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Supplemental Table 1. Sub-hazard ratio (95%CI) for time to transplantation, deceased donor transplantation, living donor transplantation, and allograft failure by excess travel distance using <30-miles ETD (reference) and tertiles of ETD ≥30-miles.

	Excess Travel Distance Category			
Sub-Hazard ratio (95% CI)	**<30 miles (ref)**	**≥30-55.1 miles (tertile 1)**	**55.1-117.1 miles (tertile 2)**	**>117.1 miles (tertile 3)**
Transplantation				
Unadjusted[+] (N= 373,365)	1	0.95 (0.93-0.97)	1.04 (1.02-1.06)	1.12 (1.10-1.14)
Model 1[+] (N= 372,805)	1	0.90 (0.88-0.91)	0.95 (0.93-0.96)	1.04 (1.02-1.06)
Model 2[+] (N= 279,735)	1	0.89 (0.87-0.91)	0.97 (0.94-0.99)	1.03 (1.00-1.06)
Deceased donor transplantation				
Unadjusted* (N= 373,365)	1	0.90 (0.88-0.92)	0.98 (0.96-1.00)	1.00 (0.98-1.02)
Model 1* (N= 372,805)	1	0.91 (0.88-0.93)	0.95 (0.93-0.97)	0.89 (0.87-0.91)
Model 2* (N= 279,735)	1	0.90 (0.88-0.93)	0.94 (0.91-0.96)	0.85 (0.83-0.87)
Living donor transplantation				
Unadjusted[#] (N= 373,365)	1	1.07 (1.03-1.10)	1.08 (1.05-1.12)	1.29 (1.25-1.33)
Model 1[#] (N= 372,805)	1	1.00 (0.96-1.03)	1.00 (0.97-1.04)	1.26 (1.22-1.31)
Model 2[#] (N= 279,735)	1	0.93 (0.89-0.98)	0.99 (0.94-1.03)	1.29 (1.23-1.35)
	<30 miles (ref)	**≥30-59 miles (tertile 1)**	**59-128 miles (tertile 2)**	**>128 miles (tertile 3)**
Allograft failure				
Unadjusted[+] (N=242,786)	1	0.92 (0.88-0.95)	0.91 (0.87-0.94)	0.93 (0.90-0.96)
Model 1[+] (N= 242,295)	1	0.97 (0.94-1.01)	0.97 (0.94-1.01)	1.05 (1.02-1.09)
Model 2[+] (N= 190,665)	1	0.97 (0.93-1.01)	0.97 (0.93-1.01)	1.08 (1.03-1.12)

[+]Fine-Gray competing risk model with death as a competing event.

*Fine-Gray competing risk model with death and living donor transplantation as competing events.

[#]Fine-Gray competing risk model with death and deceased donor transplantation as competing events.

Model 1: adjusted for age, sex, race/ethnicity, United Network for Organ Sharing (UNOS) region and rural/urban category of patient residence, and year of waitlist registration.
Model 2: adjusted as model 1 plus patient comorbidities (congestive heart failure, cerebrovascular disease, diabetes, drug or alcohol dependence, ischemic heart disease, inability to ambulate, peripheral vascular disease, and smoking status).
Models for allograft failure additionally adjusted for donor type (living or deceased).

Supplemental Table 2. Sub-hazard ratio (95%CI) for time to deceased donor transplantation and living donor transplantation by ETD categories in different racial/ethnic groups.

	Excess Travel Distance Category (miles)			
Sub-Hazard ratio (95% CI)	**<30 (ref)**	**≥30-55.1 miles (tertile 1)**	**55.1-117.1 miles (tertile 2)**	**>117.1 miles (tertile 3)**
Deceased Donor Transplantation*[a]				
Non-Hispanic white	1	0.92 (0.89-0.95)	0.96 (0.93-0.99)	0.91 (0.88-0.94)
Black	1	0.97 (0.92-1.02)	0.95 (0.91-1.00)	0.82 (0.78-0.86)
Hispanic white	1	0.76 (0.71-0.81)	0.94 (0.87-1.03)	0.91 (0.85-0.98)
Asian	1	1.02 (0.91-1.14)	1.15 (1.01-1.32)	0.90 (0.79-1.03)
Living Donor Transplantation#[a]				
Non-Hispanic white	1	1.04 (1.00-1.09)	1.03 (0.99-1.07)	1.30 (1.25-1.35)
Black	1	0.98 (0.88-1.09)	0.93 (0.83-1.03)	1.28 (1.18-1.40)
Hispanic white	1	0.88 (0.79-0.97)	0.93 (0.82-1.05)	1.05 (0.95-1.17)
Asian	1	0.85 (0.69-1.03)	0.76 (0.60-0.96)	1.12 (0.92-1.36)

