

**Title:** Waitlist time, age, and social vulnerability: impact on the survival benefit of **deceased donor** kidney transplantation versus long-term dialysis among patients with end-stage renal disease

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**Supplementary Digital Contents**  
**Supplementary Figures and Tables**

Table S1	<i>Page 2,3</i>
Table S2	<i>Page 4</i>
Table S3	<i>pages 5,6</i>
Figure S1	<i>Page 7</i>
Figure S2	<i>Page 8</i>
Figure S3	<i>Page 9</i>

**Table S1.** Patient characteristics after propensity score matching.

<b>Characteristics</b>	<b>Non-transplanted</b>	<b>Trasnplanted</b>	<b>SMD</b>
<b>No</b>	<b>n=58,035</b>	<b>n=58,035</b>	<b> </b>
<b>Age, median (IQR), y</b>	<b>54.00 [44.00, 62.00]</b>	<b>55.00 [45.00, 63.00]</b>	<b>0.024</b>
<b>Sex</b>			
<i>Male</i>	<b>36658 (63.2)</b>	<b>36503 (62.9)</b>	<b>0.006</b>
<i>Female</i>	<b>21377 (36.8)</b>	<b>21532 (37.1)</b>	
<b>Race</b>			
<i>Minority</i>	<b>21692 (37.4)</b>	<b>21603 (37.2)</b>	<b>0.003</b>
<i>White</i>	<b>36343 (62.6)</b>	<b>36432 (62.8)</b>	
<b>Region</b>			
<i>Northeast</i>	<b>10738 (18.5)</b>	<b>10750 (18.5)</b>	<b>0.009</b>
<i>Midwest</i>	<b>11721 (20.2)</b>	<b>11810 (20.3)</b>	
<i>South</i>	<b>23719 (40.9)</b>	<b>23812 (41.0)</b>	
<i>West</i>	<b>11857 (20.4)</b>	<b>11663 (20.1)</b>	
<b>Dialysis type</b>			
<i>Hemodialysis</i>	<b>47640 (82.1)</b>	<b>47928 (82.6)</b>	<b>0.013</b>
<i>Peritoneal dialysis</i>	<b>10395 (17.9)</b>	<b>10107 (17.4)</b>	
<b>Comorbidities</b>			
<i>Diabetes</i>	<b>26835 (46.2)</b>	<b>26519 (45.7)</b>	<b>0.011</b>
<i>Coronary heart disease</i>	<b>4096 (7.1)</b>	<b>3886 (6.7)</b>	<b>0.014</b>
<i>Congestive heart failure</i>	<b>7455 (12.8)</b>	<b>7160 (12.3)</b>	<b>0.015</b>
<i>Other heart disease</i>	<b>5007 (8.6)</b>	<b>4813 (8.3)</b>	<b>0.012</b>
<i>Hypertension</i>	<b>51264 (88.3)</b>	<b>51514 (88.8)</b>	<b>0.014</b>
<i>History of neoplasia</i>	<b>1557 (2.7)</b>	<b>1539 (2.7)</b>	<b>0.002</b>
<i>Cerebrovascular disease</i>	<b>2188 (3.8)</b>	<b>2067 (3.6)</b>	<b>0.011</b>
<i>Peripheral vascular disease</i>	<b>2258 (3.9)</b>	<b>2154 (3.7)</b>	<b>0.009</b>
<b>Kidney disease etiology</b>			
<i>Diabetic nephropathy</i>	<b>22259 (38.4)</b>	<b>21874 (37.7)</b>	<b>0.018</b>
<i>Glomerulonephritis</i>	<b>8963 (15.4)</b>	<b>9084 (15.7)</b>	
<i>Hypertensive</i>	<b>17389 (30.0)</b>	<b>17789 (30.7)</b>	
<i>Other</i>	<b>9424 (16.2)</b>	<b>9288 (16.0)</b>	
<b>Rurality</b>			
<i>Rural</i>	<b>6670 (11.5)</b>	<b>6692 (11.5)</b>	<b>0.001</b>
<i>Urban</i>	<b>51365 (88.5)</b>	<b>51343 (88.5)</b>	
<b>Distance to the hospital</b>			
<b>SVI</b>			
<i>Low</i>	<b>18523 (31.9)</b>	<b>18662 (32.2)</b>	<b>0.012</b>
<i>Intermediate</i>	<b>20050 (34.5)</b>	<b>20250 (34.9)</b>	
<i>High</i>	<b>19462 (33.5)</b>	<b>19123 (33.0)</b>	
Donor Age		<b>42.00 [29.00, 53.00]</b>	
Donor Sex			
<i>Male</i>		<b>35185 (60.6)</b>	

