

Impact of the ESRD Treatment Choices (ETC) Model on Kidney Transplant Waitlisting in the US

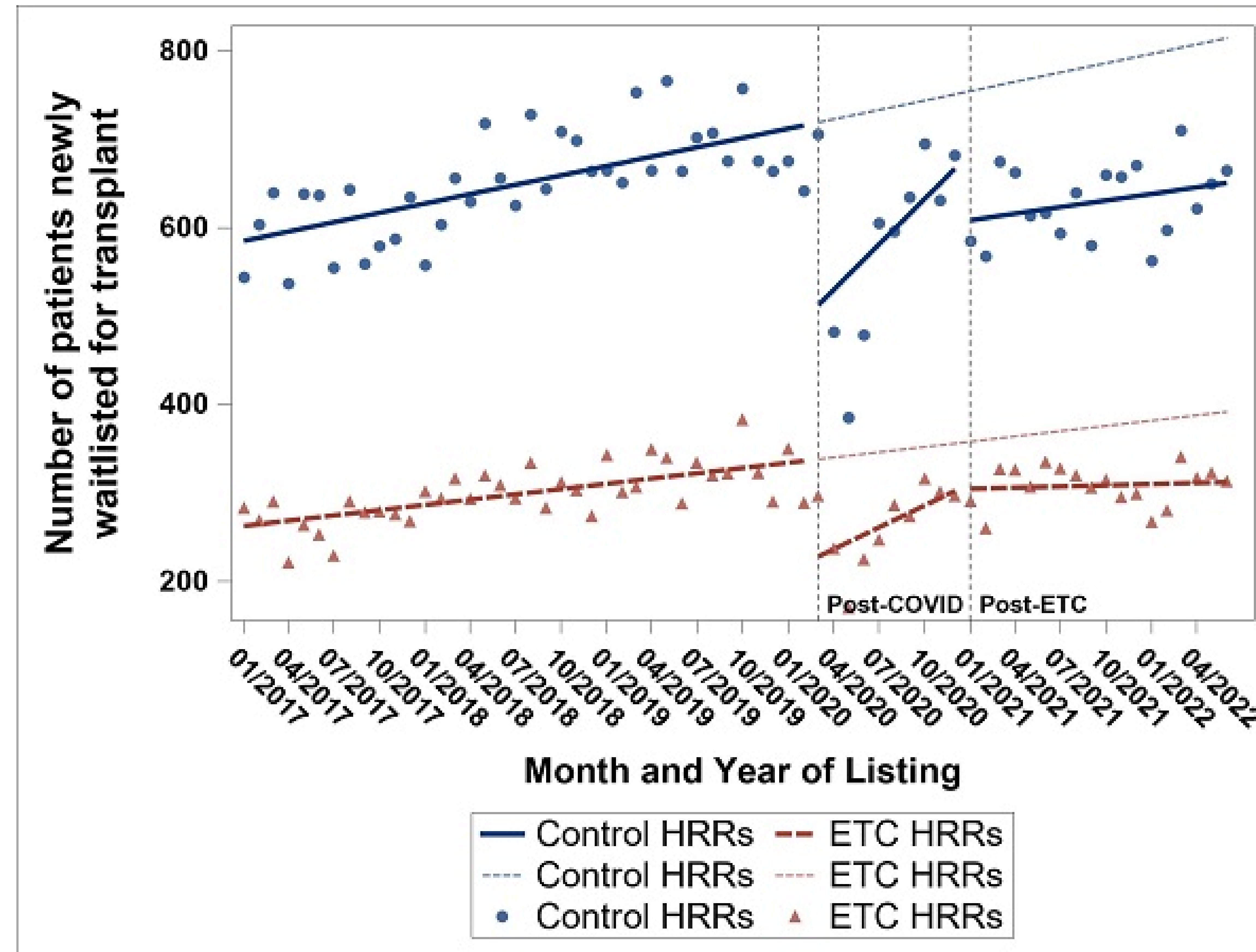
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Background

The ESRD treatment choices (ETC) model is a new mandatory payment model in 2021 implemented by the Centers for Medicare and Medicaid Services which randomized 30% of hospital referral regions in the US to receive payment adjustments for nephrologists and dialysis facilities. The ETC model incentivizes home dialysis uptake and kidney transplant waitlisting. However, the effects of the ETC model on the kidney transplant waitlist additions have not been evaluated.

Methods

Data was obtained from the United Network for Organ Sharing (UNOS) national transplant registry between January 1, 2017, and June 30, 2022. We used an interrupted time series design with unadjusted linear regression modelling, with participants not in the ETC model as the control arm and participants in the ETC model as the intervention arm, to evaluate the effects of the ETC model on kidney transplant waitlisting during the pre-COVID period (before February 29, 2020), post-COVID period (March 1, 2020 to December 31, 2020) and post-ETC period (after January 1, 2021).



	Pre-Intervention 1/1/2017-2/29/2020		Post-COVID 3/1/2020 – 12/31/2020		Post-ETC Model 1/1/2021 onwards	
(95% CI, p-value)	Intercept	Slope	Level change	Slope change	Level change	Slope change
Control	585 (550.7, 619.5) (P-value <.0001)	4 (1.9, 5.1) (P-value <.0001)	-207 (-279.8, -134.0) (P-value <.0001)	14 (1.7, 25.7) (P-value 0.0265)	-76 (-164.3, 12.9) (P-value 0.0926)	-15 (-27.6, -1.8) (P-value 0.0259)
Intervention	263 (245.4, 279.6) (P-value <.0001)	2 (1.2, 2.8) (P-value <.0001)	-110 (-146.5, -74.0) (P-value <.0001)	6 (0.3, 12.2) (P-value 0.0395)	-6 (-49.9, 38.2) (P-value 0.7912)	-8 (-14.2, -1.4) (P-value 0.0173)

Results

After COVID-19, there was a significant level change of -110 (95% CI -146.5 to -74.0) in the intervention arm and -207 (95% CI -279.8 to -134.0) in the control arm. The linear regression model revealed trend changes after COVID-19 and ETC model implementation, showing a slope change of 14 (95% CI 1.7 to 25.7; p = 0.0265) after COVID-19 and a slope change of -15 (-27.6 to -1.8; p = 0.0259) following the ETC model in the control arm, and a slope change of 6 (0.3 to 12.2; p = 0.0395) after COVID-19 and a slope change of -8 (-14.2 to -1.4; p = 0.0173) following the ETC model in the intervention arm. The slope change of kidney transplant waitlist additions was not significantly different between the intervention and control arms after ETC model implementation (p-value for interaction = 0.3407).

Conclusions

Our results suggest that the ETC model did not have a significant effect on kidney transplant waitlisting in the model's first 18 months. However, COVID-19 led to significant reductions in kidney transplant waitlisting that have not recovered to pre-pandemic levels.

Acknowledgment

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