***Fine-Gray** competing risk model with death and living donor transplantation as competing events.

#Fine-Gray competing risk model with death and deceased donor transplantation as competing events.

Model 1: adjusted for age, sex, race/ethnicity, United Network for Organ Sharing (UNOS) region and rural/urban category of patient residence, and year of waitlist registration.

[a] $p<0.05$ for interaction with race/ethnicity category.

Supplemental Table 3. Sub-hazard ratio (95%CI) for time to any transplantation among individuals who were registered at more than one facility at any point in time prior to receipt of a kidney transplant.

(N=44,538)	**Excess Travel Distance Category**			
Sub-Hazard ratio (95% CI)	**<30 miles (ref)**	**≥30-55.1 miles (tertile 1)**	**55.1-117.1 miles (tertile 2)**	**>117.1 miles (tertile 3)**
Any transplantation				
Unadjusted*	1	1.03 (0.99-1.08)	1.12 (1.07-1.16)	1.18 (1.15-1.22)
Model 1*	1	1.02 (0.98-1.06)	1.08 (1.04-1.12)	1.11 (1.08-1.15)
Model 2*	1	1.05 (1.00-1.10)	1.10 (1.05-1.15)	1.10 (1.06-1.15)

*Fine-Gray competing risk model with death as a competing event.

Model 1: adjusted for age, sex, race/ethnicity, United Network for Organ Sharing (UNOS) region and rural/urban category of patient residence, and year of waitlist registration.

Model 2: adjusted as model 1 plus patient comorbidities (congestive heart failure, cerebrovascular disease, diabetes, drug or alcohol dependence, ischemic heart disease, inability to ambulate, peripheral vascular disease, and smoking status).

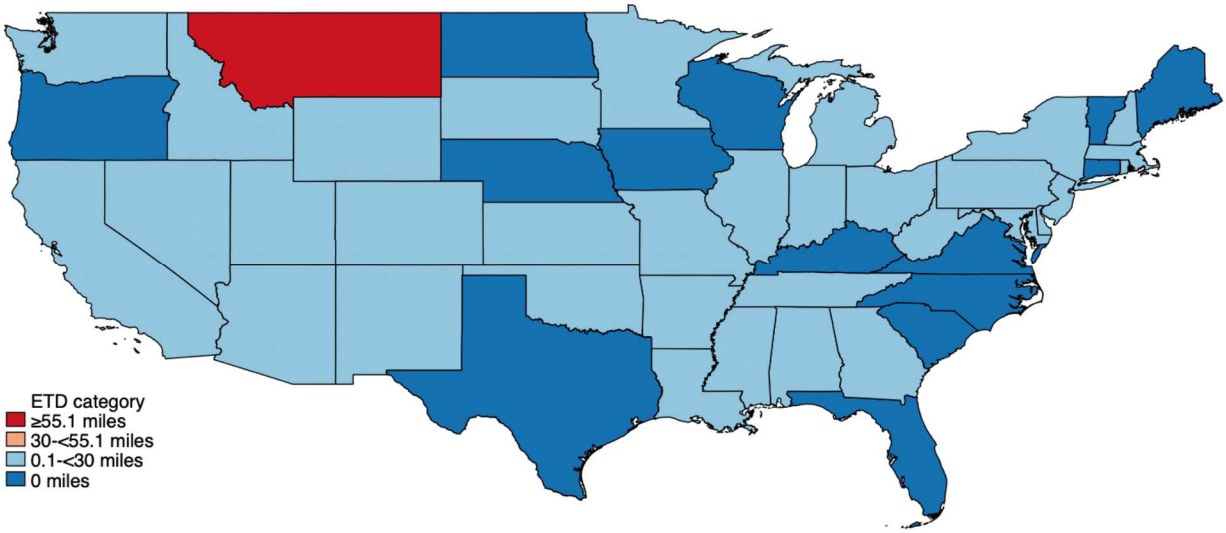
Supplemental Table 4. Characteristics of patients who received transplantation included for secondary analysis for the outcome of graft failure.