<i>Female</i>	22850 (39.4)
Donor race	
Minority	47286 (81.5)
White	10749 (18.5)

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**SVI:** social vulnerability index

**Table S2.** The 5-year restricted mean survival time relative to age among patients with waitlist time of <1 year, 1-2year, 2-3year, and >3 year.

Age	RMST		RMST difference	95% CI
	Transplanted	Dialysis		
<b><i>Waitlist time &lt;1 year</i></b>				
<30	4.87 [4.76-4.98]	4.56 [4.52-4.60]	0.32	0.20-0.44
30-39	4.90 [4.84-4.96]	4.50 [4.47-4.53]	0.40	0.33-0.46
40-49	4.79 [4.72-4.87]	4.40 [4.38-4.43]	0.39	0.31-0.46
50-59	4.80 [4.75-4.85]	4.23 [4.21-4.25]	0.57	0.51-0.63
60-69	4.71 [4.65-4.77]	4.09 [4.07-4.12]	0.62	0.55-0.68
70≤	4.79 [4.70-4.87]	4.05 [4.00-4.09]	0.74	0.64-0.84
<b><i>Waitlist time 1-2 year</i></b>				
<30	4.89 [4.82-4.95]	4.57 [4.53-4.61]	0.32	0.24-0.39
30-39	4.90 [4.86-4.94]	4.50 [4.47-4.53]	0.40	0.35-0.45
40-49	4.88 [4.84-4.91]	4.35 [4.32-4.37]	0.53	0.49-0.57
50-59	4.83 [4.80-4.86]	4.17 [4.14-4.19]	0.66	0.62-0.70
60-69	4.74 [4.70-4.77]	4.00 [3.97-4.02]	0.74	0.69-0.78
70≤	4.65 [4.58-4.72]	3.89 [3.83-3.94]	0.76	0.67-0.85
<b><i>Waitlist time 2-3 year</i></b>				
<30	4.96 [4.93-4.99]	4.56 [4.51-4.61]	0.40	0.35-0.46
30-39	4.94 [4.90-4.97]	4.47 [4.43-4.50]	0.47	0.42-0.52
40-49	4.88 [4.85-4.92]	4.30 [4.28-4.33]	0.58	0.53-0.62
50-59	4.79 [4.76-4.83]	4.10 [4.07-4.12]	0.70	0.65-0.74
60-69	4.65 [4.60-4.69]	3.91 [3.88-3.94]	0.74	0.69-0.80
70≤	4.54 [4.44-4.65]	3.73 [3.67-3.80]	0.81	0.69-0.93
<b><i>Waitlist time &gt;3 year</i></b>				
<30	4.98 [4.97-4.99]	4.55 [4.50-4.61]	0.42	0.37-0.48
30-39	4.93 [4.91-4.95]	4.44 [4.40-4.48]	0.49	0.45-0.54
40-49	4.88 [4.86-4.90]	4.26 [4.22-4.29]	0.62	0.59-0.66
50-59	4.83 [4.81-4.84]	4.03 [4.00-4.06]	0.80	0.76-0.83
60-69	4.72 [4.69-4.75]	3.83 [3.79-3.86]	0.89	0.85-0.94
70≤	4.62 [4.54-4.71]	3.62 [3.55-3.69]	1.00	0.89-1.11

