceptance were transplanted to the same patient that accepted the organ both pre- and post-policy across all regions.

**Table A71: Disposition of Kidneys with a Final Acceptance March 16, 2019 - March 14, 2023 by Policy Era and OPTN Region**

| Era         | Region | N     | Accepting Patient | Accepting Center | Different Center | Non-use      | Non-Recovery |
|-------------|--------|-------|-------------------|------------------|------------------|--------------|--------------|
| Pre-Policy  | 1      | 1181  | 971 (82.2%)       | 92 (7.8%)        | 58 (4.9%)        | 60 (5.1%)    | 0 (0.0%)     |
|             | 2      | 4197  | 3,547 (84.5%)     | 302 (7.2%)       | 145 (3.5%)       | 201 (4.8%)   | 2 (0.0%)     |
|             | 3      | 5475  | 4,197 (76.7%)     | 568 (10.4%)      | 195 (3.6%)       | 512 (9.4%)   | 3 (0.1%)     |
|             | 4      | 3548  | 2,843 (80.1%)     | 277 (7.8%)       | 211 (5.9%)       | 213 (6.0%)   | 4 (0.1%)     |
|             | 5      | 5498  | 4,656 (84.7%)     | 366 (6.7%)       | 208 (3.8%)       | 255 (4.6%)   | 13 (0.2%)    |
|             | 6      | 1655  | 1,382 (83.5%)     | 132 (8.0%)       | 53 (3.2%)        | 88 (5.3%)    | 0 (0.0%)     |
|             | 7      | 2527  | 2,132 (84.4%)     | 174 (6.9%)       | 104 (4.1%)       | 114 (4.5%)   | 3 (0.1%)     |
|             | 8      | 2810  | 2,323 (82.7%)     | 240 (8.5%)       | 106 (3.8%)       | 135 (4.8%)   | 6 (0.2%)     |
|             | 9      | 1322  | 1,057 (80.0%)     | 101 (7.6%)       | 75 (5.7%)        | 82 (6.2%)    | 7 (0.5%)     |
|             | 10     | 3267  | 2,618 (80.1%)     | 342 (10.5%)      | 117 (3.6%)       | 189 (5.8%)   | 1 (0.0%)     |
|             | 11     | 4393  | 3,166 (72.1%)     | 505 (11.5%)      | 308 (7.0%)       | 355 (8.1%)   | 59 (1.3%)    |
|             | Total  | 35873 | 28,892 (80.5%)    | 3,099 (8.6%)     | 1,580 (4.4%)     | 2,204 (6.1%) | 98 (0.3%)    |
| Post-Policy | 1      | 1425  | 1,089 (76.4%)     | 116 (8.1%)       | 172 (12.1%)      | 48 (3.4%)    | 0 (0.0%)     |
|             | 2      | 4440  | 3,460 (77.9%)     | 403 (9.1%)       | 310 (7.0%)       | 267 (6.0%)   | 0 (0.0%)     |
|             | 3      | 6258  | 4,834 (77.2%)     | 613 (9.8%)       | 362 (5.8%)       | 444 (7.1%)   | 5 (0.1%)     |
|             | 4      | 3877  | 3,065 (79.1%)     | 310 (8.0%)       | 308 (7.9%)       | 191 (4.9%)   | 3 (0.1%)     |
|             | 5      | 5957  | 4,903 (82.3%)     | 472 (7.9%)       | 279 (4.7%)       | 279 (4.7%)   | 24 (0.4%)    |
|             | 6      | 1820  | 1,515 (83.2%)     | 138 (7.6%)       | 91 (5.0%)        | 75 (4.1%)    | 1 (0.1%)     |
|             | 7      | 2811  | 2,308 (82.1%)     | 201 (7.2%)       | 144 (5.1%)       | 158 (5.6%)   | 0 (0.0%)     |
|             | 8      | 3209  | 2,609 (81.3%)     | 279 (8.7%)       | 159 (5.0%)       | 150 (4.7%)   | 12 (0.4%)    |
|             | 9      | 1825  | 1,380 (75.6%)     | 197 (10.8%)      | 150 (8.2%)       | 97 (5.3%)    | 1 (0.1%)     |
|             | 10     | 3755  | 2,813 (74.9%)     | 392 (10.4%)      | 289 (7.7%)       | 255 (6.8%)   | 6 (0.2%)     |
|             | 11     | 4744  | 3,457 (72.9%)     | 491 (10.3%)      | 419 (8.8%)       | 338 (7.1%)   | 39 (0.8%)    |
|             | Total  | 40121 | 31,433 (78.3%)    | 3,612 (9.0%)     | 2,683 (6.7%)     | 2,302 (5.7%) | 91 (0.2%)    |

**Table A72** shows the disposition of kidneys with a final acceptance from March 16, 2019 to March 14, 2023 by policy era and KDPI. The proportion of kidneys transplanted to same patient accepting the organ was highest for KDPI 0-20% kidneys (approximately 90.0% pre- and 85.3% post-policy) and lowest for KDPI 86-100% kidneys (~63.7% pre- and 69.3% post-policy).

**Table A72: Disposition of Kidneys with a Final Acceptance March 16, 2019 - March 14, 2023 by Policy Era and KDPI**

| Era         | KDPI         | N     | Accepting Patient | Accepting Center | Different Center | Non-Use      | Non-Recovery |
|-------------|--------------|-------|-------------------|------------------|------------------|--------------|--------------|
| Pre-Policy  | 0-20         | 6697  | 6,030 (90.0%)     | 301 (4.5%)       | 281 (4.2%)       | 78 (1.2%)    | 7 (0.1%)     |
|             | 21-34        | 5363  | 4,588 (85.5%)     | 376 (7.0%)       | 251 (4.7%)       | 135 (2.5%)   | 13 (0.2%)    |
|             | 35-85        | 20063 | 15,879 (79.1%)    | 1,939 (9.7%)     | 918 (4.6%)       | 1,276 (6.4%) | 51 (0.3%)    |
|             | 86-100       | 3732  | 2,379 (63.7%)     | 483 (12.9%)      | 130 (3.5%)       | 715 (19.2%)  | 25 (0.7%)    |
|             | Not Reported | 18    | 16 (88.9%)        | 0 (0.0%)         | 0 (0.0%)         | 0 (0.0%)     | 2 (11.1%)    |
|             | Total        | 35873 | 28,892 (80.5%)    | 3,099 (8.6%)     | 1,580 (4.4%)     | 2,204 (6.1%) | 98 (0.3%)    |
| Post-Policy | 0-20         | 8108  | 6,920 (85.3%)     | 455 (5.6%)       | 620 (7.6%)       | 108 (1.3%)   | 5 (0.1%)     |
|             | 21-34        | 6367  | 5,228 (82.1%)     | 492 (7.7%)       | 457 (7.2%)       | 175 (2.7%)   | 15 (0.2%)    |
|             | 35-85        | 22272 | 16,947 (76.1%)    | 2,303 (10.3%)    | 1,483 (6.7%)     | 1,480 (6.6%) | 59 (0.3%)    |
|             | 86-100       | 3370  | 2,334 (69.3%)     | 362 (10.7%)      | 123 (3.6%)       | 539 (16.0%)  | 12 (0.4%)    |
|             | Not Reported | 4     | 4 (100.0%)        | 0 (0.0%)         | 0 (0.0%)         | 0 (0.0%)     | 0 (0.0%)     |
|             | Total        | 40121 | 31,433 (78.3%)    | 3,612 (9.0%)     | 2,683 (6.7%)     | 2,302 (5.7%) | 91 (0.2%)    |

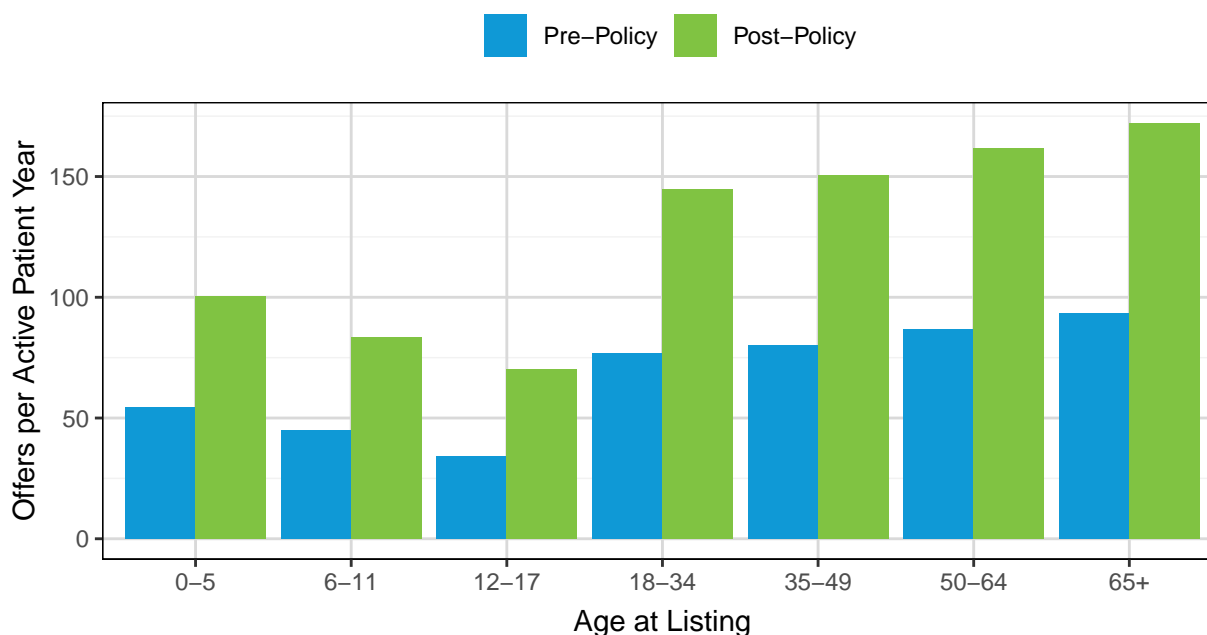
**Table A73** shows the disposition of kidneys with a final acceptance from March 16, 2019 to March 14, 2023 by policy era and CPRA of the accepting patient.

