

2 Year Race-Neutral eGFR Calculations Monitoring Report

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By:
Meng Li, Ph.D.
UNOS Research Department

Contents

Executive Summary	3
Background/Purpose	3
Strategic Plan Goal or Committee Project Addressed	3
Data and Methods	4
Results	5
Table 1. Overall Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, by Race/Ethnicity	5
Figure 1. Black Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, by Whether Candidate Was Listed Pre-Dialysis	6
Table 2. Black Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, by Waiting Time Qualifying Source	7
Figure 2. Distribution of First Entered eGFR for Black Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, Who Qualified by an eGFR of 20 or Lower, or by Tiebreaker Date	8
Table 3. Distribution of First Entered eGFR for Black Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, Who Qualified by an eGFR of 20 or Lower	9
Table 4. Overall Kidney Transplants by Race/Ethnicity During the 2 Years Before and 2 years After the Policy	10
Figure 3. Transplants to Black Kidney Recipients Pre-Dialysis vs. Post-Dialysis During the 2 Years Before and 2 years After the Policy	11
Figure 4. Deaths per 100 Patient Years for Kidney Registrations Ever Waiting July 26, 2020 - July 26, 2024 by Policy Era and Race/Ethnicity	12
Table 5. Deaths per 100 Patient Years for Kidney Registrations Ever Waiting July 26, 2020 - July 26, 2024 by Policy Era and Race/Ethnicity	13
Table 6. Probability of a Deceased Donor Transplant Within 1 Year of Listing for Kidney Registrations Added 1 Year Before vs. 1 Year After Policy, Stratified by Race/Ethnicity.	14

Figure 5. Probability of a Deceased Donor Transplant Within 1 Year of Listing for Kidney Registrations Added 1 Year Before vs. 1 Year After Policy, Stratified by Race/Ethnicity. . .	15
Figure 6. Cumulative Incidence of Receiving a Deceased Donor Kidney Transplant for Black/African American Kidney Registrations Listed During the 1 Year Before vs. 1 Year After Policy . .	16

Executive Summary

Two years after the race-neutral eGFR policy was implemented, we observed changes in outcome measures largely in line with the intentions of the policy.

The chance for Black kidney transplant candidates to get onto the waiting list and to qualify for waiting time improved. Post policy, we observed a slight increase in the share of Black candidate registrations on the OPTN kidney waiting list. In addition, among Black kidney waiting list additions, a greater proportion listed pre-dialysis in the post-policy era compared to the pre-policy era. Moreover, among Black kidney waiting list additions, the proportion that qualified for waiting time by maintenance dialysis decreased by more than 10 percentage point, and the proportion qualifying for waiting time by tiebreaker date (registration date) increased by more than 10 percentage points. This suggests a shift among Black kidney candidates to use lab values such as eGFR, rather than maintenance dialysis, to qualify for waiting time. Among Black kidney waiting list additions who qualified by an eGFR of 20 or lower, their initial eGFR value increased slightly in the post-policy era.

Access to transplants also improved for Black kidney transplant candidates. After the policy was implemented, there was a 1.8 percentage point increase in the share of kidney transplants that were directed to Black recipients; among kidney transplants to Black recipients, there was a 3.5 percentage point increase in transplants that happened before dialysis. Additionally, Among Black kidney waiting list registrations, the probability to receive a transplant within 1 year of registration increased by 3.2 percentage points. All of this indicates an improved chance to receive a kidney transplant for Black kidney transplant candidates.

In terms of deaths on the kidney transplant waiting list, death rate per 100 patient years decreased for Black candidates, but also for all other groups as well.

In summary, two years after the race neutral eGFR policy was implemented, we observed the intended positive outcomes among Black kidney transplant candidates in waiting time qualifications and in the chance to receive a transplant.

Background/Purpose

This report monitors the impact of the Establish OPTN Requirement for Race-Neutral eGFR Calculations policy. The policy's purpose was to prohibit the use of Estimated Glomerular Filtration Rate (eGFR) calculations that include a race-based variable in OPTN policy. The new policy defines GFR within OPTN Policy so that any eGFR calculation used must not contain a race-based variable. This requirement for race-neutral calculations was intended to increase equity in access to transplantation for Black kidney candidates.