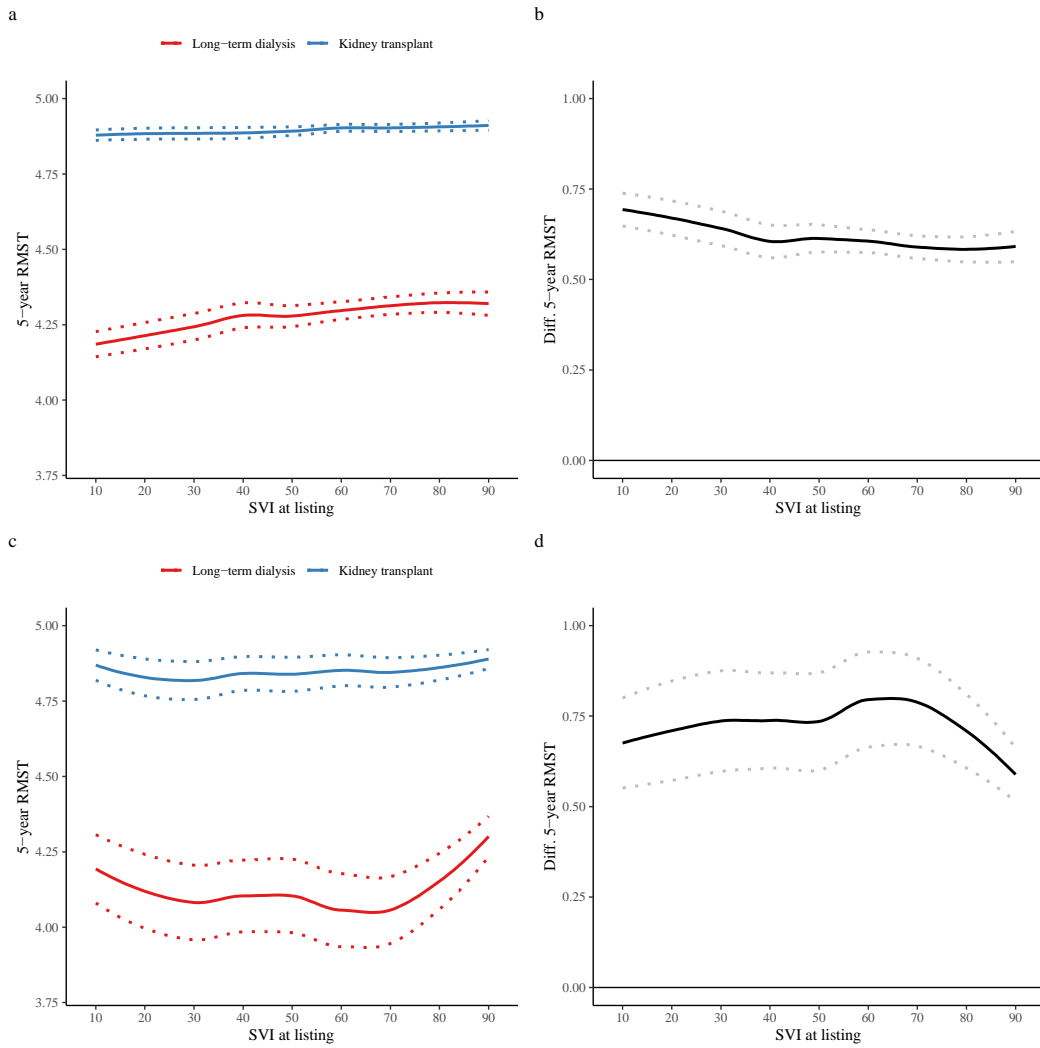
**Table S3.** The 5-year restricted mean survival time relative to social vulnerability index among patients with waitlist time of <1 year, 1-2year, 2-3year, and >3 year.