**Table A73: Disposition of Kidneys with a Final Acceptance March 16, 2019 - March 14, 2023 by Policy Era and Accepting Patient CPRA**

| Era         | CPRA    | N     | Accepting Patient | Accepting Center | Different Center | Non-Use      | Non-Recovery |
|-------------|---------|-------|-------------------|------------------|------------------|--------------|--------------|
| Pre-Policy  | 0%      | 19695 | 16,049 (81.5%)    | 1,605 (8.1%)     | 663 (3.4%)       | 1,329 (6.7%) | 49 (0.2%)    |
|             | 1-19%   | 3913  | 3,217 (82.2%)     | 330 (8.4%)       | 158 (4.0%)       | 193 (4.9%)   | 15 (0.4%)    |
|             | 20-79%  | 6194  | 5,010 (80.9%)     | 548 (8.8%)       | 265 (4.3%)       | 361 (5.8%)   | 10 (0.2%)    |
|             | 80-98%  | 3107  | 2,302 (74.1%)     | 379 (12.2%)      | 194 (6.2%)       | 219 (7.0%)   | 13 (0.4%)    |
|             | 99-100% | 2964  | 2,314 (78.1%)     | 237 (8.0%)       | 300 (10.1%)      | 102 (3.4%)   | 11 (0.4%)    |
|             | Total   | 35873 | 28,892 (80.5%)    | 3,099 (8.6%)     | 1,580 (4.4%)     | 2,204 (6.1%) | 98 (0.3%)    |
| Post-Policy | 0%      | 20772 | 16,468 (79.3%)    | 1,771 (8.5%)     | 1,149 (5.5%)     | 1,347 (6.5%) | 37 (0.2%)    |
|             | 1-19%   | 4473  | 3,535 (79.0%)     | 403 (9.0%)       | 276 (6.2%)       | 241 (5.4%)   | 18 (0.4%)    |
|             | 20-79%  | 6962  | 5,304 (76.2%)     | 725 (10.4%)      | 511 (7.3%)       | 409 (5.9%)   | 13 (0.2%)    |
|             | 80-98%  | 4816  | 3,681 (76.4%)     | 461 (9.6%)       | 443 (9.2%)       | 218 (4.5%)   | 13 (0.3%)    |
|             | 99-100% | 3098  | 2,445 (78.9%)     | 252 (8.1%)       | 304 (9.8%)       | 87 (2.8%)    | 10 (0.3%)    |
|             | Total   | 40121 | 31,433 (78.3%)    | 3,612 (9.0%)     | 2,683 (6.7%)     | 2,302 (5.7%) | 91 (0.2%)    |

**Figure A67** and **Table A74** show offers per active patient year for kidney matches from March 16, 2019 to March 14, 2023 by policy era and age at listing. Offer rates increased for all age groups after policy implementation.

**Figure A67: Offers per Active Patient Year for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing**

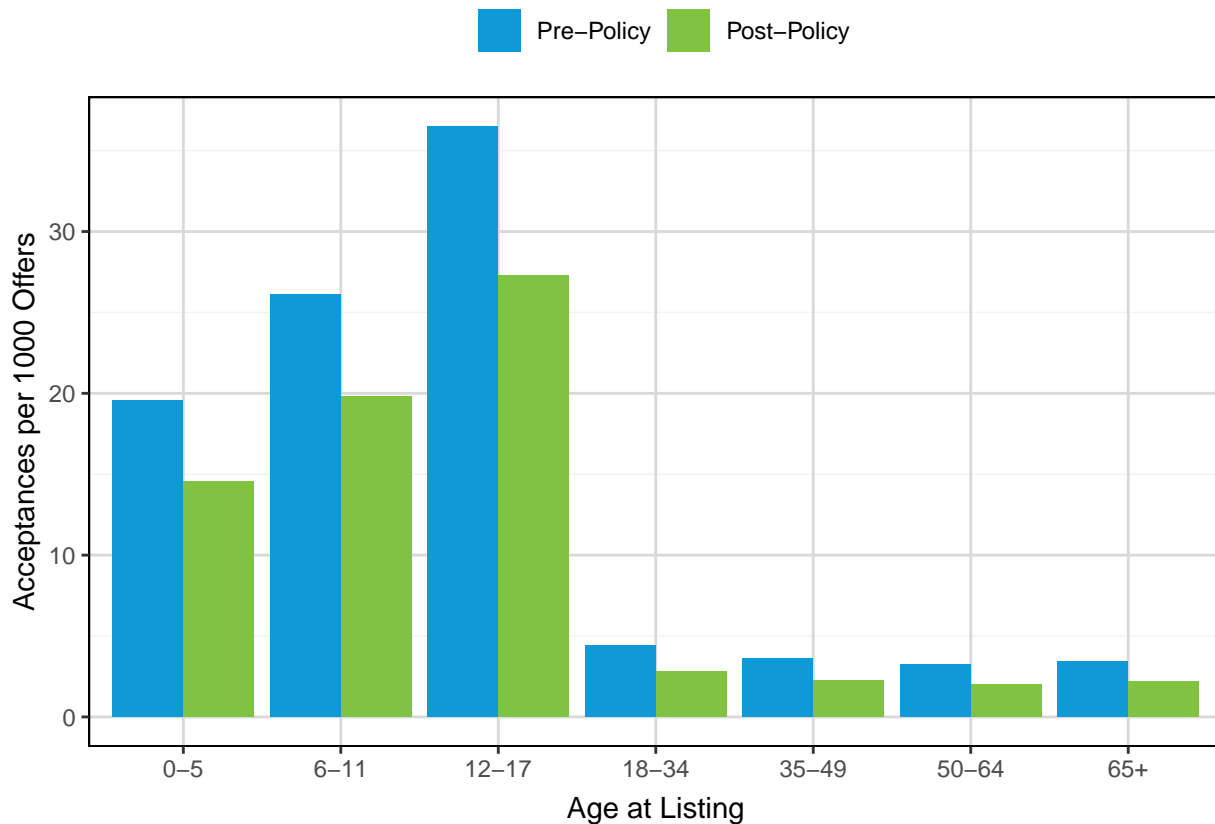


**Table A74: Offer and Acceptance Rates for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing**

| Age   | Era         | Active Patient Years | Offers  | Acceptances | Offers per Active Patient Year | Acceptances per 1000 Offers |
|-------|-------------|----------------------|---------|-------------|--------------------------------|-----------------------------|
| 0-5   | Pre-Policy  | 219.72               | 11960   | 234         | 54.43                          | 19.57                       |
|       | Post-Policy | 158.76               | 15955   | 232         | 100.50                         | 14.54                       |
| 6-11  | Pre-Policy  | 216.35               | 9738    | 254         | 45.01                          | 26.08                       |
|       | Post-Policy | 153.82               | 12861   | 255         | 83.61                          | 19.83                       |
| 12-17 | Pre-Policy  | 470.15               | 16139   | 589         | 34.33                          | 36.50                       |
|       | Post-Policy | 331.73               | 23237   | 634         | 70.05                          | 27.28                       |
| 18-34 | Pre-Policy  | 13423.47             | 1031444 | 4571        | 76.84                          | 4.43                        |
|       | Post-Policy | 11063.90             | 1600868 | 4551        | 144.69                         | 2.84                        |
| 35-49 | Pre-Policy  | 34021.03             | 2726539 | 9838        | 80.14                          | 3.61                        |
|       | Post-Policy | 29038.18             | 4376634 | 9983        | 150.72                         | 2.28                        |
| 50-64 | Pre-Policy  | 52109.17             | 4510390 | 14691       | 86.56                          | 3.26                        |
|       | Post-Policy | 45333.43             | 7323630 | 14515       | 161.55                         | 1.98                        |
| 65+   | Pre-Policy  | 20746.87             | 1933450 | 6692        | 93.19                          | 3.46                        |
|       | Post-Policy | 18921.22             | 3258900 | 7136        | 172.24                         | 2.19                        |

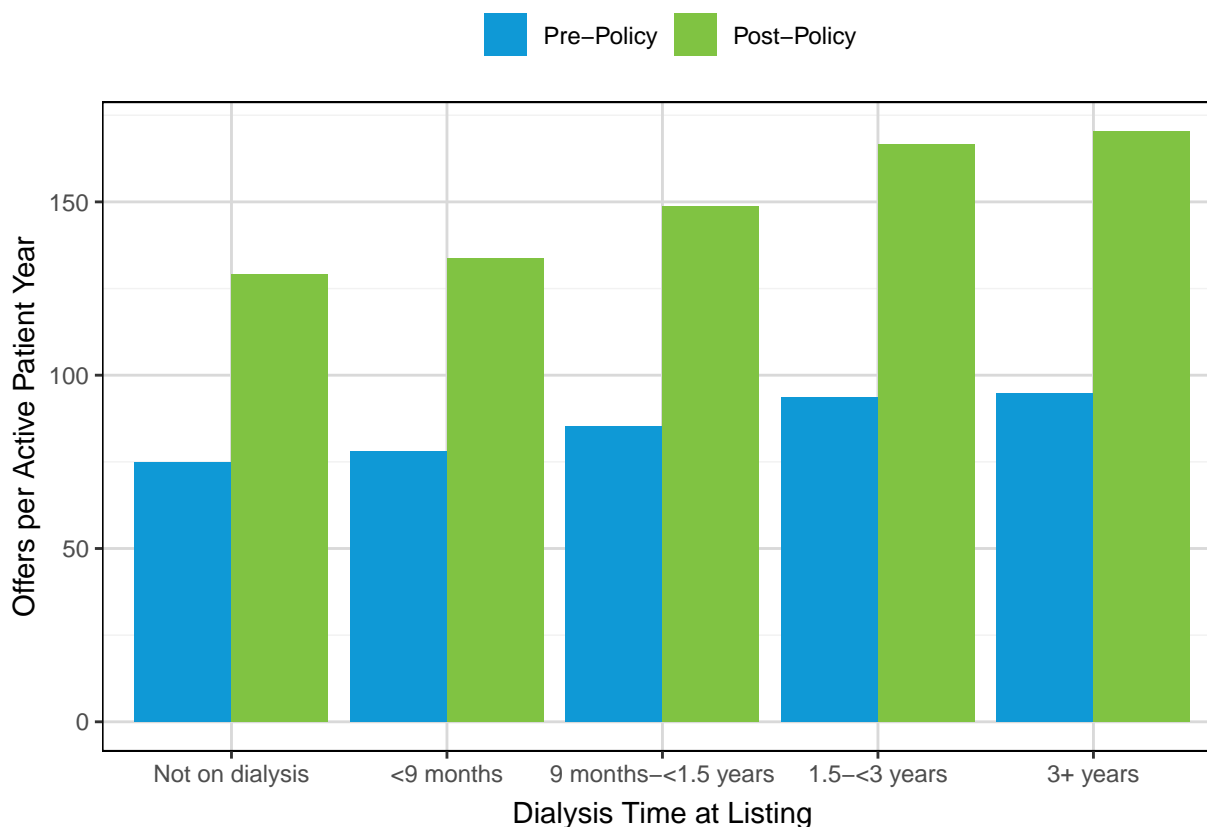
**Figure A68** shows acceptances per 1000 offers for kidney match runs from March 16, 2019 to March 14, 2023 by policy era and age at listing. Acceptance rates decreased after policy implementation across all candidate age groups. Candidates less than 18 years old had the highest acceptance rates both pre- and post-policy.

**Figure A68: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing**



**Figure A69** and **Table A75** show offers per active patient year for kidney matches from March 16, 2019 to March 14, 2023 by policy era and time on dialysis at listing. Groupings are based on the 25th, 50th, and 75th percentiles of dialysis time (see **Table 12**). Offer rates increased for pre-emptively listed patients as well as those on dialysis after policy implementation.

