Supplementary Tables

Supplementary Table 1 STROBE Statement—Checklist of items that should be included in reports of *cohort studies*

	Item No	Recommendation	Page
Title and abstract	1	(*a*) Indicate the study's design with a commonly used term in the title or the abstract	1
		(*b*) Provide in the abstract an informative and balanced summary of what was done and what was found	3-4
Introduction			
Background/rationale	2	Explain the scientific background and rationale for the investigation being reported	5
Objectives	3	State specific objectives, including any prespecified hypotheses	6
Methods			
Study design	4	Present key elements of study design early in the paper	6
Setting	5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	6
Participants	6	(*a*) Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	6
		(*b*) For matched studies, give matching criteria and number of exposed and unexposed	n/a
Variables	7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	6,7
Data sources/ measurement	8*	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	*6-8*
Bias	9	Describe any efforts to address potential sources of bias	9
Study size	10	Explain how the study size was arrived at	6, Fig 1
Quantitative variables	11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	8-9
Statistical methods	12	(*a*) Describe all statistical methods, including those used to control for confounding	8-9
		(*b*) Describe any methods used to examine subgroups and interactions	9
		(*c*) Explain how missing data were addressed	8-9
		(*d*) If applicable, explain how loss to follow-up was addressed	
		(*e*) Describe any sensitivity analyses	9
Results			
Participants	13*	(a) Report numbers of individuals at each stage of study—eg numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	10, Fig 1
		(b) Give reasons for non-participation at each stage	Fig 1
		(c) Consider use of a flow diagram	Fig 1
Descriptive data	14*	(a) Give characteristics of study participants (eg demographic, clinical, social) and information on exposures and potential confounders	10, Table 1, Stable 1
		(b) Indicate number of participants with missing data for each variable of interest	Table 1
		(c) Summarise follow-up time (eg, average and total amount)	6
Outcome data	15*	Report numbers of outcome events or summary measures over time	10-11

Main results	16	(*a*) Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (eg, 95% confidence interval). Make clear which confounders were adjusted for and why they were included	10-12
		(*b*) Report category boundaries when continuous variables were categorized	10-12, Tables
		(*c*) If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	
Other analyses	17	Report other analyses done—eg analyses of subgroups and interactions, and sensitivity analyses	12
Discussion			
Key results	18	Summarise key results with reference to study objectives	12-13
Limitations	19	Discuss limitations of the study, taking into account sources of potential bias or imprecision. Discuss both direction and magnitude of any potential bias	15
Interpretation	20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	16
Generalisability	21	Discuss the generalisability (external validity) of the study results	12-14
Other information			
Funding	22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	17-18

Supplementary Table 2 Characteristics of patients initiating KRT from 2015 to 2019, stratified by sex/gender and referral status