SVI	RMST		RMST difference	95% CI
	Transplanted	Dialysis		
<b>Waitlist time &lt;1 year</b>				
<20	4.77 [4.66-4.88]	4.20 [4.16-4.24]	0.57	0.46-0.69
20-29	4.67 [4.56-4.79]	4.19 [4.15-4.23]	0.48	0.36-0.60
30-39	4.86 [4.78-4.94]	4.21 [4.16-4.25]	0.66	0.57-0.75
40-49	4.77 [4.67-4.88]	4.26 [4.22-4.30]	0.52	0.41-0.63
50-59	4.81 [4.74-4.88]	4.28 [4.25-4.32]	0.53	0.45-0.61
60-69	4.75 [4.68-4.83]	4.22 [4.19-4.25]	0.53	0.45-0.61
70-79	4.74 [4.66-4.83]	4.34 [4.31-4.36]	0.41	0.32-0.49
80-89	4.81 [4.75-4.88]	4.28 [4.25-4.31]	0.53	0.46-0.61
90≤	4.81 [4.72-4.90]	4.33 [4.29-4.36]	0.48	0.39-0.58
<b>Waitlist time 1-2 year</b>				
<20	4.78 [4.72-4.83]	4.14 [4.09-4.18]	0.64	0.57-0.71
20-29	4.77 [4.72-4.83]	4.11 [4.07-4.15]	0.66	0.59-0.74
30-39	4.83 [4.77-4.89]	4.17 [4.12-4.22]	0.66	0.58-0.73
40-49	4.74 [4.67-4.81]	4.19 [4.14-4.23]	0.55	0.47-0.63
50-59	4.79 [4.74-4.84]	4.22 [4.18-4.26]	0.57	0.51-0.63
60-69	4.82 [4.78-4.86]	4.16 [4.13-4.19]	0.66	0.61-0.71
70-79	4.83 [4.78-4.87]	4.29 [4.26-4.32]	0.54	0.49-0.59
80-89	4.80 [4.75-4.86]	4.20 [4.16-4.23]	0.61	0.55-0.67
90≤	4.81 [4.75-4.86]	4.26 [4.22-4.29]	0.55	0.48-0.62
<b>Waitlist time 2-3 year</b>				
<20	4.79 [4.73-4.85]	4.08 [4.03-4.13]	0.71	0.63-0.78
20-29	4.71 [4.63-4.78]	4.05 [4.00-4.10]	0.66	0.57-0.75
30-39	4.79 [4.72-4.85]	4.10 [4.05-4.16]	0.68	0.60-0.77
40-49	4.75 [4.68-4.82]	4.13 [4.09-4.18]	0.61	0.53-0.70
50-59	4.79 [4.73-4.84]	4.17 [4.13-4.21]	0.62	0.55-0.69
60-69	4.75 [4.70-4.80]	4.09 [4.05-4.12]	0.66	0.60-0.73
70-79	4.80 [4.75-4.85]	4.21 [4.17-4.24]	0.59	0.53-0.66
80-89	4.81 [4.76-4.86]	4.12 [4.08-4.16]	0.69	0.63-0.76
90≤	4.78 [4.71-4.84]	4.18 [4.14-4.22]	0.60	0.52-0.68
<b>Waitlist time &gt;3 year</b>				
<20	4.83 [4.80-4.87]	4.04 [3.98-4.10]	0.79	0.72-0.86
20-29	4.82 [4.78-4.85]	3.98 [3.92-4.04]	0.83	0.77-0.9
30-39	4.83 [4.79-4.87]	4.08 [4.02-4.14]	0.75	0.68-0.82
40-49	4.83 [4.80-4.87]	4.08 [4.02-4.13]	0.76	0.69-0.82
50-59	4.84 [4.81-4.87]	4.09 [4.05-4.14]	0.74	0.69-0.80
60-69	4.84 [4.81-4.86]	4.05 [4.00-4.09]	0.79	0.74-0.84
70-79	4.84 [4.81-4.86]	4.15 [4.11-4.19]	0.69	0.64-0.74
80-89	4.83 [4.80-4.86]	4.05 [4.00-4.09]	0.78	0.73-0.84