**Figure A69: Offers per Active Patient Year for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Dialysis Time at Offer**

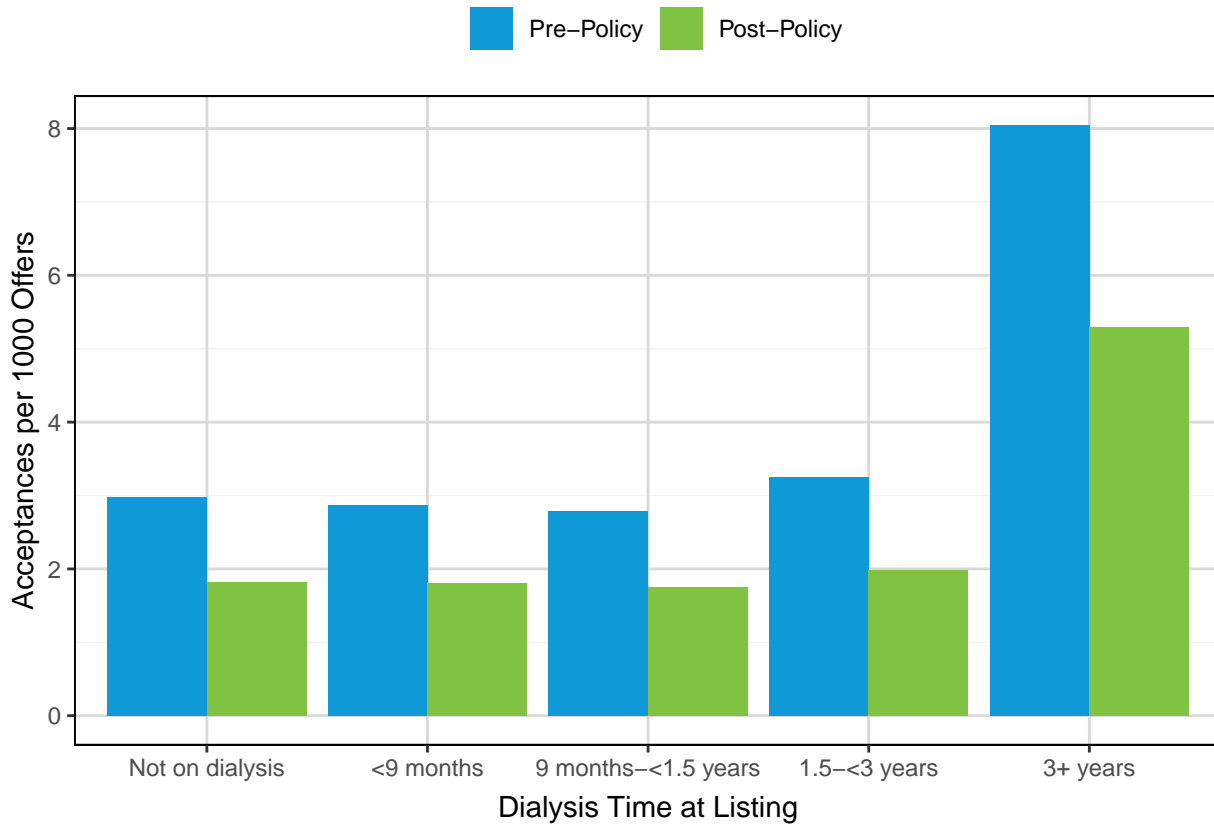


**Table A75: Offer and Acceptance Rates for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Dialysis Time at Offer**

| Dialysis Time       | Era         | Active Patient Years | Offers  | Acceptances | Offers per Active Patient Year | Acceptances per 1000 Offers |
|---------------------|-------------|----------------------|---------|-------------|--------------------------------|-----------------------------|
| Not on dialysis     | Pre-Policy  | 40911.46             | 3068501 | 9131        | 75.00                          | 2.98                        |
|                     | Post-Policy | 40379.27             | 5219204 | 9503        | 129.25                         | 1.82                        |
| <9 months           | Pre-Policy  | 25235.10             | 1967524 | 5642        | 77.97                          | 2.87                        |
|                     | Post-Policy | 22307.90             | 2985237 | 5392        | 133.82                         | 1.81                        |
| 9 months-<1.5 years | Pre-Policy  | 24068.94             | 2051887 | 5731        | 85.25                          | 2.79                        |
|                     | Post-Policy | 22137.61             | 3289455 | 5773        | 148.59                         | 1.76                        |
| 1.5-<3 years        | Pre-Policy  | 20032.66             | 1875561 | 6096        | 93.63                          | 3.25                        |
|                     | Post-Policy | 18971.96             | 3159966 | 6265        | 166.56                         | 1.98                        |
| 3+ years            | Pre-Policy  | 13452.21             | 1276392 | 10269       | 94.88                          | 8.05                        |
|                     | Post-Policy | 11495.63             | 1958399 | 10373       | 170.36                         | 5.30                        |

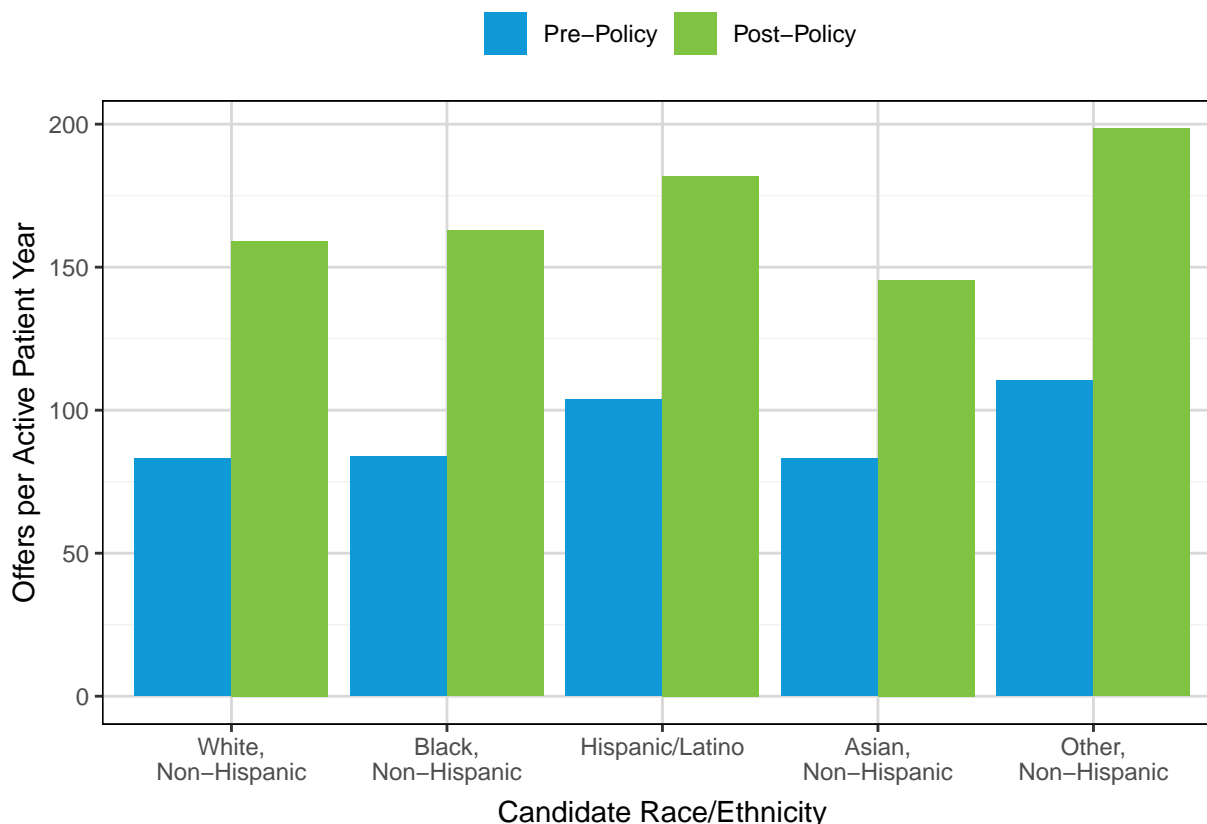
**Figure A70** shows acceptances per 1000 offers for kidney match runs from March 16, 2019 to March 14, 2023 by policy era and time on dialysis at offer. Groupings are based on the 25th, 50th, and 75th percentiles of dialysis time (see **Table 12**). Acceptance rates decreased for all patients regardless of dialysis status or time after policy implementation. Candidates on dialysis for 3+ years at listing had the highest offer acceptance rate both before and after policy implementation.

**Figure A70: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Dialysis Time at Offer**



**Figure A71** and **Table A76** show offers per active patient year for kidney matches from March 16, 2019 to March 14, 2023 by policy era and race/ethnicity. Offer rates increased for candidates of all ethnicities after policy implementation.

**Figure A71: Offers per Active Patient Year for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity**

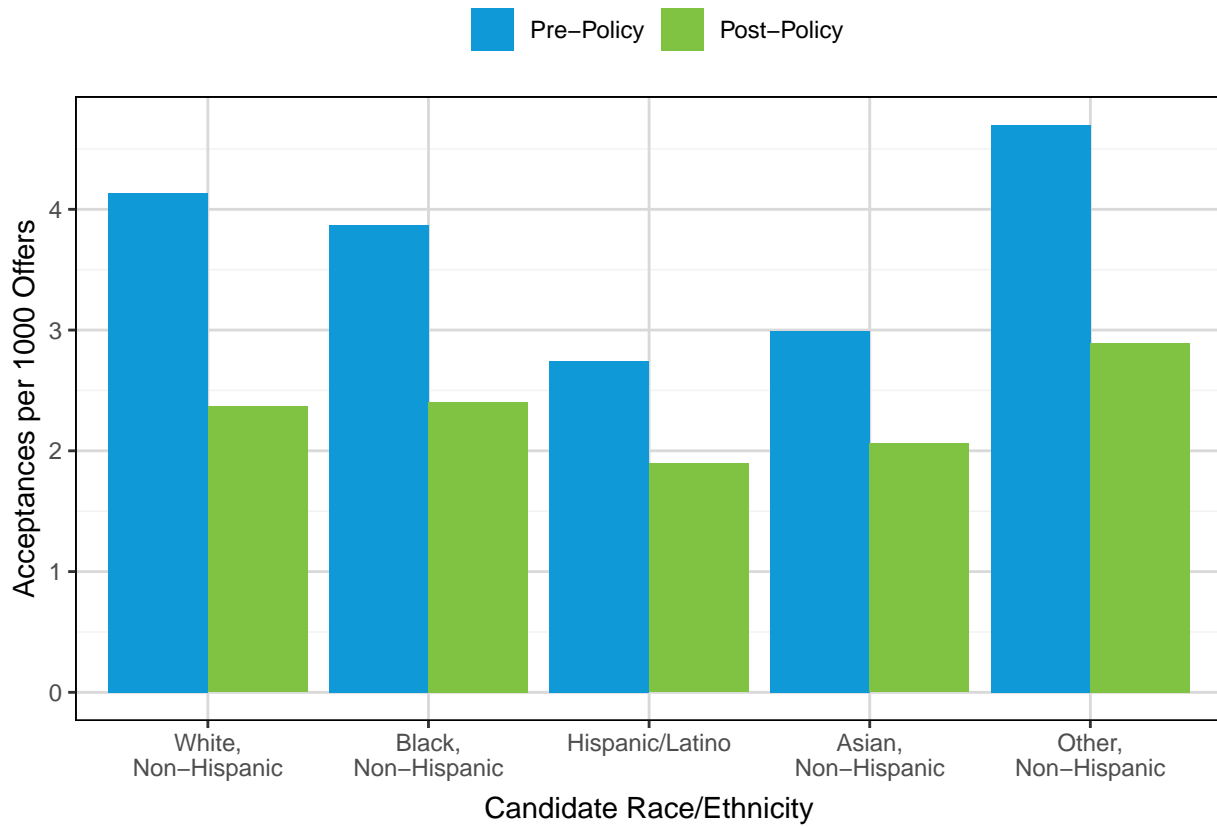


**Table A76: Offer and Acceptance Rates for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity**

| Race/Ethnicity      | Era         | Active Patient Years | Offers  | Acceptances | Offers per Active Patient Year | Acceptances per 1000 Offers |
|---------------------|-------------|----------------------|---------|-------------|--------------------------------|-----------------------------|
| White, Non-Hispanic | Pre-Policy  | 38430.30             | 3194710 | 13203       | 83.13                          | 4.13                        |
|                     | Post-Policy | 33191.35             | 5281862 | 12502       | 159.13                         | 2.37                        |
| Black, Non-Hispanic | Pre-Policy  | 38208.28             | 3203244 | 12389       | 83.84                          | 3.87                        |
|                     | Post-Policy | 32377.91             | 5274047 | 12679       | 162.89                         | 2.40                        |
| Hispanic/Latino     | Pre-Policy  | 25848.99             | 2682500 | 7361        | 103.78                         | 2.74                        |
|                     | Post-Policy | 23145.99             | 4209856 | 7978        | 181.88                         | 1.90                        |
| Asian, Non-Hispanic | Pre-Policy  | 10791.40             | 897237  | 2684        | 83.14                          | 2.99                        |
|                     | Post-Policy | 9862.50              | 1434540 | 2955        | 145.45                         | 2.06                        |
| Other, Non-Hispanic | Pre-Policy  | 2374.27              | 262174  | 1232        | 110.42                         | 4.70                        |
|                     | Post-Policy | 2076.50              | 411956  | 1192        | 198.39                         | 2.89                        |

