

# Disclosures

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I have no financial relationships to disclose within the past 12 months relevant to my presentation.

My presentation does not include discussion of off-label or investigational use.

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# Updating the Kidney Donor Risk Index: Removing Donor Race and Hepatitis C Status

Jonathan M. Miller, Kelley Poff, Jesse N. Howell, Oscar K. Serrano, Jim Kim, Alejandro Diez, Grace R. Lyden, Bryn Thompson, David Zaun, Jon J. Snyder

# Background

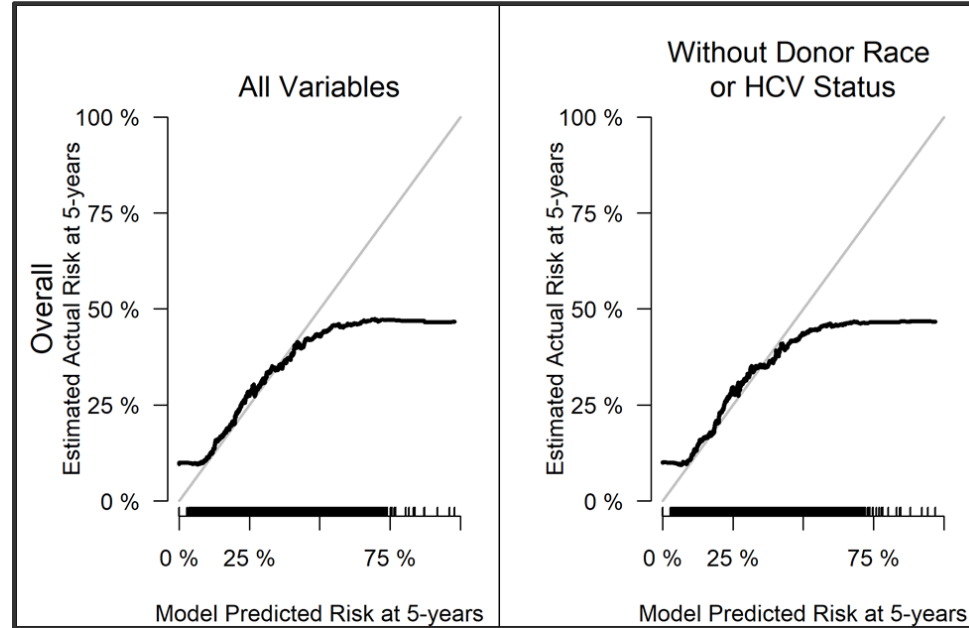
- July 2023 – the Minority Affairs Committee (MAC) of the Organ Procurement and Transplantation Network (OPTN) requests recalculation of the kidney donor risk index (KDRI) excluding the Black race and hepatitis C virus (HCV) status variables.



# Methods

- Study population – Deceased donor (DD), solitary kidney, first-time transplants from January 1, 2018, to December 31, 2021
- Model fit – Cox proportional hazards; all other covariates same as in original KDRI
- Counterfactual KDPI calculation – Donor-specific coefficients were applied to all DDs, from January 1, 2018, to December 31, 2021, to estimate KDRI and kidney donor profile index (KDPI) from models with and without the race and HCV variables for each donor in the cohort.

# Results: Calibration



# Results

Table 3: Original and updated KDRI coefficients

Variable	Original Coefficients	Recreation of Original Coefficients	Recreation without Race and HCV Variables	Percent Change without Race and HCV
Donor Age Less than 18 spline	-0.0194	0.0125	0.0113	-9.68
Donor Age	0.0128	0.0097	0.0092	-5.41
Donor Age greater than 50 spline	0.0107	0.0063	0.0067	5.87
Donor Black Race	0.1794	0.1534		
Donor Creatinine	0.2198	0.1962	0.2128	8.43
Donor Creatinine greater than 1.5 spline	-0.2093	-0.2027	-0.2199	8.48
Donor Hypertension	0.1262	0.1017	0.1106	8.82
Donor Diabetes	0.1301	0.2528	0.2577	1.91
Cause of Donor Death: Stroke	0.0881	0.0685	0.0743	8.53
Donor Height	-0.0464	-0.0571	-0.0557	-2.37
Donor Weight less than 80 spline	-0.0199	-0.0332	-0.0333	0.35
Donation after Cardiac Death	0.1329	0.2022	0.1966	-2.77
Donor HCV Positive	0.2403	-0.0405		
Zero HLA-B mismatches	-0.0766	-0.0693	-0.0759	9.43
One HLA-B mismatch	-0.0610	-0.0543	-0.0542	-0.19
Zero HLA-DR mismatches	-0.1300	-0.0683	-0.0698	2.14
Two HLA-DR mismatches	0.0765	0.0103	0.0139	33.96
Cold Ischemia Time	0.0055	0.0094	0.0093	-0.53
Enbloc Transplant	-0.3640	-0.1915	-0.1925	0.53
Double Kidney Transplant	-0.1480	-0.2338	-0.2208	-5.56