90≤  
**SVI: social vulnerability index**

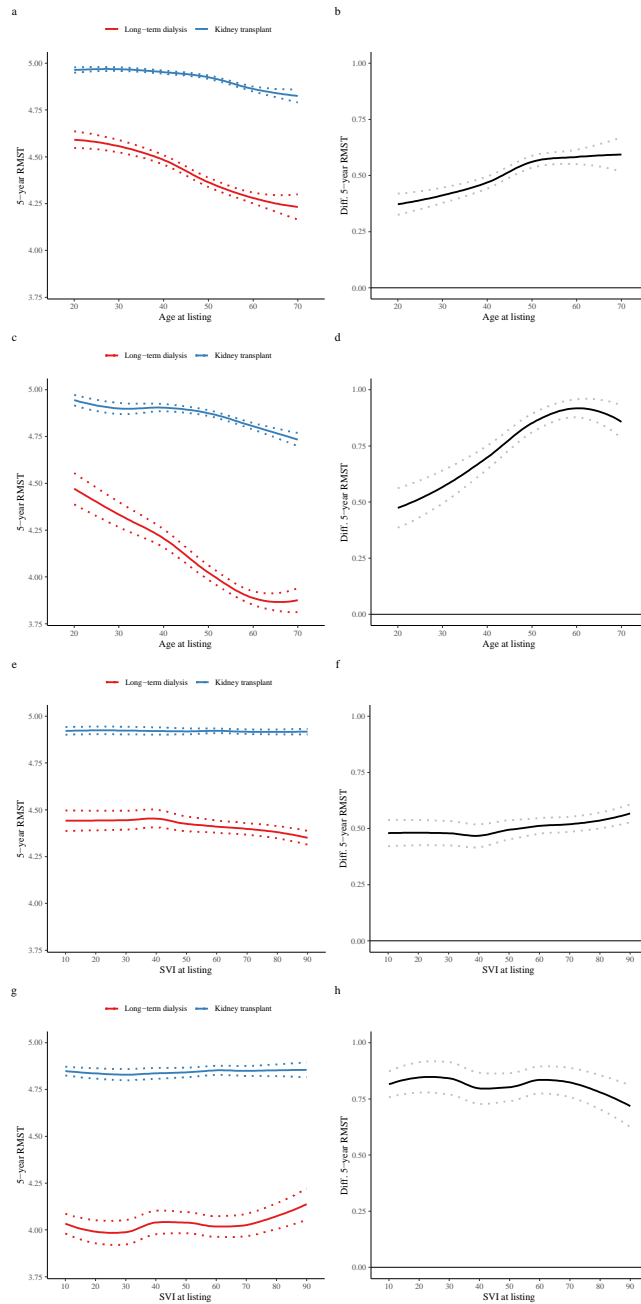
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4.86 [4.83-4.89]	4.08 [4.03-4.12]		0.78	0.72-0.84
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**Figure S1:** Restricted mean survival times for all-cause mortality and difference across all social vulnerability index groups among patients living in urban and rural areas