As outlined in the monitoring plan in the board briefing report, the Committee will monitor metrics as they relate to using race-neutral eGFR calculations. This includes, but is not limited to:

- Count and percent of Black kidney candidates listed pre-dialysis
- Number of kidney transplants to Black candidates, broken out by transplants performed pre-dialysis versus post-dialysis
- eGFR at listing for Black kidney candidates qualifying by eGFR
- Waiting list mortality for Black kidney candidates
- Time waiting from listing until transplant for Black kidney candidates
- Probability of transplant within one year for Black kidney candidates

These metrics will be reviewed at approximately six months, one year, and two years post-implementation. Waiting list mortality, time waiting to transplant, and probability of transplant within one year for Black kidney candidates will be provided only at one and two years post-implementation. This policy was implemented on July 27, 2022.

Strategic Plan Goal or Committee Project Addressed

Optimize organ use: Optimize organ use for transplantation, while improving equity to benefit all patients.

Data and Methods

These analyses use data from the OPTN waiting list, the Transplant Candidate Registration (TCR) form, and the Transplant Recipient Registration (TRR) form.

Analyses are based on OPTN data as of November 01, 2024 and are subject to change based on future data submission or correction.

Registrations added to the kidney waiting list between July 26, 2020 and July 26, 2022 (pre) or between July 27, 2022 and July 26, 2024 (post) were evaluated. These data were stratified by race/ethnicity, whether the registrations were pre-dialysis or post-dialysis, and waiting time qualifying source. Candidates qualifying for waiting time by tiebreaker date (registration date) are defined as having a qualifying lab value prior to their registration date. In these cases, the registration date is used to begin a candidate's waiting time. Qualifying lab values include an eGFR less than or equal to 20 mL/min or CrCl less than or equal to 20 mL/min.

Kidney recipients transplanted between July 26, 2020 and July 26, 2022 (pre) or between July 27, 2022 and July 26, 2026 (post) were evaluated. These data were stratified by race/ethnicity and whether the transplants were done pre-dialysis or post-dialysis.

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 July 26, 2020 and July 26, 2024. 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.

Probability of a deceased donor kidney transplant within 1 year for Black/African American kidney registrations used a 1 year cohort to allow for sufficient follow-up time for each era. For this analysis a competing risks approach was taken to calculate cumulative incidence. Registrations added to the kidney waiting list between July 26, 2021 and July 26, 2022 (pre) or between July 27, 2022 and July 27, 2023 (post) were evaluated.

We were unable to provide median time from listing to transplant for Black kidney candidates due to limitations with the data: Due to the long waiting time for kidney candidates, 50% of the cohort had not yet received a transplant for the 2 year monitoring report.

In this report, pre-dialysis in the waitlist additions cohort is defined as the candidate being listed on the waiting list before dialysis was initiated. Post-dialysis is defined as the candidate being listed on the waiting list after the initiation of dialysis. For the transplant cohort, pre-dialysis is defined as the candidate being transplanted before dialysis was initiated. Post-dialysis is defined as the candidate being transplanted after the initiation of dialysis. Registrations with missing or unknown dialysis dates were grouped in the pre-dialysis category.

The OPTN only collects an eGFR value for a kidney registration if that value is less than or equal to 20 mL/min. Not every registration has an eGFR entered at listing, so the metric shown in this report is the first entered eGFR for that registration. This does not include the modified eGFR if the registration received a modification through the eGFR waiting time modification policy.

Results

Table 1 shows kidney registrations added to the waiting list from July 26, 2020 - July 26, 2024, stratified by policy era and the candidate's race/ethnicity at listing. There is a slight increase in the proportion of additions to the kidney waiting list that were Black, non-Hispanic, from pre-policy (29.30%) to post-policy (30.05%).

It is important to note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Table 1. Overall Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, by Race/Ethnicity

Race/Ethnicity	Policy Era	
	Pre	Post
White, Non-Hispanic	35,309 (41.70%)	37,208 (39.34%)
Black, Non-Hispanic	24,809 (29.30%)	28,427 (30.05%)
Hispanic/Latino	16,221 (19.16%)	19,540 (20.66%)
Asian, Non-Hispanic	6,551 (7.74%)	6,940 (7.34%)
Amer Ind/Alaska Native, Non-Hispanic	674 (0.80%)	756 (0.80%)
Native Hawaiian/other Pacific Islander, Non-Hispanic	436 (0.51%)	444 (0.47%)
Multiracial, Non-Hispanic	665 (0.79%)	862 (0.91%)
Unknown	1 (0.00%)	413 (0.44%)
Total	84,666 (100.00%)	94,590 (100.00%)

Figure 1 shows the count and percent of Black kidney waitlist additions from July 26, 2020 - July 26, 2024, stratified by policy era and whether the candidate was listed pre-dialysis. The percent of Black candidates listed pre-dialysis increased from the pre-policy era (25.4%) to the post-policy era (28.6%).