**Figure A72** shows acceptances per 1000 offers for kidney match runs from March 16, 2019 to March 14, 2023 by policy era and race/ethnicity. Acceptance rates decreased for all races/ethnicities after policy implementation.

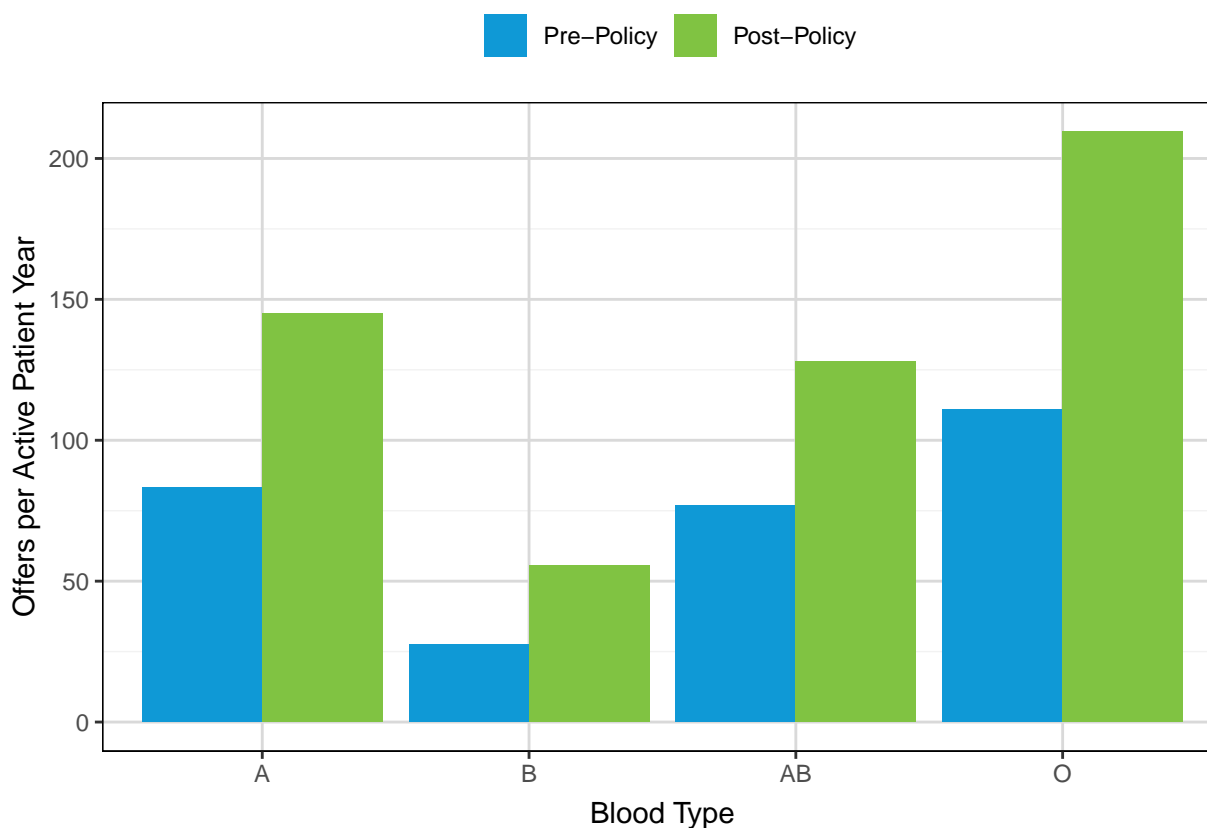
**Figure A72: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Race/Ethnicity**





**Figure A73** and **Table A77** show offers per active patient year for kidney matches from March 16, 2019 to March 14, 2023 by policy era and blood type. Offer rates increased for all blood types after policy implementation.

**Figure A73: Offers per Active Patient Year for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Blood Type**

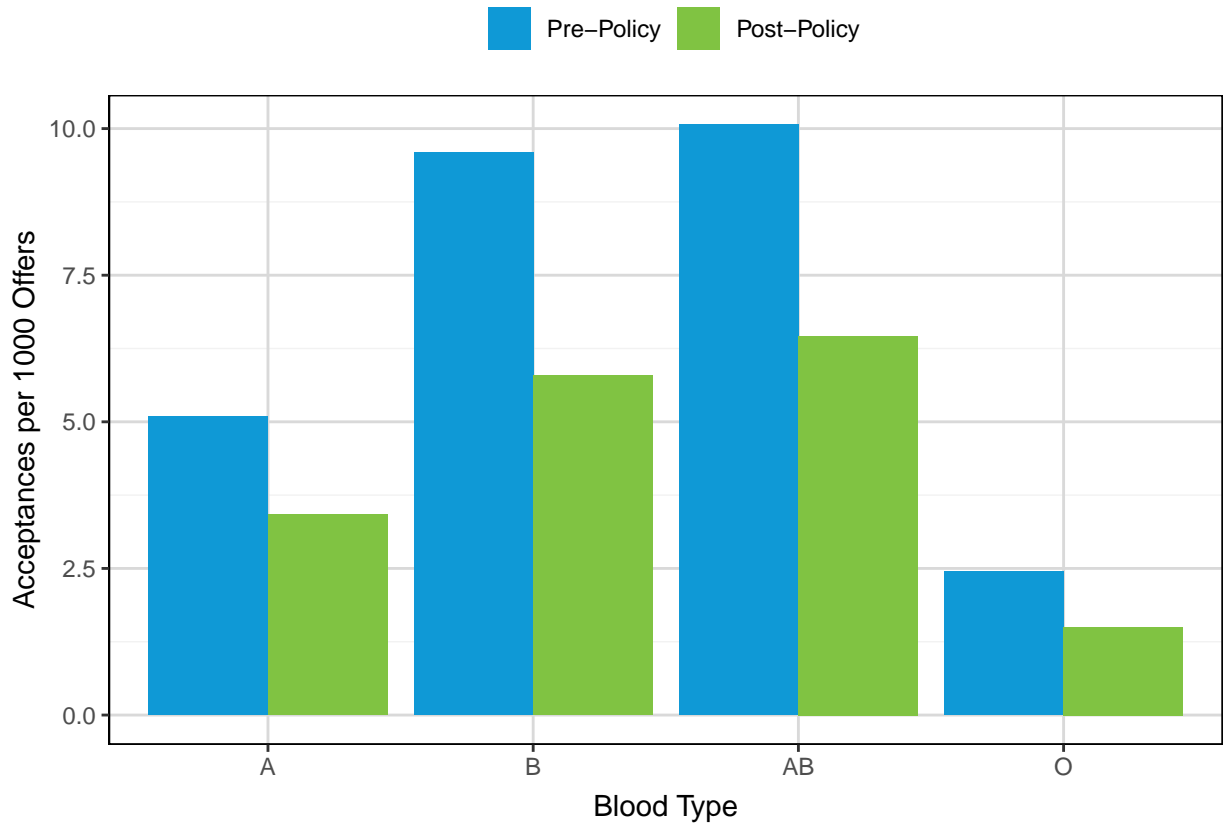


**Table A77: Offer and Acceptance Rates for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Blood Type**

| Blood Type | Era         | Active Patient Years | Offers   | Acceptances | Offers per Active Patient Year | Acceptances per 1000 Offers |
|------------|-------------|----------------------|----------|-------------|--------------------------------|-----------------------------|
| A          | Pre-Policy  | 30112.55             | 2502191  | 12732       | 83.09                          | 5.09                        |
|            | Post-Policy | 25272.13             | 3665204  | 12525       | 145.03                         | 3.42                        |
| B          | Pre-Policy  | 19458.54             | 532919   | 5116        | 27.39                          | 9.60                        |
|            | Post-Policy | 16872.47             | 938734   | 5436        | 55.64                          | 5.79                        |
| AB         | Pre-Policy  | 2445.04              | 187909   | 1892        | 76.85                          | 10.07                       |
|            | Post-Policy | 2075.45              | 265367   | 1715        | 127.86                         | 6.46                        |
| O          | Pre-Policy  | 63196.35             | 7016846  | 17129       | 111.03                         | 2.44                        |
|            | Post-Policy | 56040.08             | 11742956 | 17630       | 209.55                         | 1.50                        |

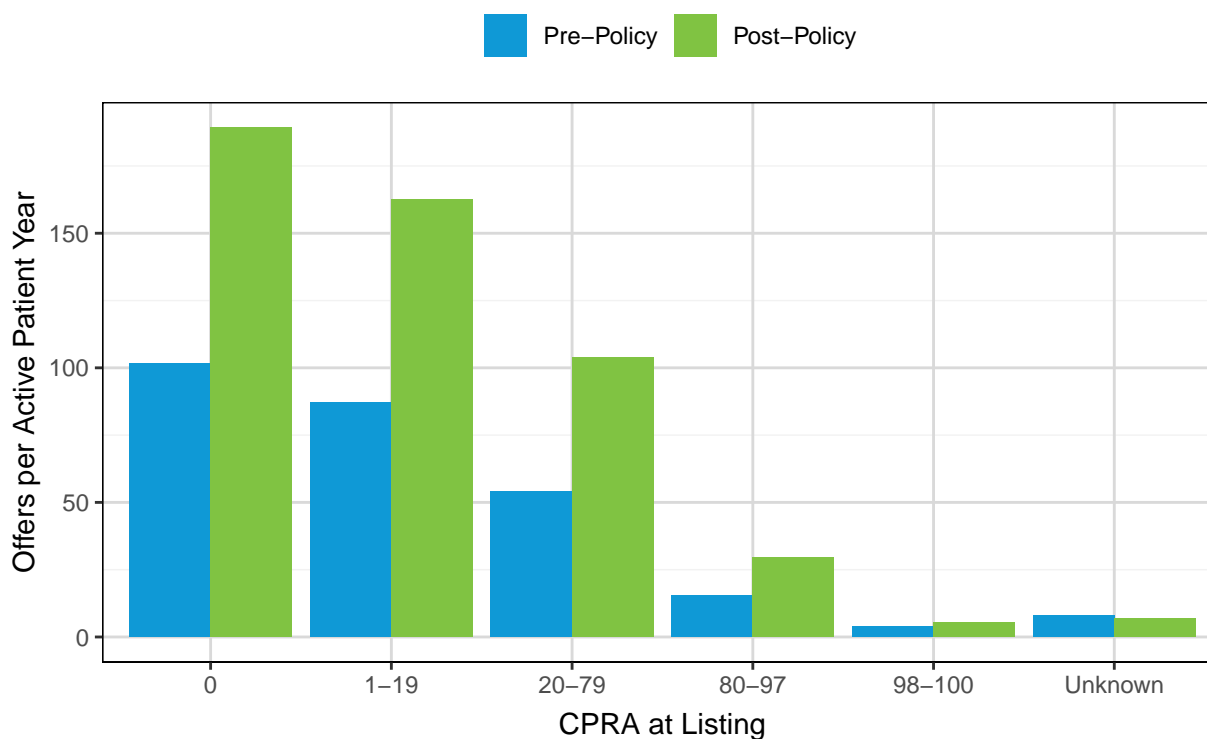
**Figure A74** shows acceptances per 1000 offers for kidney match runs from March 16, 2019 to March 14, 2023 by policy era and blood type. Acceptance rates decreased for all blood types after policy implementation.