% (unless otherwise specified)	**Overall**	**Excess Travel Distance Category (miles)**			
		<30 miles (ref)	**≥30-57.7 miles (tertile 1)**	**57.7-121.2 miles (tertile 2)**	**>121.2 miles (tertile 3)**
N	242,786	201,033	13,918	13,918	13,917
Age at first waitlisting (years), median (IQR) *	51.8 (41.0, 60.9)	51.8 (40.9, 60.8)	51.8 (41.2, 60.7)	52.2 (41.1, 61.2)	52.3 (40.8, 61.4)
Male *	60.4	60.3	60.4	60.1	61.6
Excess travel distance, (miles), median (IQR)	1.4 (0.0, 12.3)	0.0 (0.0, 4.2)	40.7 (35.1, 48.1)	81.7 (68.9, 98.3)	271.4 (177.4, 608.7)
Race/ethnicity *					
Non-Hispanic white	55.2	53.0	64.9	66.2	66.5
Black	25.6	27.0	18.4	19.8	17.9
Hispanic white	12.3	12.9	10.9	7.6	10.4
Asian	4.5	4.7	3.7	3.9	3.0
Other/unknown	2.4	2.6	2.2	2.4	2.1
UNOS Region *					
1	4.2	4.6	2.7	1.9	1.9
2	12.6	13.4	12.0	7.7	5.5
3	13.1	12.2	11.7	16.6	23.3
4	7.7	7.7	5.9	4.7	11.9
5	15.8	15.8	20.0	14.9	12.3
6	3.5	3.7	1.4	1.9	5.3
7	10.0	10.2	6.5	11.9	8.1
8	5.6	5.7	3.1	5.5	6.8
9	6.9	7.3	4.1	4.6	6.1
10	10.0	9.5	17.9	12.6	6.3
11	10.8	9.9	14.6	17.5	12.7
Rural/Urban *					
Metropolitan	84.6	86.4	72.6	73.9	81.9
Micropolitan	8.4	7.5	14.2	14.6	8.9
Rural/small town	7.0	6.1	13.1	11.4	9.1
Insurance type *					
None	9.8	10.1	9.1	8.5	8.3
Medicare	7.0	7.0	7.1	7.2	7.1
Medicaid	14.0	14.6	13.5	11.9	8.0
Private	69.1	68.3	70.2	72.4	76.6
Income *					