It is important to note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Figure 1. Black Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, by Whether Candidate Was Listed Pre-Dialysis

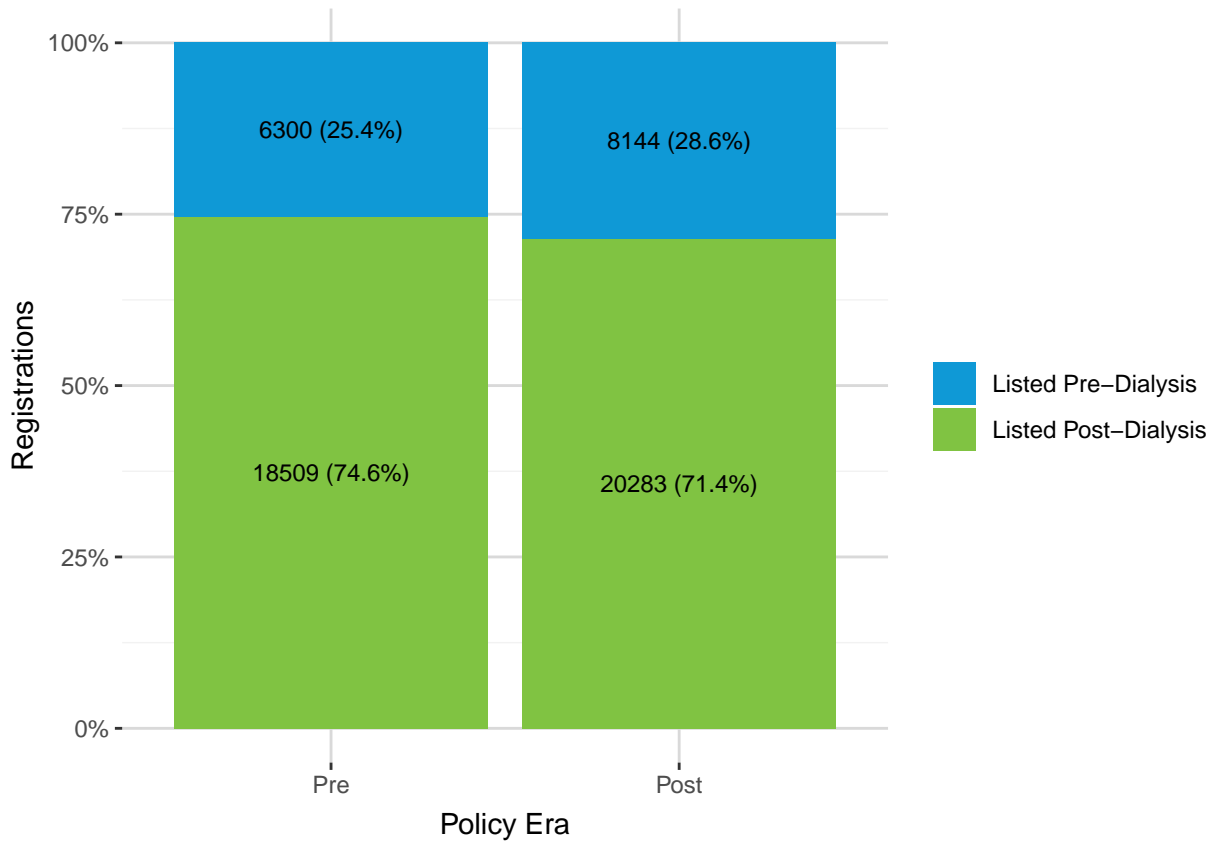


Table 2 shows Black kidney waitlist additions from July 26, 2020 - July 26, 2024, stratified by policy era and the candidate's waiting time qualifying source. Candidates qualifying for waiting time by tiebreaker date (registration date) are defined as having a qualifying lab value prior to their registration date. In these cases, the registration date is used to begin a candidate's waiting time. Qualifying lab values include an eGFR less than or equal to 20 mL/min or CrCl less than or equal to 20 mL/min. The percentage of candidates qualified based on maintenance dialysis dropped from 63.06% of waitlist additions in the pre-policy era to 51.67% in the post-policy era. There was a corresponding increase in those qualifying as of tiebreaker (registration) date from 34.78% pre-policy to 46.09% post-policy. This suggests a shift of Black kidney candidates qualifying using lab values over maintenance dialysis with these new policies.