**Figure A74: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Blood Type**



**Figure A75** and **Table A78** show offers per active patient year for kidney matches from March 16, 2019 to March 14, 2023 by policy era and CPRA at listing. Offer rates increased for all CPRA groups after policy implementation.

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



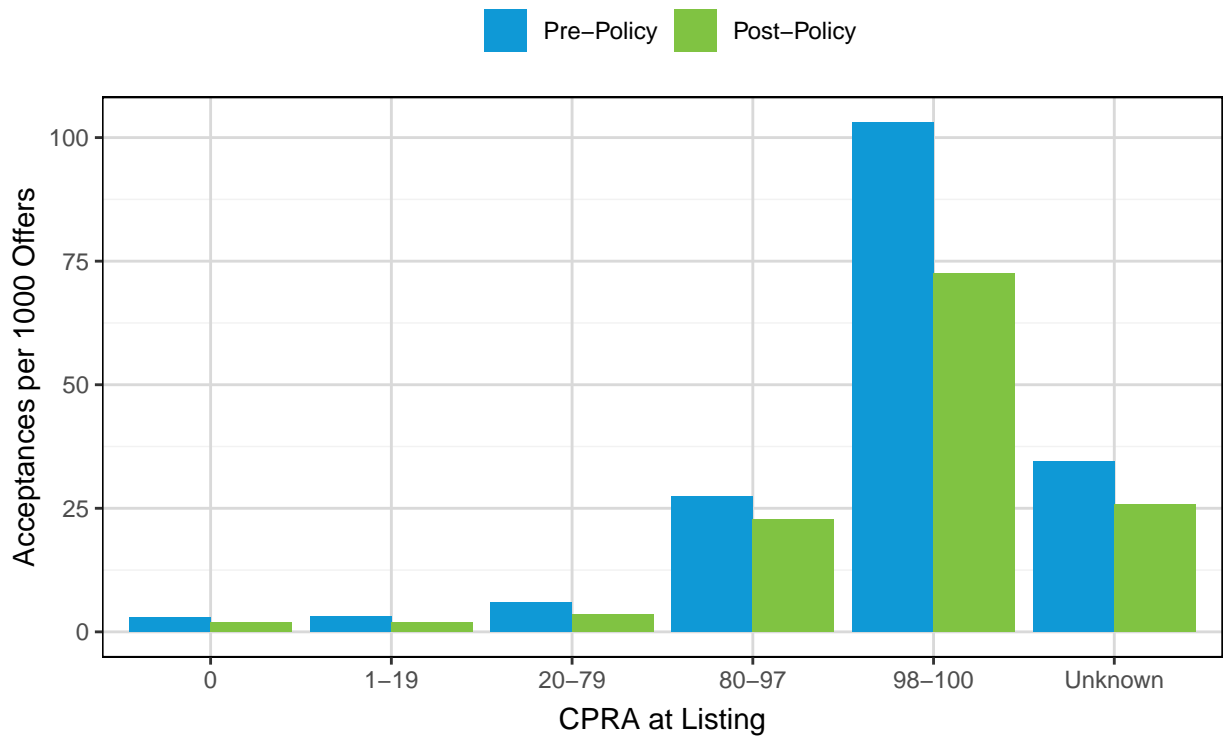
Candidates with unknown CPRA at listing were listed prior to October 1st, 2009, when CPRA was implemented in allocation. Registrations listed on or after January 26th, 2023 with a NULL CPRA due to not reporting unacceptable antigens was recoded to have a CPRA of 0%

**Table A78: Offer and Acceptance Rates for Kidney 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  | 84296.01             | 8561576  | 25430       | 101.57                         | 2.97                        |
|         | Post-Policy | 72162.80             | 13659624 | 25113       | 189.29                         | 1.84                        |
| 1-19    | Pre-Policy  | 8552.82              | 744827   | 2408        | 87.09                          | 3.23                        |
|         | Post-Policy | 8159.78              | 1327367  | 2636        | 162.67                         | 1.99                        |
| 20-79   | Pre-Policy  | 15384.60             | 830202   | 4890        | 53.96                          | 5.89                        |
|         | Post-Policy | 14215.26             | 1478318  | 5222        | 104.00                         | 3.53                        |
| 80-97   | Pre-Policy  | 5328.35              | 82509    | 2262        | 15.48                          | 27.42                       |
|         | Post-Policy | 4217.26              | 125265   | 2854        | 29.70                          | 22.78                       |
| 98-100  | Pre-Policy  | 4196.45              | 16958    | 1748        | 4.04                           | 103.08                      |
|         | Post-Policy | 3756.72              | 19706    | 1430        | 5.25                           | 72.57                       |
| Unknown | Pre-Policy  | 480.37               | 3793     | 131         | 7.90                           | 34.54                       |
|         | Post-Policy | 292.06               | 1981     | 51          | 6.78                           | 25.74                       |

**Figure A76** shows acceptances per 1000 offers for kidney 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 with the exception of those with unknown CPRA.

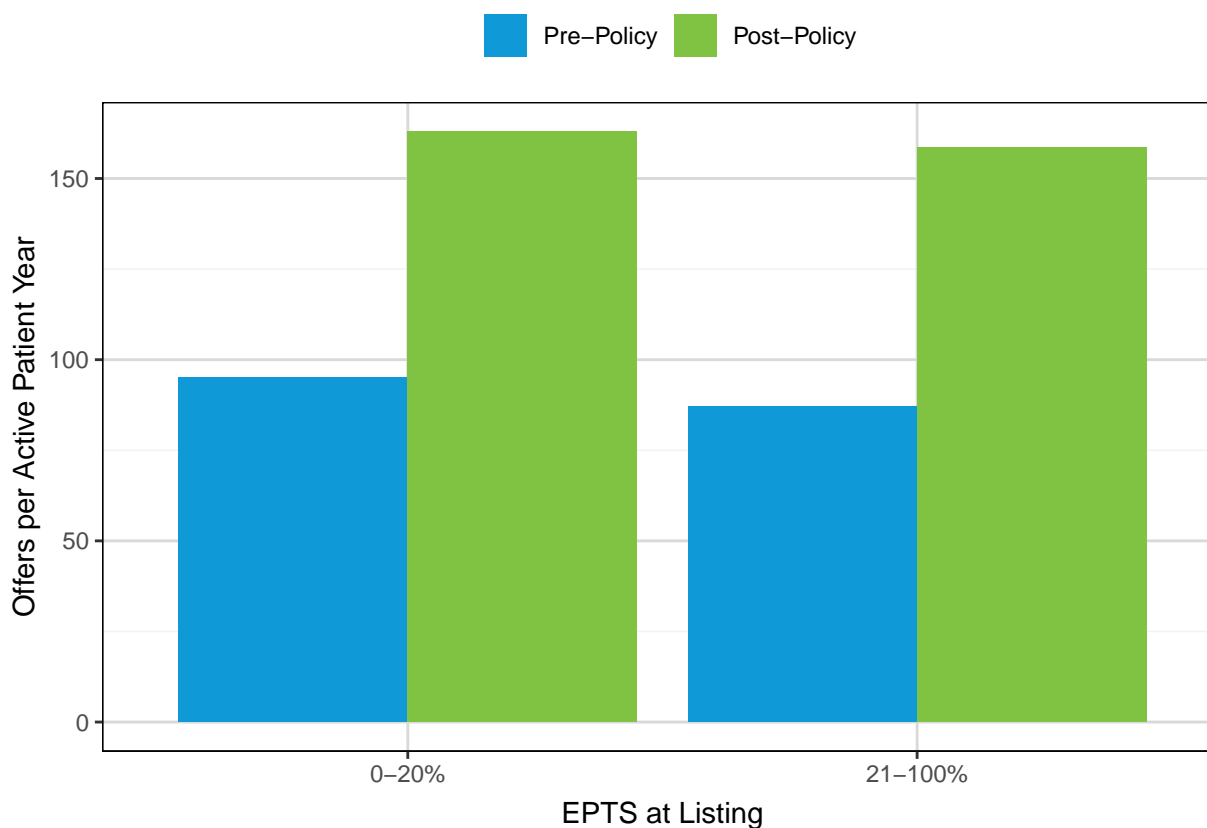
**Figure A76: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and CPRA at Listing**



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

**Figure A77** and **Table A79** show offers per active patient year for kidney matches from March 16, 2019 to March 14, 2023 by policy era and EPTS at listing. Offer rates increased for all EPTS groups after policy implementation.