	Women			Men		
	Not referred	**Referred after dialysis start**	**Preemptively referred**	**Not referred**	**Referred after dialysis start**	**Preemptively referred**
N	9,420	6,729	3,470	10,670	9,544	4,371
Patient-level characteristics						
Age	64.1 ± 11.6	54.9 ± 13.2	54.6 ± 13.1	62.9 ± 12.0	54.7 ± 12.8	55.7 ± 12.7
Mean ± SD						
18-29	133 (1.4)	338 (5.0)	160 (4.6)	146 (1.4)	364 (3.8)	156 (3.6)
30-39	268 (2.9)	658 (9.8)	352 (10.1)	398 (3.7)	908 (9.5)	369 (8.4)
40-49	686 (7.3)	1,089 (16.2)	621 (17.9)	949 (8.9)	1,846 (19.3)	762 (17.4)
50-59	1,588 (16.9)	1,763 (26.2)	876 (25.2)	2,103 (19.7)	2,638 (27.6)	1,177 (26.9)
60-69	3,089 (32.8)	2,077 (30.9)	1,087 (31.3)	3,269 (30.6)	2,621 (27.5)	1,344 (30.8)
70-79	3,656 (38.8)	804 (12.0)	374 (10.8)	3,805 (35.7)	1,167 (12.2)	563 (12.9)
Race/Ethnicity Group						
White	4,156 (44.1)	1,971 (29.3)	1,507 (43.4)	5,158 (48.3)	3,419 (35.8)	2,261 (51.7)
Black	4,804 (51.0)	4,451 (66.2)	1,778 (51.2)	4,882 (45.8)	5,568 (58.3)	1,865 (42.7)
Hispanic	290 (3.1)	145 (2.2)	76 (2.2)	425 (4.0)	311 (3.3)	108 (2.5)
Other	170 (1.8)	162 (2.4)	109 (3.1)	205 (1.9)	246 (2.6)	137 (3.1)
Insurance Status						
Medicaid	2,842 (30.2)	1,918 (28.5)	675 (19.5)	2,052 (19.2)	1,634 (17.1)	482 (11.0)
Medicare	4,631 (49.2)	2,148 (31.9)	1,074 (31.0)	5,253 (49.2)	3,081 (32.3)	1,472 (33.7)
Employer	887 (9.4)	1,396 (20.8)	1,334 (38.4)	1,177 (11.0)	2,327 (24.4)	1,855 (42.4)
Other	376 (4.0)	490 (7.3)	300 (8.7)	1,117 (10.5)	994 (10.4)	432 (9.9)
None	684 (7.3)	777 (11.6)	87 (2.5)	1,071 (10.0)	1,508 (15.8)	130 (3.0)
Attributed Cause of Kidney Failure						
Diabetes	4,652 (50.1)	3,243 (48.8)	1,405 (41.2)	4,861 (46.3)	4,246 (45.1)	1,769 (41.3)
Hypertension	3,240 (34.9)	2,275 (34.2)	963 (28.2)	3,902 (37.2)	3,760 (39.9)	1,312 (30.6)
Glomerulonephritis	467 (5.0)	640 (9.6)	499 (14.6)	503 (4.8)	606 (6.4)	546 (12.7)
Other	922 (9.9)	494 (7.4)	544 (16.0)	1,228 (11.7)	809 (8.6)	662 (15.4)
Obesity (BMI, kg/m^2)						
Mean BMI ±SD	31.8 ± 9.7	32.0 ± 8.9	30.2 ± 7.4	29.1 ± 7.9	30.4 ± 7.6	29.9 ± 6.5
Underweight	369 (4.0)	166 (2.5)	74 (2.1)	388 (3.7)	169 (1.8)	52 (1.2)
Normal	2,121 (22.7)	1,413 (21.1)	844 (24.4)	3,157 (29.7)	2,181 (22.9)	889 (20.4)
Overweight	2,092 (22.4)	1,546 (23.1)	895 (25.9)	3,083 (29.0)	2,823 (29.7)	1,479 (34.0)
Obese class I	1,773 (19.0)	1,393 (20.8)	831 (24.0)	2,030 (19.1)	2,137 (22.5)	1,097 (25.2)
Obese class II	1,282 (13.7)	1,014 (15.1)	503 (14.5)	1,001 (9.4)	1,182 (12.4)	564 (13.0)
Obese class III	1,716 (18.4)	1,172 (17.5)	314 (9.1)	973 (9.2)	1,018 (10.7)	274 (6.3)