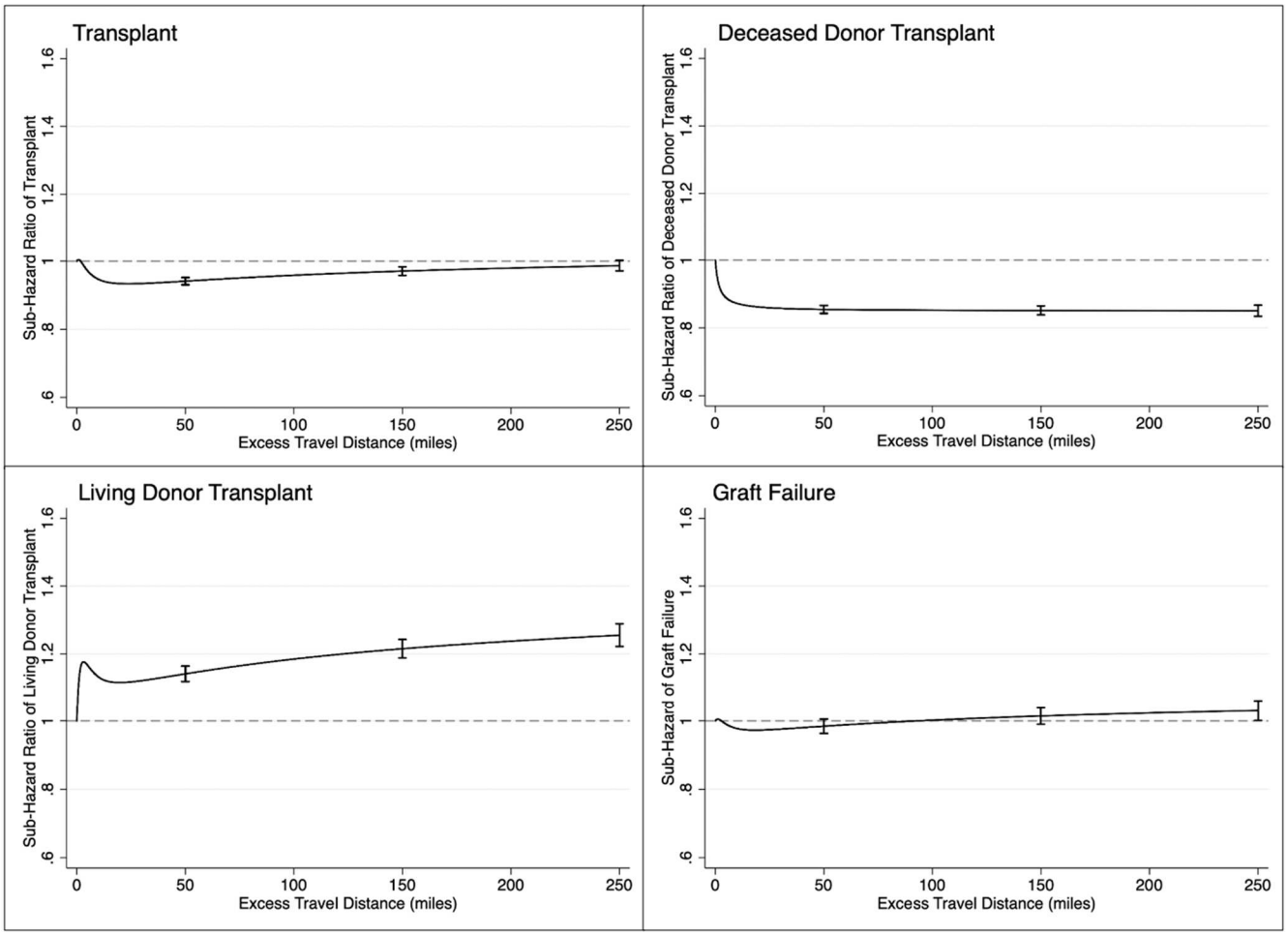
Median income ($1000), median (IQR)	50.4 (39.7, 66.3)	50.8 (39.8, 67.0)	47.7 (38.5, 61.9)	47.2 (38.6, 60.0)	50.5 (40.2, 66.3)

*p<0.05 for difference across Excess Travel Distance categories using chi-squared or Kruskal-Wallis tests.
IQR= interquartile range. UNOS= United Network for Organ Sharing.

Supplemental Figure 1. Median ETD category by state in the continental United States.



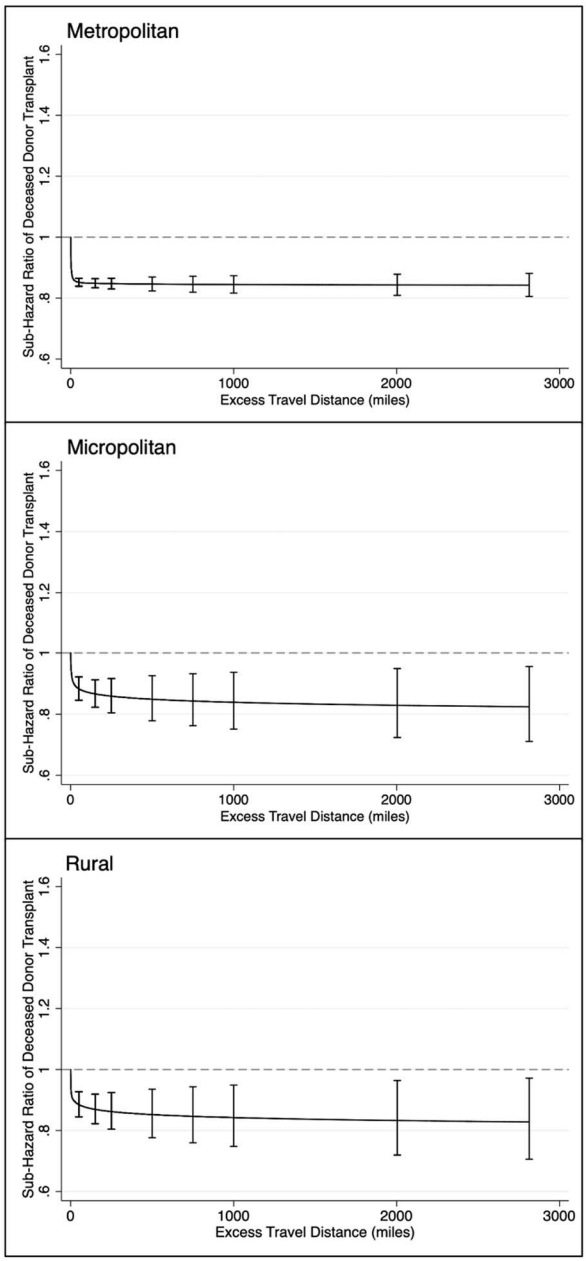
Supplemental Figure 2. Expanded view of the relationship between ETD and access to transplant and graft failure at distances ranging from 0-250 miles.