**Figure A77: Offers per Active Patient Year for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and EPTS at Listing**

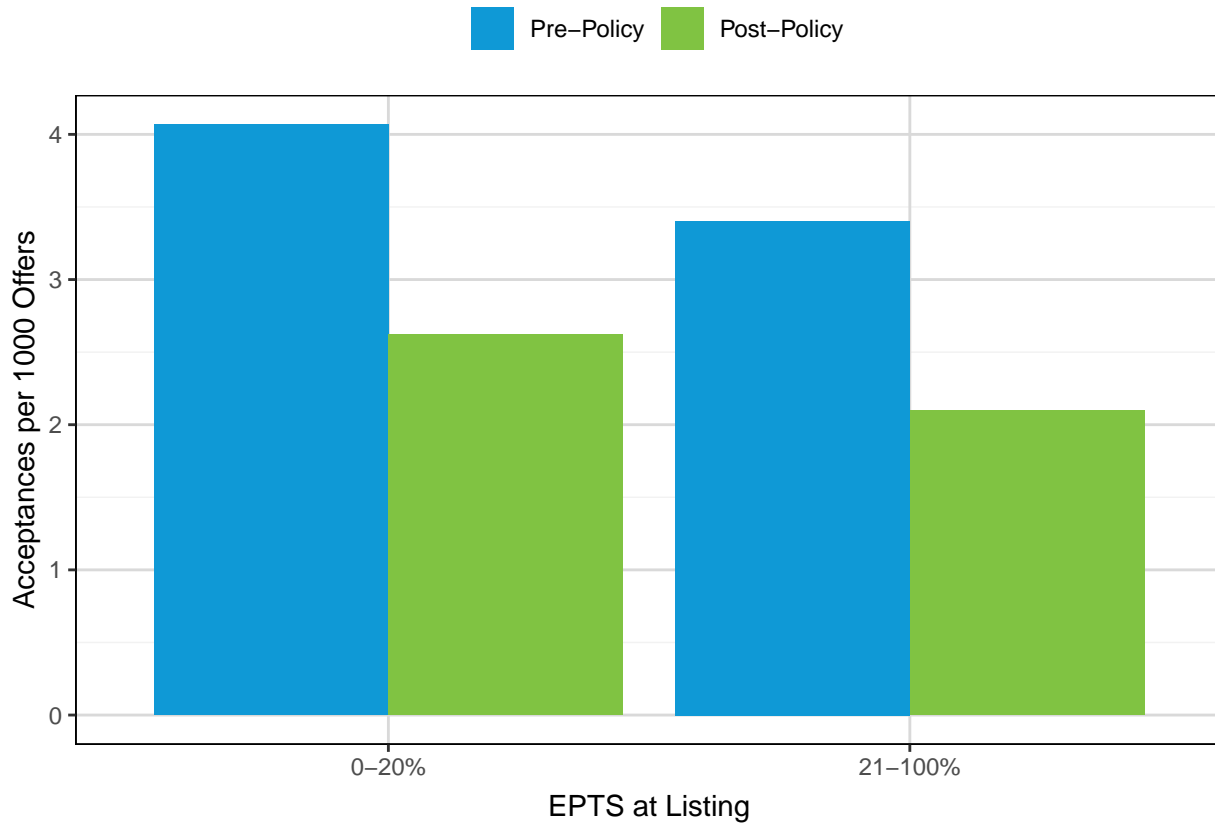


**Table A79: Offer and Acceptance Rates for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and EPTS at Listing**

| EPTS    | Era         | Active Patient Years | Offers   | Acceptances | Offers per Active Patient Year | Acceptances per 1000 Offers |
|---------|-------------|----------------------|----------|-------------|--------------------------------|-----------------------------|
| 0-20%   | Pre-Policy  | 31946.93             | 3041375  | 12371       | 95.20                          | 4.07                        |
|         | Post-Policy | 29111.63             | 4743828  | 12428       | 162.95                         | 2.62                        |
| 21-100% | Pre-Policy  | 82698.89             | 7198112  | 24496       | 87.04                          | 3.40                        |
|         | Post-Policy | 74896.08             | 11867553 | 24871       | 158.45                         | 2.10                        |

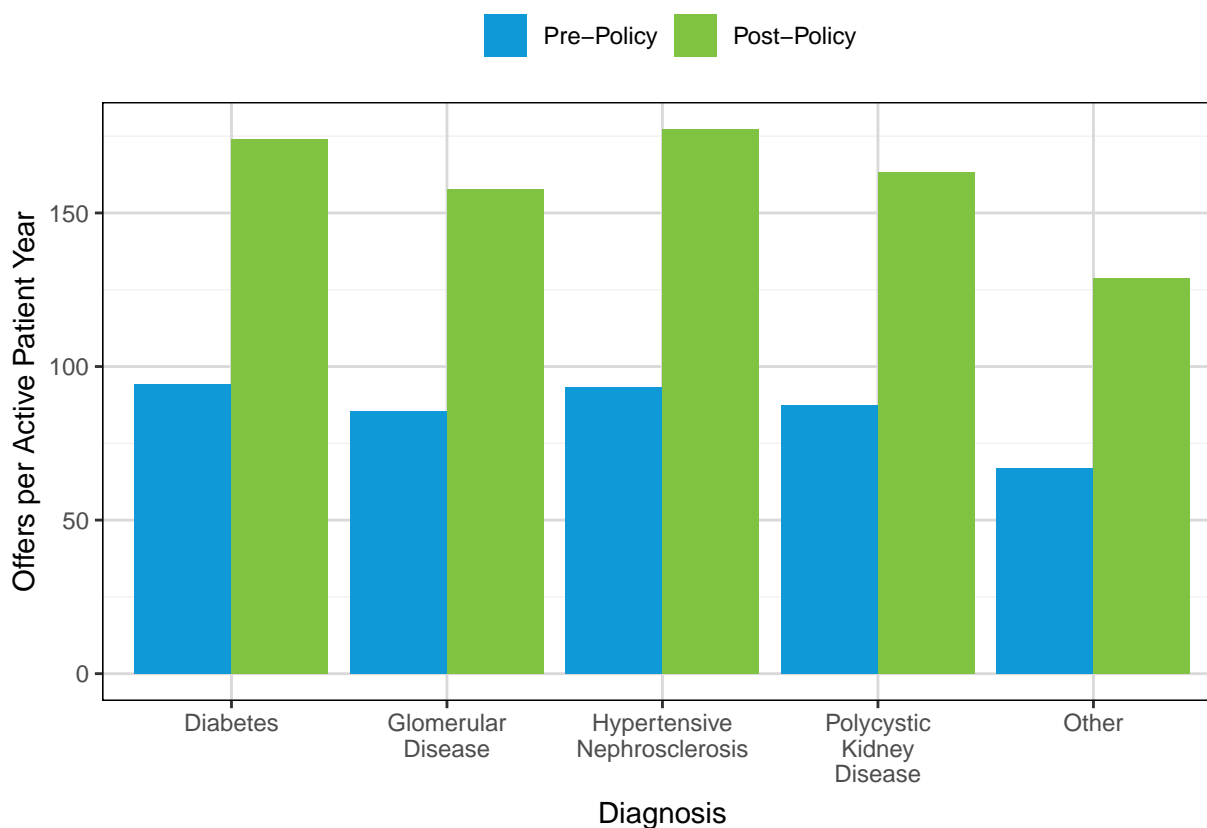
**Figure A78** shows acceptances per 1000 offers for kidney match runs from March 16, 2019 to March 14, 2023 by policy era and EPTS at listing. Acceptance rates decreased for all EPTS groups after policy implementation.

**Figure A78: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and EPTS at Listing**



**Figure A79** and **Table A80** show offers per active patient year for kidney matches from March 16, 2019 to March 14, 2023 by policy era and diagnosis. Offer rates increased for all diagnoses after policy implementation.

**Figure A79: Offers per Active Patient Year for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Diagnosis**

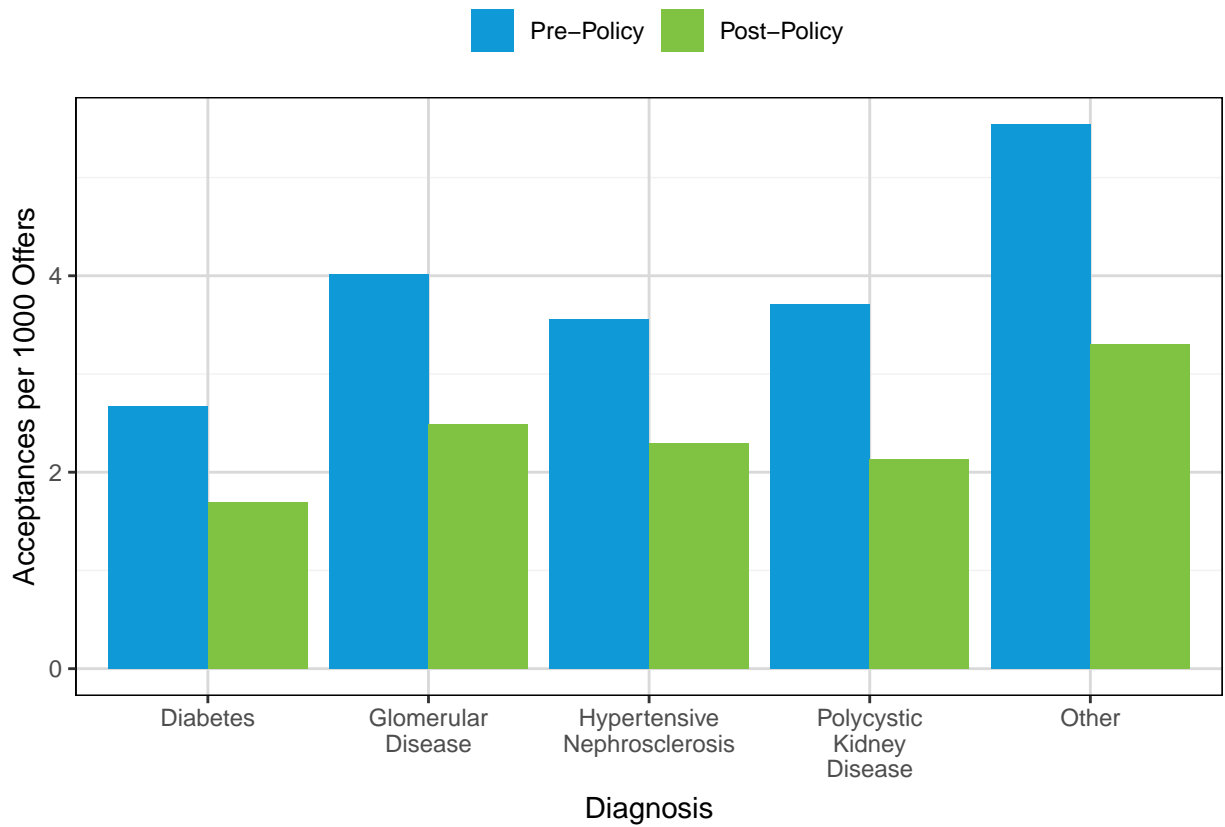


**Table A80: Offer and Acceptance Rates for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Diagnosis**

| Diagnosis                    | Era         | Active Patient Years | Offers  | Acceptances | Offers per Active Patient Year | Acceptances per 1000 Offers |
|------------------------------|-------------|----------------------|---------|-------------|--------------------------------|-----------------------------|
| Diabetes                     | Pre-Policy  | 42408.72             | 4000885 | 10677       | 94.34                          | 2.67                        |
|                              | Post-Policy | 37211.80             | 6475858 | 11008       | 174.03                         | 1.70                        |
| Glomerular Disease           | Pre-Policy  | 20187.48             | 1725990 | 6937        | 85.50                          | 4.02                        |
|                              | Post-Policy | 17304.22             | 2730204 | 6793        | 157.78                         | 2.49                        |
| Hypertensive Nephrosclerosis | Pre-Policy  | 24364.73             | 2271801 | 8075        | 93.24                          | 3.55                        |
|                              | Post-Policy | 20487.87             | 3631443 | 8335        | 177.25                         | 2.30                        |
| Polycystic Kidney Disease    | Pre-Policy  | 7767.09              | 679645  | 2525        | 87.50                          | 3.72                        |
|                              | Post-Policy | 6815.23              | 1112192 | 2378        | 163.19                         | 2.14                        |
| Other                        | Pre-Policy  | 23285.88             | 1561544 | 8655        | 67.06                          | 5.54                        |
|                              | Post-Policy | 20663.96             | 2662564 | 8792        | 128.85                         | 3.30                        |

**Figure A80** shows acceptances per 1000 offers for kidney match runs from March 16, 2019 to March 14, 2023 by policy era and diagnosis. Acceptance rates decreased for all diagnoses after policy implementation.