Comorbidities						
Congestive heart failure	3,209 (34.1)	1,688 (25.1)	432 (12.5)	3,440 (32.2)	2,267 (23.8)	587 (13.4)
Atherosclerotic heart disease	943 (10.0)	372 (5.5)	162 (4.7)	1,237 (11.6)	740 (7.8)	283 (6.5)
Other cardiac disease	1,880 (20.0)	880 (13.1)	337 (9.7)	2,386 (22.4)	1,433 (15.0)	567 (13.0)
Cerebrovascular disease	1,126 (12.0)	528 (7.9)	166 (4.8)	1,255 (11.8)	703 (7.4)	229 (5.2)
Peripheral vascular disease	790 (8.4)	364 (5.4)	117 (3.4)	1,187 (11.1)	630 (6.6)	219 (5.0)
Hypertension	8,474 (90.0)	6,126 (91.0)	3,144 (90.6)	9,454 (88.6)	8,719 (91.4)	3,953 (90.4)
Diabetes	6,348 (67.4)	4,211 (62.6)	1,817 (52.4)	6,535 (61.3)	5,615 (58.8)	2,312 (52.9)
COPD	1,262 (13.4)	413 (6.1)	117 (3.4)	1,255 (11.8)	520 (5.5)	129 (3.0)
Cancer	615 (6.5)	224 (3.3)	113 (3.3)	923 (8.7)	355 (3.7)	186 (4.3)
Tobacco Use	778 (8.3)	468 (7.0)	133 (3.8)	1,323 (12.4)	922 (9.7)	231 (5.3)
Pre-KRT nephrology care	6,230 (77.7)	4,510 (77.1)	3,047 (95.5)	6,769 (74.5)	6,110 (74.0)	3,830 (94.8)
Patient has been informed of kidney transplant options	8,579 (91.1)	6,243 (92.8)	2,890 (95.4)	9,627 (90.2)	8,825 (92.5)	3,697 (95.4)
Neighborhood-Level-Factors						
Neighborhood poverty level						
< 20% (low poverty)	5,183 (55.7)	3,697 (55.7)	2,295 (67.1)	6,104 (58.1)	5,638 (59.9)	3,104 (72.1)
>= 20% (high poverty)	4,122 (44.3)	2,940 (44.3)	1,125 (32.9)	4,407 (41.9)	3,775 (40.1)	1,201 (27.9)
Average % Black (mean ± SD)	34.5 ± 23.4	38.1 ± 24.3	32.6 ± 23.9	32.6 ± 23.2	35.3 ± 23.9	29.5 ± 22.8
Average % high school graduates (mean ± SD)	84.5 ± 6.6	85.0 ± 6.6	86.6 ± 6.7	84.7 ± 6.8	85.2 ± 7.0	86.9 ± 6.6

Abbreviations: BMI = body mass index; COPD = chronic obstructive pulmonary disease; KRT = kidney replacement therapy

Supplementary Table 3 Association between sex/gender and preemptive referral among patients initiating KRT from 2015 to 2019 using multivariable logistic regression and adding variables one at a time in a forward stepwise fashion

Stepwise models	**Odds Ratio (95%CI) Women vs. men**
Crude (women vs. men)	0.99 (0.95-1.04)
+ age	1.02 (0.97-1.07)
+ race	1.04 (0.99-1.10)
+ insurance	1.10 (1.04-1.15)
+ attributed cause of ESKD	1.08 (1.02-1.13)
+ obesity	1.14 (1.08-1.20)
+ congestive heart failure	1.13 (1.07-1.19)
+ atherosclerotic heart disease	1.13 (1.07-1.19)
+ other cardiac	1.12 (1.06-1.18)
+ cerebrovascular disease	1.12 (1.06-1.18)
+ Peripheral vascular disease	1.12 (1.06-1.18)
+ Hypertension	1.12 (1.06-1.18)
+ Diabetes	1.12 (1.06-1.18)
+ Chronic obstructive pulmonary disease	1.12 (1.06-1.19)
+ Cancer	1.12 (1.06-1.18)
+ Smoking	1.11 (1.05-1.17)
+ Patient informed of transplant	1.08 (1.02-1.14)
+ Neighborhood level-poverty	1.09 (1.03-1.15)
+ Neighborhood level Black %	1.09 (1.03-1.15)
+ Neighborhood level education (full model)	1.09 (1.03-1.15)

Supplementary Table 4 Odds ratio for the association between sex/gender and preemptive referral by age, race, obesity, and attributed cause of kidney failure among all patients initiating KRT 2015-2019 with follow-up through 2020