It is important to note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Table 2. Black Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, by Waiting Time Qualifying Source

Qualifying Source	Policy Era	
	Pre	Post
Does Not Qualify	255 (1.03%)	234 (0.82%)
GFR 20 or Lower	122 (0.49%)	205 (0.72%)
Maintenance Dialysis	15,644 (63.06%)	14,687 (51.67%)
Pediatric Policy	160 (0.64%)	198 (0.70%)
Qualify As Of Tiebreaker Date	8,628 (34.78%)	13,103 (46.09%)
Total	24,809 (100.00%)	28,427 (100.00%)

Figure 2 shows the distribution of the first entered eGFR for Black kidney waiting list registrations added from July 26, 2020 - July 26, 2024 who qualified for waiting time by an eGFR of 20 or lower, or by tiebreaker date (registration date), stratified by policy era. The first entered eGFR values increased slightly from the pre-policy era to the post policy era.

It is important to note that the OPTN does not collect eGFR values if they are above 20 mL/min. Also note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Figure 2. Distribution of First Entered eGFR for Black Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, Who Qualified by an eGFR of 20 or Lower, or by Tiebreaker Date

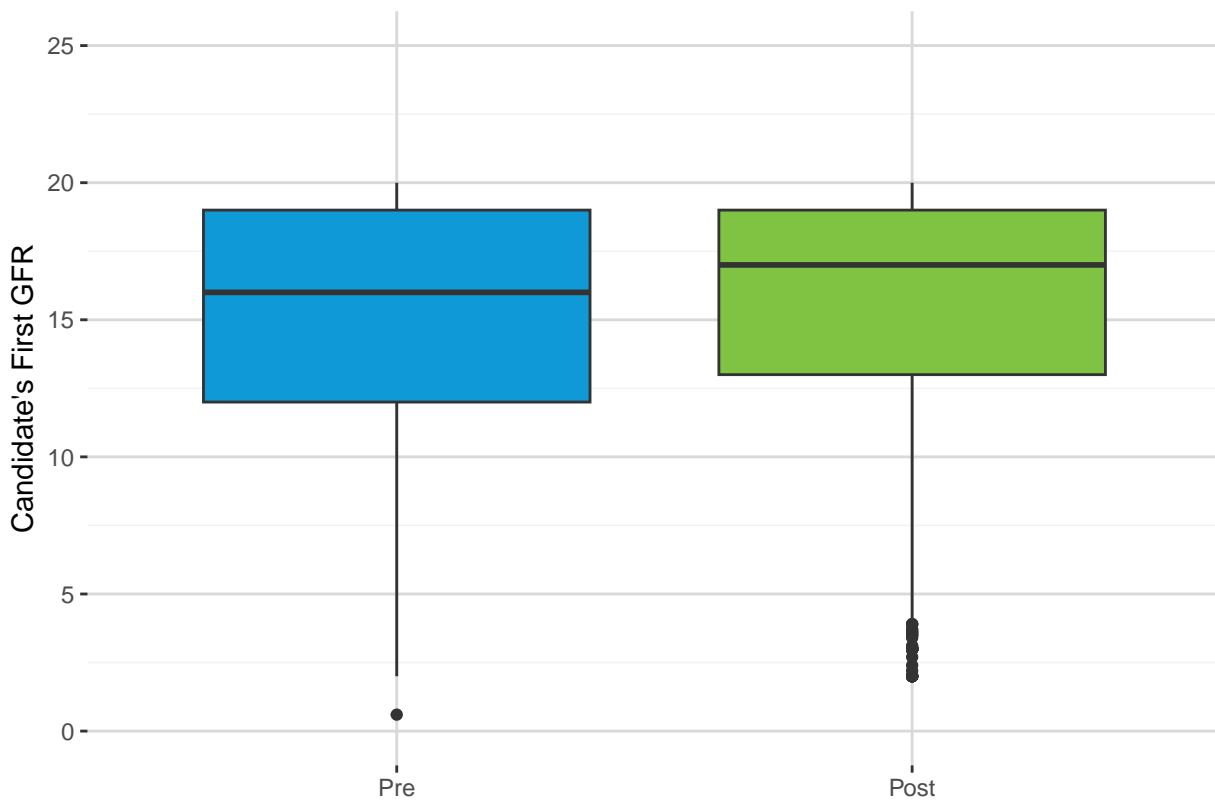


Table 3 shows the distribution of the first entered eGFR for Black kidney waiting list registrations added from July 26, 2020 - July 26, 2024 who qualified for waiting time through an eGFR of 20 or lower, stratified by policy era. The median first eGFR increased slightly from the pre-policy era to the post-policy era.