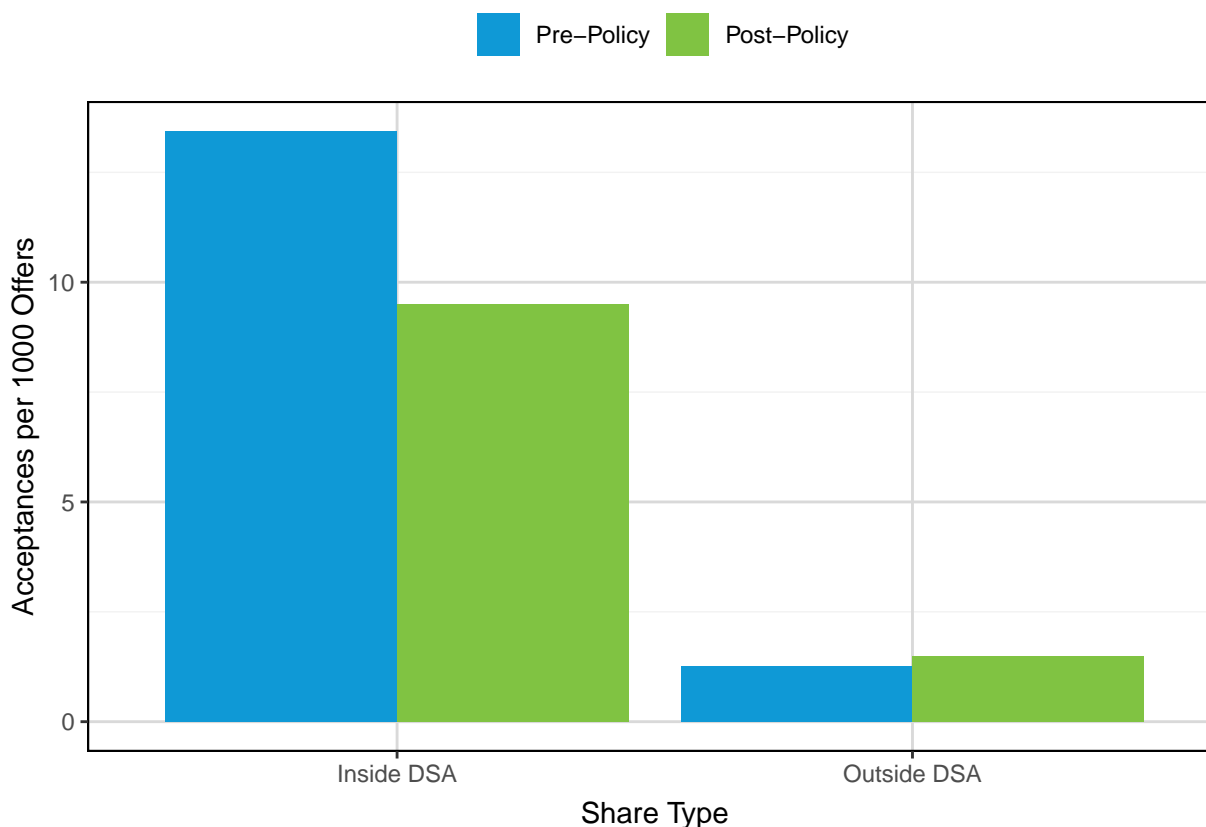
**Figure A80: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Diagnosis**





**Figure A81** and **Table A81** show acceptances per 1000 offers for kidney 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 transplant center decreased from 13.44 to 9.51 acceptances per 1000 offers after policy implementation. The acceptance rate for organs recovered outside the same DSA as the potential transplant recipient increased from 1.27 to 1.49 acceptances per 1000 offers.

**Figure A81: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Share Type**

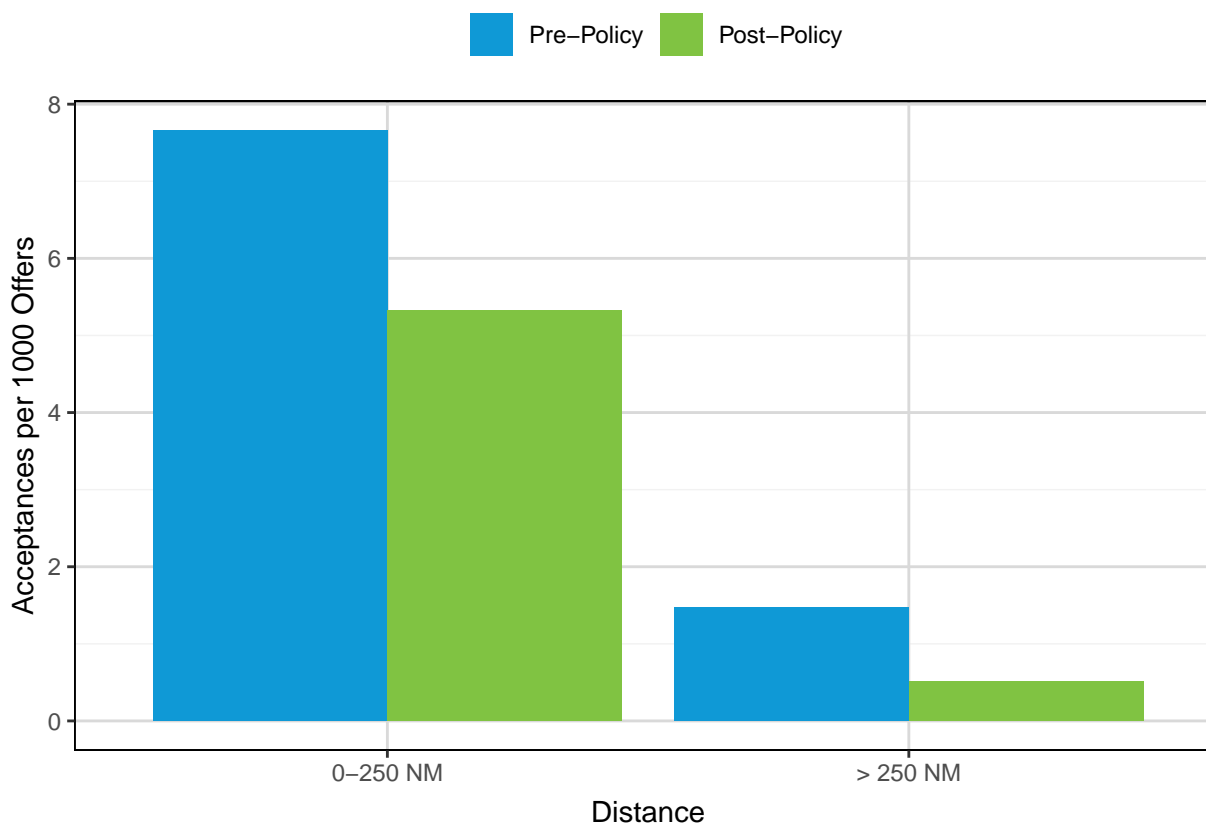


**Table A81: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Share Type**

| Share Type  | Pre-Policy |             |                             | Post-Policy |             |                             |
|-------------|------------|-------------|-----------------------------|-------------|-------------|-----------------------------|
|             | Offers     | Acceptances | Acceptances per 1000 Offers | Offers      | Acceptances | Acceptances per 1000 Offers |
| Inside DSA  | 1963469    | 26381       | 13.44                       | 1558932     | 14822       | 9.51                        |
| Outside DSA | 8276396    | 10488       | 1.27                        | 15053329    | 22484       | 1.49                        |

**Figure A82** and **Table A82** show acceptances per 1000 offers for kidney match runs from March 16, 2019 to March 14, 2023 by policy era and distance from the donor hospital. Acceptance rates decreased for both distance groups after policy implementation.

**Figure A82: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Distance**

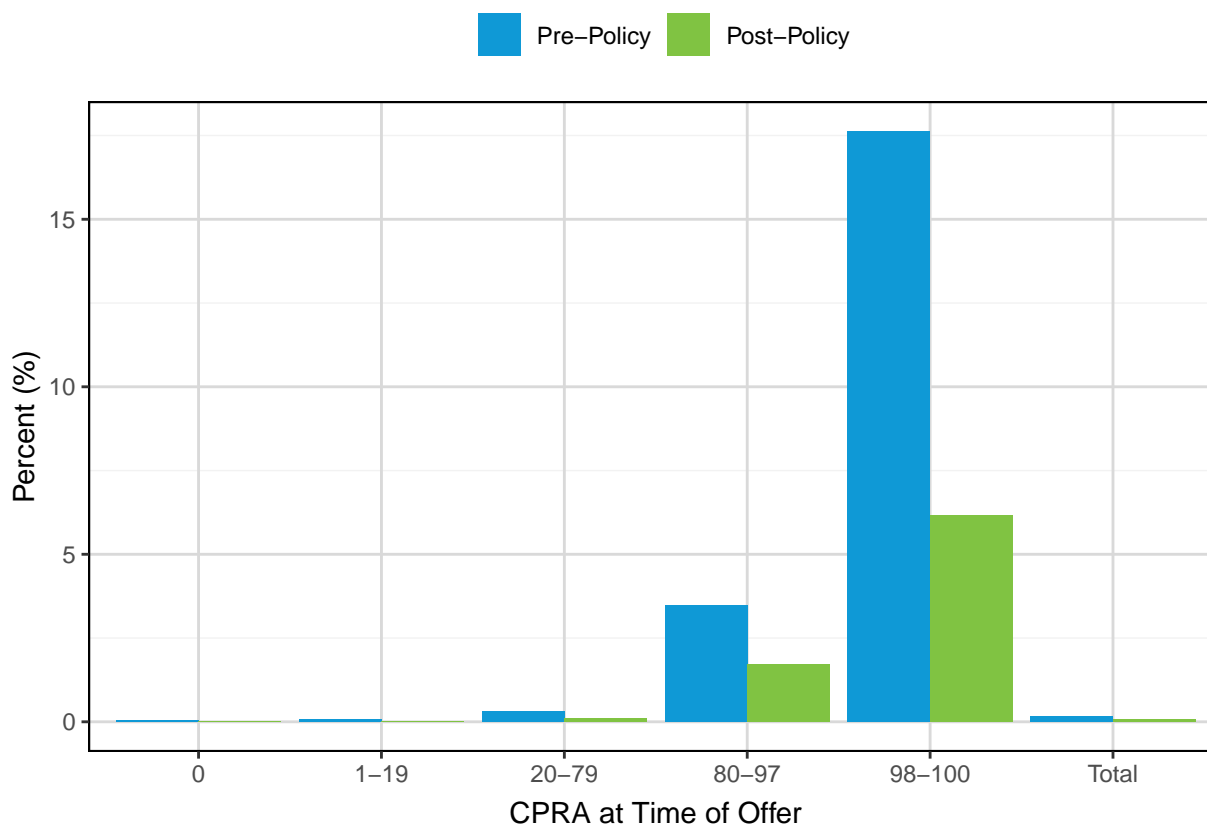


**Table A82: Acceptances per 1000 Offers for Kidney Match Runs March 16, 2019 - March 14, 2023 by Policy Era and Distance**

| Distance | Pre-Policy |             |                             | Post-Policy |             |                             |
|----------|------------|-------------|-----------------------------|-------------|-------------|-----------------------------|
|          | Offers     | Acceptances | Acceptances per 1000 Offers | Offers      | Acceptances | Acceptances per 1000 Offers |
| 0-250 NM | 3526604    | 27011       | 7.66                        | 5996559     | 31896       | 5.32                        |
| > 250 NM | 6713261    | 9858        | 1.47                        | 10615702    | 5410        | 0.51                        |

**Figure A83** and **Table A83** show refusals due to positive crossmatch for kidney matches from March 16, 2019 to March 14, 2023 by policy era and CPRA. Less than 0.2 percent of all refusals were due to positive crossmatch across policy eras. Candidates with CPRA 98-100% were the most likely to refuse an offer due to positive crossmatch (17.63% pre-policy and 6.16% post-policy).