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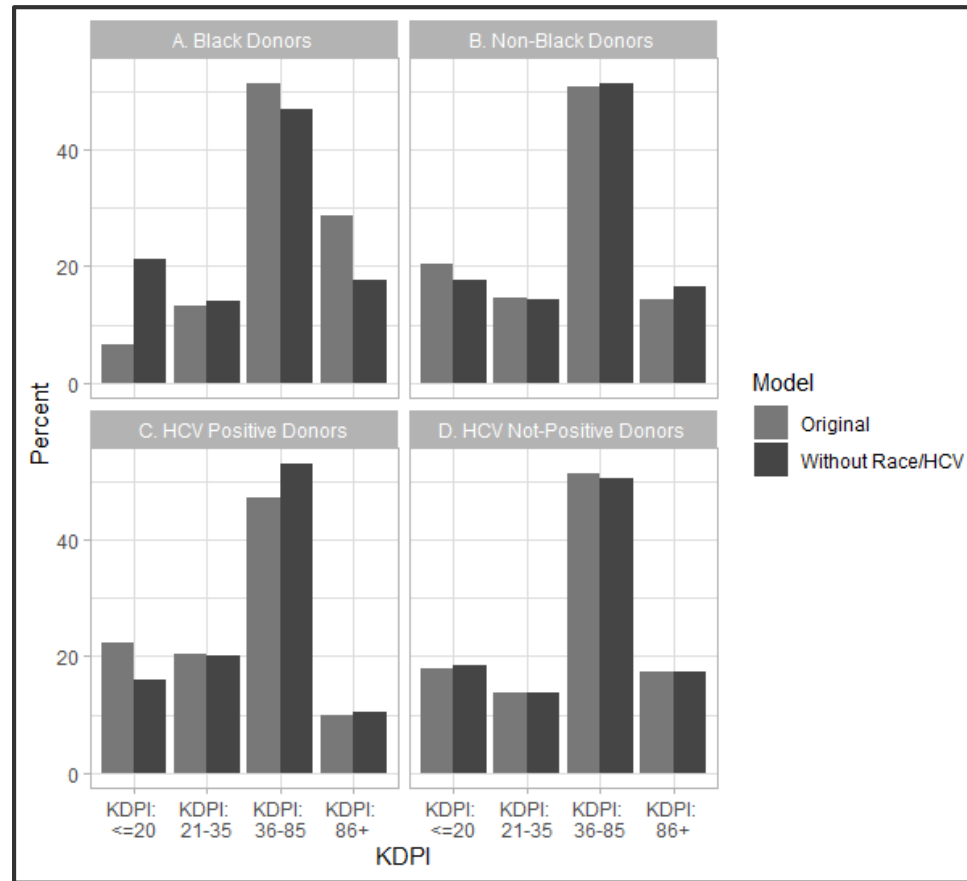


# Results

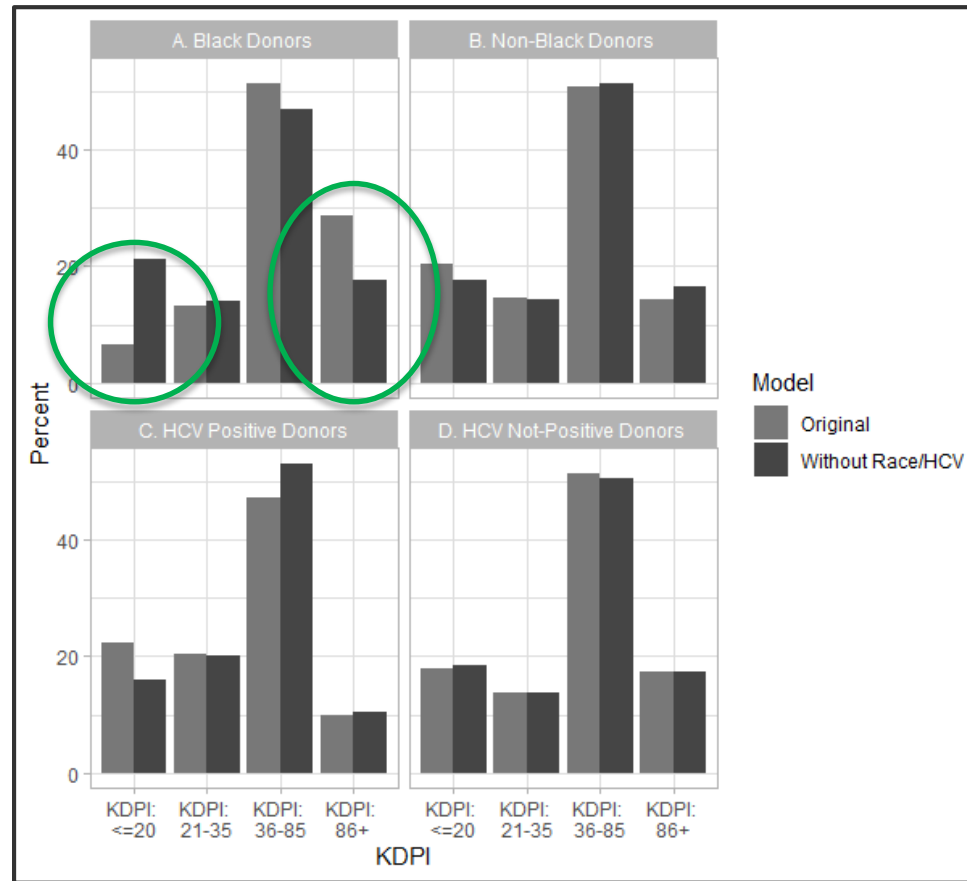
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# Results: KDPI



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# Conclusions

- Removing the donor HCV status and donor Black race variables in an updated KDRI model refit on 2018-2021 transplants resulted in more racially equitable KDPI distributions.





## Transplantation

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