It is important to note that the OPTN does not collect eGFR values if they are above 20 mL/min. Also note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Table 3. Distribution of First Entered eGFR for Black Kidney Waitlist Additions During the 2 Years Before and 2 years After the Policy, Who Qualified by an eGFR of 20 or Lower

Era	Count	Missing	eGFR				
			Minimum	25th Percentile	Median	75th Percentile	Maximum
Pre	122	0	4	13	17.35	19	20
Post	205	0	4	15	18.00	19	20

Table 4 shows overall kidney transplants from July 26, 2020 - July 26, 2024, stratified by policy era and race/ethnicity. The proportion of Black recipients among transplants increased from 28.39% pre-policy to 30.19% post policy.

It is important to note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Table 4. Overall Kidney Transplants by Race/Ethnicity During the 2 Years Before and 2 years After the Policy

Race/Ethnicity	Policy Era	
	Pre	Post
White, Non-Hispanic	20,998 (42.60%)	21,843 (39.99%)
Black, Non-Hispanic	13,993 (28.39%)	16,488 (30.19%)
Hispanic/Latino	9,695 (19.67%)	10,903 (19.96%)
Asian, Non-Hispanic	3,621 (7.35%)	4,144 (7.59%)
Amer Ind/Alaska Native, Non-Hispanic	368 (0.75%)	404 (0.74%)
Native Hawaiian/other Pacific Islander, Non-Hispanic	231 (0.47%)	250 (0.46%)
Multiracial, Non-Hispanic	390 (0.79%)	509 (0.93%)
Unknown	NA (0.00%)	80 (0.15%)
Total	49,296 (100.00%)	54,621 (100.00%)

Figure 3 shows the count and percent of transplants to Black kidney recipients from July 26, 2020 - July 26, 2024, stratified by policy era and whether the transplant was performed pre-dialysis. The percent of Black candidates transplanted pre-dialysis increased from 11.5% (n=1612) in the pre-policy era to 15% (n=2474) in the post-policy era.

It is important to note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Figure 3. Transplants to Black Kidney Recipients Pre-Dialysis vs. Post-Dialysis During the 2 Years Before and 2 Years After the Policy