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



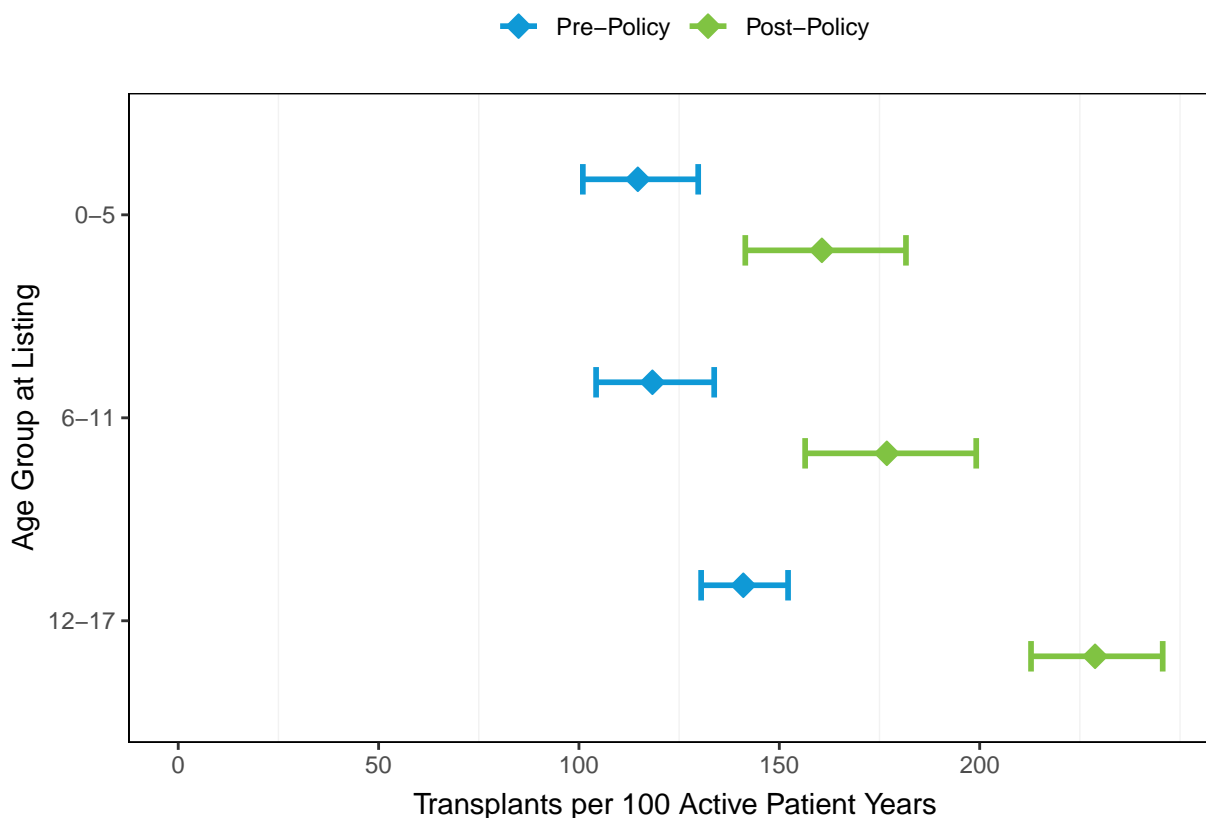
**Table A83: Refusals Due to Positive Crossmatch for Kidney Matches March 16, 2019-March 14, 2023 by Policy Era and CPRA**

| CPRA   | Pre-Policy |               |       | Post-Policy |               |      |
|--------|------------|---------------|-------|-------------|---------------|------|
|        | Refusals   | Due to Xmatch | %     | Refusals    | Due to Xmatch | %    |
| 0      | 3069308    | 1439          | 0.05  | 4422157     | 616           | 0.01 |
| 1-19   | 432500     | 380           | 0.09  | 671785      | 186           | 0.03 |
| 20-79  | 468414     | 1431          | 0.31  | 757093      | 774           | 0.10 |
| 80-97  | 46455      | 1612          | 3.47  | 71127       | 1217          | 1.71 |
| 98-100 | 12295      | 2167          | 17.63 | 12892       | 794           | 6.16 |
| Total  | 4028972    | 7029          | 0.17  | 5935054     | 3587          | 0.06 |

## Pediatrics

**Figure A84** and **Table A84** show deceased donor transplants per 100 active patient years for pediatric kidney registrations ever waiting between March 16, 2019 and March 14, 2023 by policy era and age at listing. The transplant rate for all pediatric age groups increased after policy implementation. The transplant rate for registrations aged 0 to 5 years at listing increased from 114.69 to 160.62 transplants per 100 active patient years. The transplant rate for registrations aged 6 to 10 years at listing increased from 118.33 to 176.83 transplants per 100 active patient years. The transplant rate for registrations aged 12 to 17 years at listing increased from 141.02 to 228.8 transplants per 100 active patient years.

**Figure A84: Transplants per 100 Active Patient Years for Pediatric Kidney Registrations Ever Waiting March 16, 2019 - March 14, 2023 by Policy Era and Age at Listing**



**Table A84: Transplants per 100 Active Patient Years for Pediatric Kidney 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 Active Patient Years | 95% CI           |
|----------------|-------------|---------------|-------------|--|------------------|
| 0-5            | Pre-Policy  | 453           | 252         | 114.69                                   | (100.97, 129.76) |
|                | Post-Policy | 430           | 255         | 160.62                                   | (141.51, 181.6)  |
| 6-11           | Pre-Policy  | 451           | 256         | 118.33                                   | (104.28, 133.75) |
|                | Post-Policy | 424           | 272         | 176.83                                   | (156.44, 199.14) |
| 12-17          | Pre-Policy  | 1124          | 663         | 141.02                                   | (130.49, 152.18) |
|                | Post-Policy | 1134          | 759         | 228.80                                   | (212.81, 245.67) |





























































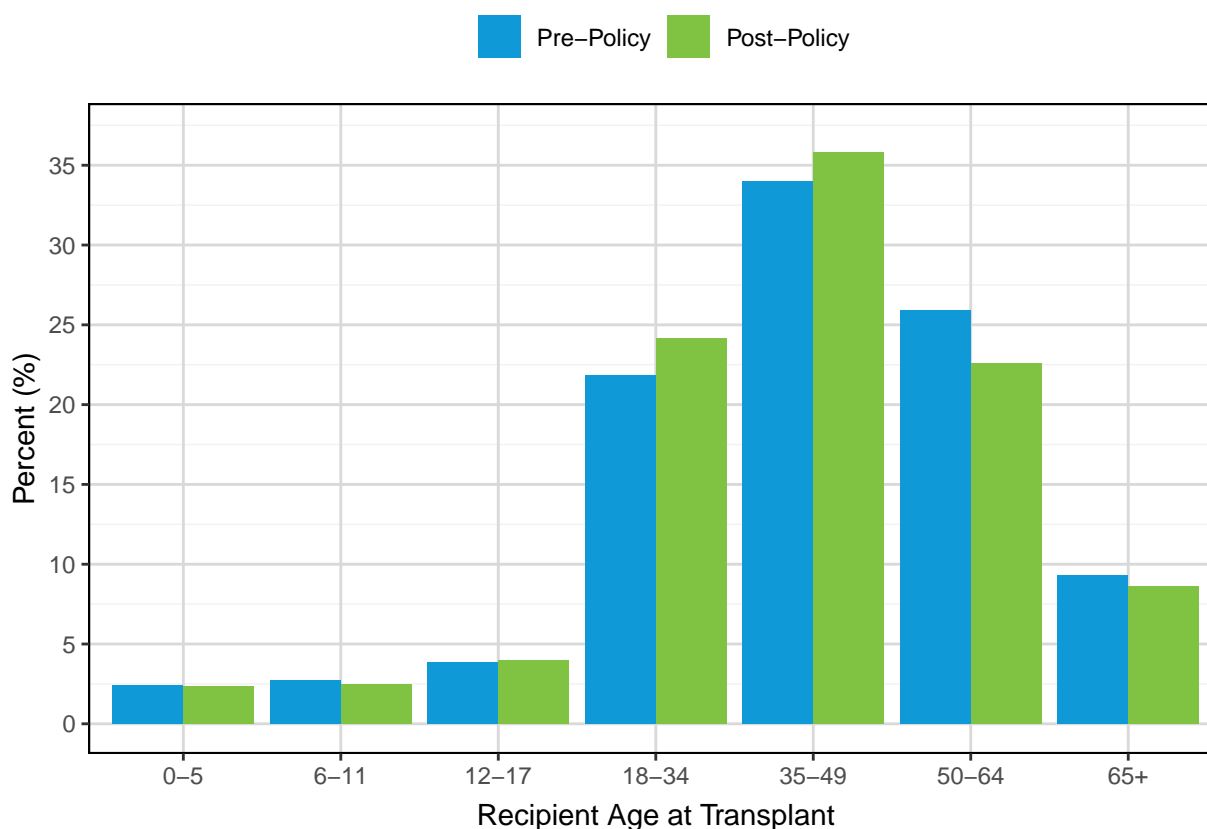






**Table A110** shows the number of Pediatric donors recovered for transplantation between March 16, 2019 - March 14, 2023 by policy era and recipient age at transplant. The distribution of recipients of pediatric donor kidneys changed slightly after policy implementation, with more pediatric donor kidneys going to recipients aged 18-49 and less going to recipients aged 50 and older.

**Figure A111: Pediatric Donors Recovered for Transplantation between March 16, 2019 - March 14, 2023 by Policy Era and Recipient Age at Transplant**



**Table A110: Pediatric Donors Recovered for Transplantation between March 16, 2019 - March 14, 2023 by Policy Era and Recipient Age at Transplant**

| Recipient Age at Transplant | Pre-Policy |        | Post-Policy |        |
|-----------------------------|------------|--------|-------------|--------|
|                             | N          | %      | N           | %      |
| 0-5                         | 67         | 2.41   | 71          | 2.36   |
| 6-11                        | 76         | 2.73   | 75          | 2.49   |
| 12-17                       | 107        | 3.85   | 120         | 3.99   |
| 18-34                       | 608        | 21.85  | 727         | 24.14  |
| 35-49                       | 945        | 33.97  | 1078        | 35.80  |
| 50-64                       | 720        | 25.88  | 681         | 22.62  |
| 65+                         | 259        | 9.31   | 259         | 8.60   |
| Total                       | 2782       | 100.00 | 3011        | 100.00 |