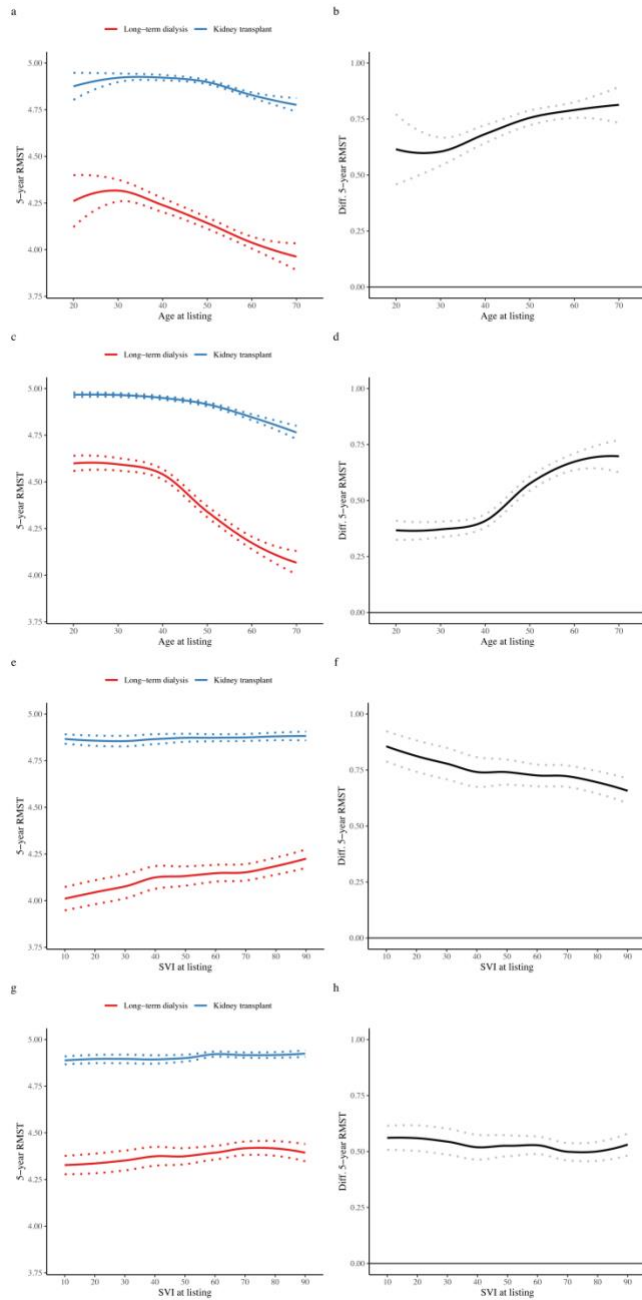
- (a) Restricted mean survival time among patients in urban areas
- (b) Restricted mean survival time difference among patients in urban areas
- (c) Restricted mean survival time among patients in rural areas
- (d) Restricted mean survival time difference among patients in rural areas



**Figure S2:** Restricted mean survival times conditional on waitlisting duration across all age and social vulnerability index groups among White and Minority patients.

- (a) Restricted mean survival time across all age among White patients
- (b) Restricted mean survival time difference across all age among White patients
- (c) Restricted mean survival time across all age among Minority patients
- (d) Restricted mean survival time difference across all age among Minority patients
- (e) Restricted mean survival time across all SVI among White patients
- (f) Restricted mean survival time difference across all SVI among White patients
- (g) Restricted mean survival time across all SVI among Minority patients
- (h) Restricted mean survival time differences across all SVI among Minority patients





**Figure S3:** Restricted mean survival times conditional on waitlisting duration across all age and social vulnerability index groups among patients with or without diabetes mellitus

- (a) Restricted mean survival time across all age among patients with diabetes mellitus
- (b) Restricted mean survival time difference across all age among patients with diabetes mellitus
- (c) Restricted mean survival time across all age among patients without diabetes mellitus
- (d) Restricted mean survival time difference across all age among patients without diabetes mellitus
- (e) Restricted mean survival time across all SVI among patients with diabetes mellitus
- (f) Restricted mean survival time difference across all SVI among patients with diabetes mellitus
- (g) Restricted mean survival time across all SVI among patients without diabetes mellitus
- (h) Restricted mean survival time difference across all SVI among patients without diabetes mellitus