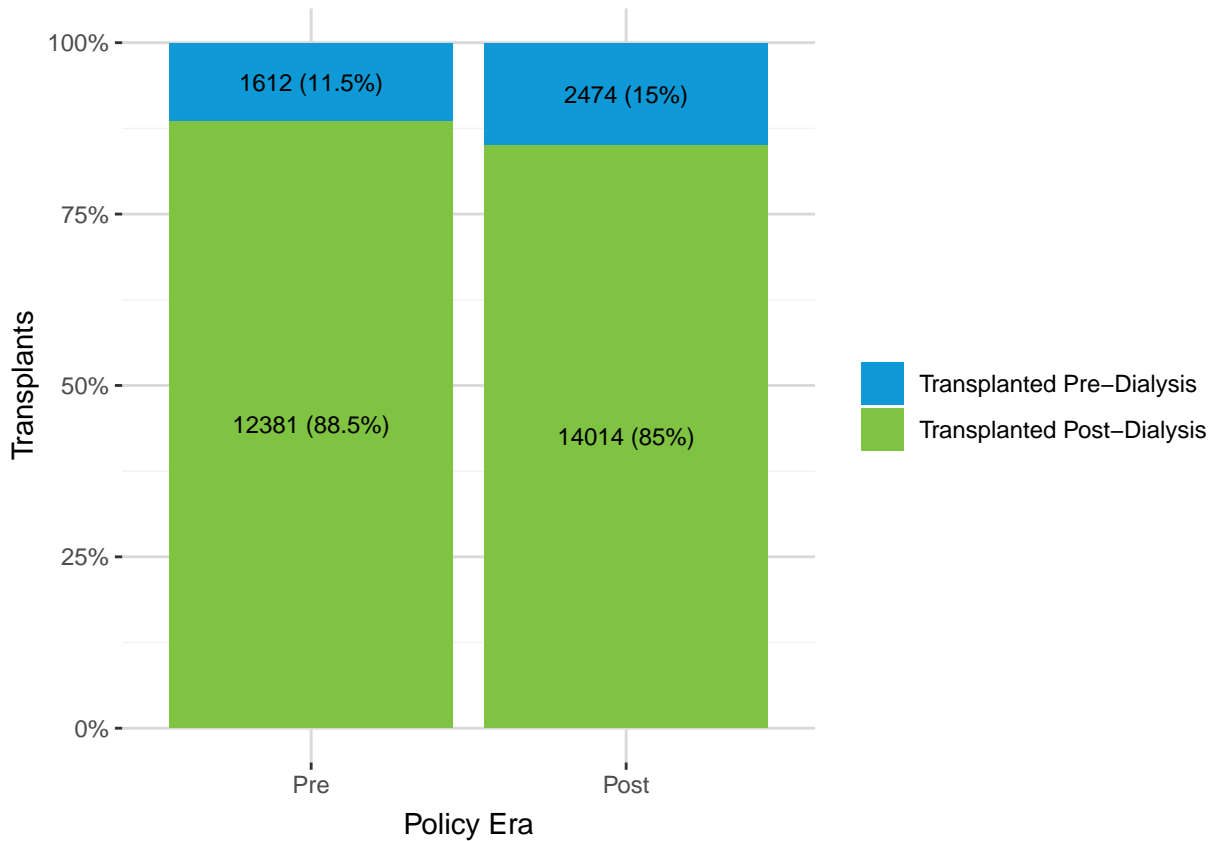


Figure 4 and Table 5 below show the number of deaths per 100 patient years for kidney registrations ever waiting from July 26, 2020 - July 26, 2024, stratified by policy era and the candidate's race/ethnicity. Deaths decreased for Black, non-Hispanic candidates from 5.14 per 100 patient years in the pre-policy era to 4.27 per 100 patient years in the post-policy era. At the same time, waiting list mortality declined for all other groups as well, so the decrease we see may not be attributable to this policy.

Note that there were 415 registrations removed for missing values in race/ethnicity. Also note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Figure 4. Deaths per 100 Patient Years for Kidney Registrations Ever Waiting July 26, 2020 - July 26, 2024 by Policy Era and Race/Ethnicity