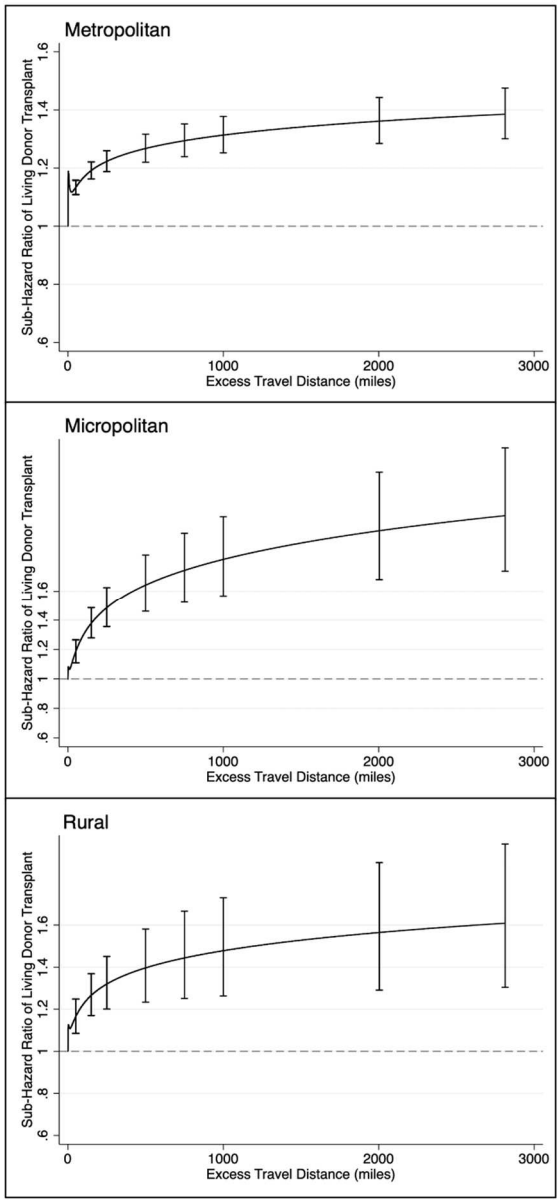
Model 1. Fine-Gray competing risk models adjusted for adjusted for age, sex, race/ethnicity, United Network for Organ Sharing (UNOS) region and rural/urban category of patient residence, and year of waitlist registration (or year of transplantation for outcome of graft failure) accounting for competing risks. Model for graft failure additionally adjusted for living or deceased donor type.
Horizontal bars show 95% confidence interval.

Supplemental Figure 3. Sub-hazard ratio of (a) deceased and (b) living donor transplantation in rural/urban subgroups across ETD modelled as a restricted cubic spline.

a. Deceased donor transplantation



b. Living donor transplantation



Model 1. Adjusted for adjusted for age, sex, race/ethnicity, United Network for Organ Sharing (UNOS) region and rural/urban category of patient residence, and year of waitlist registration accounting for competing risks.

Supplemental Figure 4. Cohort derivation for secondary outcome of graft failure.