	Crude OR (95%CI)	P-value for interaction	Adjusted OR* (95%CI)	P-value for interaction
Total population				
Women (vs. men)	0.99 (0.95-1.04)		1.09 (1.03-1.15)	
Gender and age		<0.001		<0.001
18-29	1.11 (0.86-1.43)		1.24 (0.92-1.67)	
30-39	1.35 (1.14-1.59)		1.39 (1.14-1.69)	
40-49	1.28 (1.14-1.45)		1.39 (1.21-1.60)	
50-59	1.05 (0.96-1.16)		1.13 (1.01-1.27)	
60-69	0.92 (0.84-1.01)		1.00 (0.90-1.10)	
70-79	0.74 (0.65-0.85)		0.81 (0.70-0.93)	
Gender and race/ethnicity		0.03		0.01
White	0.93 (0.87-1.00)		0.98 (0.90-1.07)	
Black	1.08 (1.00-1.16)		1.17 (1.08-1.27)	
Hispanic	1.19 (0.87-1.63)		1.43 (0.99-2.06)	
Other	1.08 (0.81-1.44)		1.13 (0.81-1.57)	
Gender and BMI		<0.001		.02
Underweight	1.48 (1.02-2.15)		1.37 (0.89-2.11)	
Normal	1.43 (1.29-1.59)		1.30 (1.15-1.46)	
Overweight	0.98 (0.90-1.08)		1.05 (0.95-1.17)	
Obese class I	1.00 (0.90-1.10)		1.05 (0.93-1.17)	
Obese class II	0.85 (0.74-0.97)		0.99 (0.85-1.17)	
Obese class III	0.79 (0.67-0.94)		0.97 (0.80-1.16)	
Gender and attributed cause of kidney failure		0.01		0.38
Diabetes	0.92 (0.85-0.99)		1.07 (0.99-1.16)	
Hypertension	1.02 (0.93-1.12)		1.14 (1.03-1.26)	
Glomerulonephritis	0.92 (0.79-1.06)		0.97 (0.81-1.15)	
Other	1.18 (1.04-1.35)		1.13 (0.96-1.34)	

* Model adjusted for age, race, attributed cause of kidney failure, BMI, comorbidities, insurance, patient informed of transplant options, and neighborhood-level factor. 5.2% missing data.

Abbreviations: BMI = body mass index; CI = confidence interval; ESKD = end-stage kidney disease; KRT = kidney replacement therapy; OR = odds ratio

Supplementary Table 5 Crude and adjusted Hazards Ratios for the association between preemptive referral and placement on the deceased donor waitlist (A) or receipt of a living donor transplant (B), overall and by gender, among all patients initiating KRT between 2015 and 2019 with follow-up through 2020 in the Southeast US, *accounting for competing risk of death and deceased donor transplant*[1]

	Crude HR 95%CI)	**Adjusted HR (95%CI)***
A. Waitlisting	HR examining association between preemptive referral and waitlisting (ref=not preemptively referred)	
Total population	8.77 (8.41-9.14)	5.28 (5.02-5.55)
Women	10.17 (9.51-10.89)	5.77 (5.34-6.23)
Men	7.92 (7.49-8.37)	4.97 (4.66-5.30)
B. Living donor transplantation	HR examining association between preemptive referral and receipt of living donor transplant (ref=not preemptively referred)	
Total population	15.87 (14.02-17.98)	4.38 (3.71-5.17)
Women	19.90 (15.90-24.90)	4.80 (3.66-6.29)
Men	14.14 (12.15-16.46)	4.19 (3.45-5.09)

[1]Deceased donor transplant was treated as a competing risk for living donor transplant only; * Model adjusted for age, race, attributed cause of kidney failure, BMI, comorbidities, insurance, patient informed of transplant options, and neighborhood-level factor. 5.2% missing data.

Abbreviations: CI = confidence interval; ESKD = end-stage kidney disease; HR = hazard ratio; KRT = kidney replacement therapy

Supplementary Table 6 Crude and adjusted Hazards Ratios for the association between preemptive referral and placement on the deceased donor waitlist (A) or receipt of a living donor transplant (B), overall and by sex/gender, *among patients referred for kidney transplantation (n=24,114)* between 2015 and 2019 with follow-up through 2020 in the Southeast US.

	Crude HR 95%CI)	**Fully adjusted HR (95% CI)***
A. Waitlisting	HR examining association between preemptive referral and waitlisting (ref=referred after dialysis start)	
Total population	4.19 (4.01-4.40)	3.07 (2.92-3.22)
Women	4.50 (4.19-4.82)	3.15 (2.92-3.40)
Men	4.01 (3.79-4.25)	3.01 (2.83-3.21)
B. Living donor transplantation	HR examining association between preemptive referral and receipt of living donor transplant (ref=referred after dialysis start)	
Total population	8.20 (7.17-9.38)	2.87 (2.45-3.37)
Women	9.39 (7.41-11.90)	2.97 (2.26-3.91)
Men	7.78 (6.61-9.16)	2.83 (2.34-3.42)

*Model adjusted for age, race, attributed cause of kidney failure, BMI, comorbidities, insurance, patient informed of transplant options, and neighborhood-level factor. 5.2% missing data.
Abbreviations: BMI = body mass index; CI = confidence interval; HR = hazard ratio