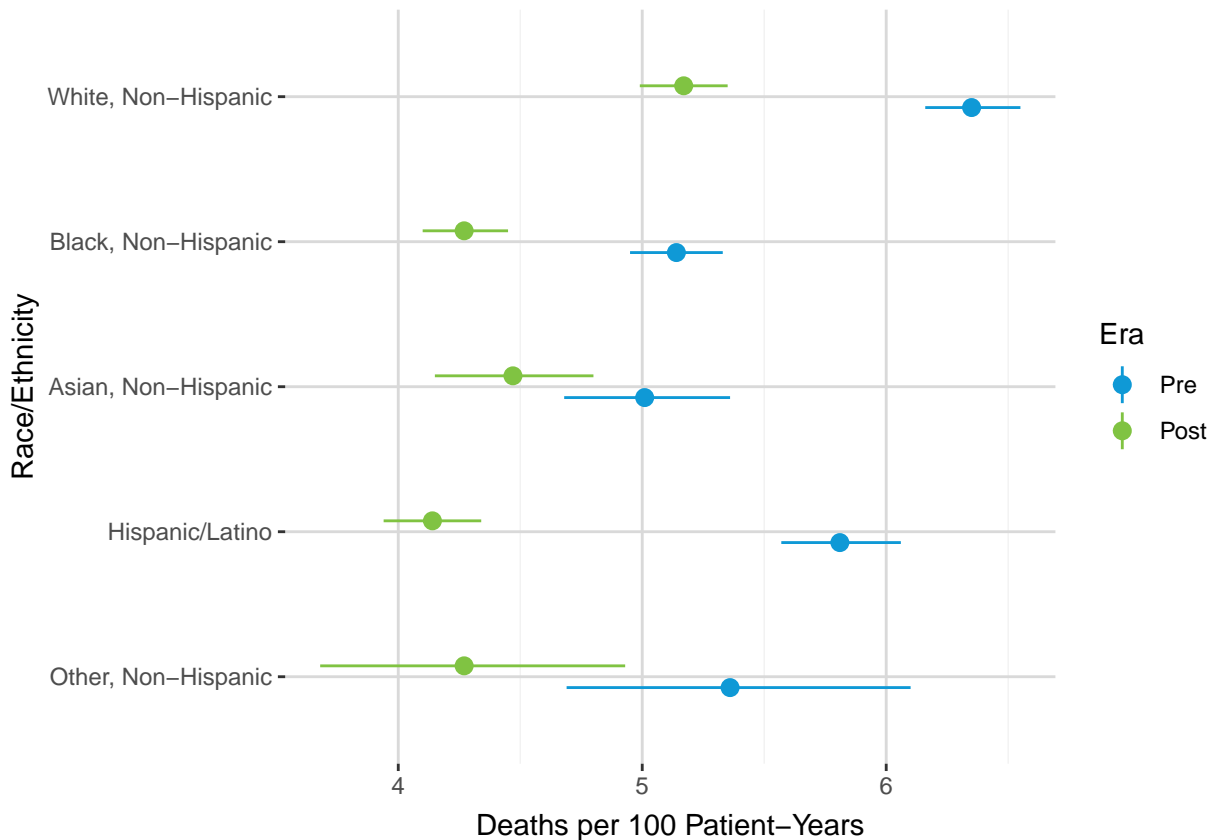


Table 5. Deaths per 100 Patient Years for Kidney Registrations Ever Waiting July 26, 2020 - July 26, 2024 by Policy Era and Race/Ethnicity

Race/Ethnicity	Era	N Registrations	N Events	Total Patient-Years	Deaths per 100 Patient-Years	95% Confidence Interval	
						Lower CL	Upper CL
White, Non-Hispanic	Pre	62788	4085	64335.24	6.35	6.16	6.55
	Post	63474	3286	63596.30	5.17	4.99	5.35
Black, Non-Hispanic	Pre	49606	2910	56646.08	5.14	4.95	5.33
	Post	51071	2313	54149.57	4.27	4.10	4.45
Asian, Non-Hispanic	Pre	13882	835	16657.30	5.01	4.68	5.36
	Post	14163	729	16326.62	4.47	4.15	4.80
Hispanic/Latino	Pre	34398	2267	39007.38	5.81	5.57	6.06
	Post	36780	1651	39901.95	4.14	3.94	4.34
Other, Non-Hispanic	Pre	3872	231	4307.62	5.36	4.69	6.10
	Post	4087	184	4309.04	4.27	3.68	4.93

Note:

415 registrations removed for missing values in race/ethnicity

Table 6 and Figure 5 show the probability of receiving a deceased donor transplant within 1 year of listing, for kidney registrations added from July 26, 2021 - July 26, 2023 (within 1 year prior and 1 year after the policy), stratified by policy era and candidate's race/ethnicity. The probability of a deceased donor transplant for Black Kidney candidates increased from 23.71% in the pre-policy era to 26.91% in the post-policy era. In the mean time, the probability of receiving a deceased donor transplant also increased slightly for other race/ethnicity groups, except for multiracial candidates.

It is important to note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

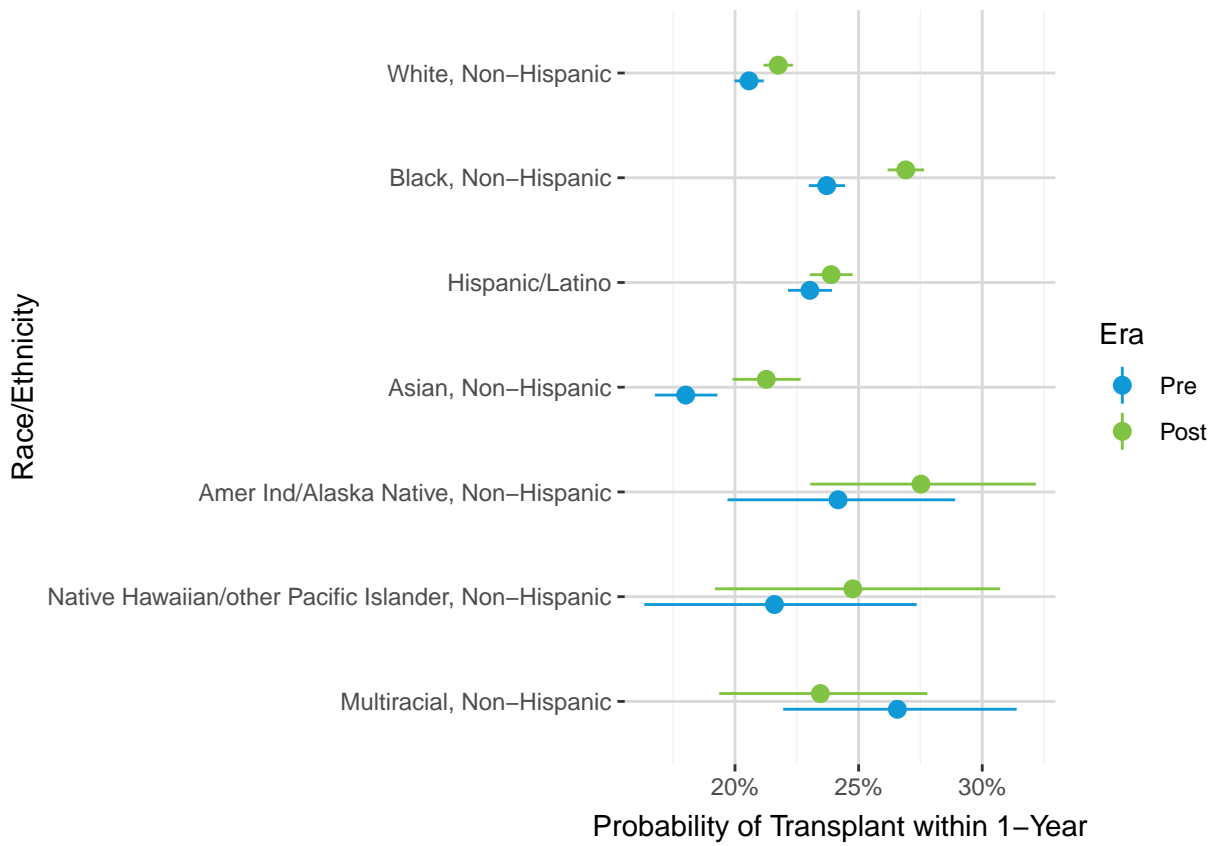
Table 6. Probability of a Deceased Donor Transplant Within 1 Year of Listing for Kidney Registrations Added 1 Year Before vs. 1 Year After Policy, Stratified by Race/Ethnicity.

Race/Ethnicity	Policy Era	Registrations	Prob. TX within 1 Year	95% CI
White, Non-Hispanic	Pre	17949	20.57%	(19.98%, 21.16%)
	Post	18494	21.75%	(21.16%, 22.34%)
Black, Non-Hispanic	Pre	12901	23.71%	(22.98%, 24.45%)
	Post	13870	26.91%	(26.17%, 27.65%)
Hispanic/Latino	Pre	8576	23.03%	(22.14%, 23.93%)
	Post	9331	23.89%	(23.03%, 24.76%)
Asian, Non-Hispanic	Pre	3543	18.01%	(16.76%, 19.29%)
	Post	3386	21.26%	(19.9%, 22.66%)
Amer Ind/Alaska Native, Non-Hispanic	Pre	331	24.17%	(19.7%, 28.9%)
	Post	367	27.52%	(23.04%, 32.17%)
Native Hawaiian/other Pacific Islander, Non-Hispanic	Pre	213	21.6%	(16.33%, 27.35%)
	Post	214	24.77%	(19.19%, 30.73%)
Multiracial, Non-Hispanic	Pre	335	26.57%	(21.95%, 31.39%)
	Post	388	23.45%	(19.36%, 27.78%)
Unknown	Pre	1	*	(* , *)

Note:

There were 9 registrations removed for missing values

Figure 5. Probability of a Deceased Donor Transplant Within 1 Year of Listing for Kidney Registrations Added 1 Year Before vs. 1 Year After Policy, Stratified by Race/Ethnicity.



At the time of this report, there is not sufficient followup time to observe the median time from listing to transplant for the cohort we are interested in: Black/African Americans who registered on the kidney transplant waiting list within 1 year before and 1 year after the policy implementation date. However, we can observe the cumulative incidence of deceased donor kidney transplant up to 1 year after listing for these cohorts. .

Figure 6 shows that among Black/African American kidney registrations added to the waiting list from July 26, 2021 - July 26, 2023, the cumulative incidence to receive a deceased donor transplant 1 year after listing is higher for the post-policy cohort than for the pre-policy cohort. Note that there were 9 registrations removed for missing values.

It is important to note that the post policy era does overlap with the eGFR Waiting Time Modifications policy.

Figure 6. Cumulative Incidence of Receiving a Deceased Donor Kidney Transplant for Black/African American Kidney Registrations Listed During the 1 Year Before vs. 1 Year After Policy

