Table S1. Characteristics at dialysis initiation, stratified by pre-dialysis care context and *excluding individuals with missing data on pre-dialysis nephrology care or access type*

	Highly Optimal	Moderately Optimal	Minimally Optimal	Non-optimal	Overall
N (%)	N = 14,103 (31.8)	N = 7,582 (17.1)	N = 15,189 (34.3)	N = 7,444 (16.8)	N = 44,318
Individual Characteristics					
Sex					
Men	8,010 (56.8)	4,190 (55.3)	8,137 (53.6)	4,343 (58.3)	24,680 (55.7)
Women	6,093 (43.2)	3,392 (44.7)	7,052 (46.4)	3,101 (41.7)	19,638 (44.3)
Age					
Mean (SD)	59.8 (12.7)	60.0 (12.7)	60.0 (13.1)	56.4 (14.1)	59.3 (13.1)
18-44	1,886 (13.4)	994 (13.1)	2,050 (13.5)	1,545 (20.8)	6,475 (14.6)
45-59	4,248 (30.1)	2,210 (29.1)	4,329 (28.5)	2,418 (32.5)	13,205 (29.8)
60-74	6,410 (45.5)	3,508 (46.3)	6,952 (45.8)	2,861 (38.4)	19,731 (44.5)
75+	1,559 (11.1)	870 (11.5)	1,858 (12.2)	620 (8.3)	4,907 (11.1)
Race/ethnicity					
Black	6,944 (49.2)	3,929 (51.8)	7,883 (51.9)	4,030 (54.1)	22,786 (51.4)
White	6,385 (45.3)	3,198 (42.2)	6,517 (42.9)	2,894 (38.9)	18,994 (42.9)
Hispanic	419 (3.0)	284 (3.7)	475 (3.1)	366 (4.9)	1,544 (3.5)
Other	355 (2.5)	171 (2.3)	314 (2.1)	154 (2.1)	994 (2.2)
Primary cause of kidney failure					
Diabetes	6,560 (46.5)	4,007 (52.8)	7,166 (47.2)	2,840 (38.2)	20,573 (46.4)
Hypertension	4,855 (34.4)	2,432 (32.1)	5,089 (33.5)	2,816 (37.8)	15,192 (34.3)
Glomerulonephritis	1,179 (8.4)	429 (5.7)	1,098 (7.2)	496 (6.7)	3,202 (7.2)
Cystic Kidney Disease	580 (4.1)	106 (1.4)	207 (1.4)	62 (0.8)	955 (2.2)
Other	753 (5.3)	500 (6.6)	1,453 (9.6)	1,061 (14.3)	3,767 (8.5)
BMI (kg/m^2), mean (SD)	30.9 (7.9)	31.1 (8.7)	30.6 (8.6)	29.8 (8.5)	30.6 (8.4)
Obesity Status					
Underweight	219 (1.6)	165 (2.2)	429 (2.8)	220 (3.0)	1,033 (2.3)
Normal	2,379 (16.9)	1,597 (21.1)	3,346 (22.0)	1,934 (26.0)	9,256 (20.9)
Overweight	3,259 (23.1)	1,702 (22.4)	3,452 (22.7)	1,680 (22.6)	10,093 (22.8)
Obese class I	2,741 (19.4)	1,395 (18.4)	2,688 (17.7)	1,216 (16.3)	8,040 (18.1)
Obese class II	1,502 (10.7)	875 (11.5)	1,638 (10.8)	693 (9.3)	4,708 (10.6)
Obese class III	1,341 (9.5)	956 (12.6)	1,760 (11.6)	766 (10.3)	4,823 (10.9)
Comorbidities					
Congestive heart failure	2,682 (19.0)	2,425 (32.0)	4,962 (32.7)	2,089 (28.1)	12,158 (27.4)
Atherosclerotic heart disease	1,101 (7.8)	788 (10.4)	1,587 (10.4)	538 (7.2)	4,014 (9.1)
Other cardiac disease	2,045 (14.5)	1,506 (19.9)	3,122 (20.6)	1,263 (17.0)	7,936 (17.9)
Cerebrovascular disease	1,155 (8.2)	842 (11.1)	1,606 (10.6)	685 (9.2)	4,288 (9.7)
Peripheral vascular disease	913 (6.5)	687 (9.1)	1,458 (9.6)	507 (6.8)	3,565 (8.0)
Hypertension	12,925 (91.6)	6,917 (91.2)	13,759 (90.6)	6,452 (86.7)	40,053 (90.4)
Diabetes	8,488 (60.2)	5,101 (67.3)	9,727 (64.0)	3,974 (53.4)	27,290 (61.6)
COPD	847 (6.0)	770 (10.2)	1,597 (10.5)	737 (9.9)	3,951 (8.9)
Cancer	762 (5.4)	417 (5.5)	1,067 (7.0)	443 (6.0)	2,689 (6.1)
Hypoalbuminemia*	4,287 (30.4)	3,485 (46.0)	7,132 (47.0)	3,680 (49.4)	18,584 (41.9)
Functional Impairment	946 (6.7)	1,071 (14.1)	2,441 (16.1)	1,244 (16.7)	5,702 (12.9)
Current smoker	1,130 (8.0)	731 (9.6)	1,316 (8.7)	856 (11.5)	4,033 (9.1)
Patient has been informed of kidney transplant					
Yes	12,979 (92.0)	6,775 (89.4)	13,384 (88.1)	6,538 (87.8)	39,676 (89.5)
No	1,123 (8.0)	807 (10.6)	1,805 (11.9)	904 (12.1)	4,639 (10.5)
Insurance					
Employer	3,646 (25.9)	1,211 (16.0)	2,767 (18.2)	1,132 (15.2)	8,756 (19.8)
Medicaid	2,596 (18.4)	1,799 (23.7)	3,490 (23.0)	1,693 (22.7)	9,578 (21.6)
Medicare	5,854 (41.5)	3,307 (43.6)	6,541 (43.1)	2,529 (34.0)	18,231 (41.1)
Other	1,248 (8.8)	582 (7.7)	1,225 (8.1)	578 (7.8)	3,633 (8.2)
None	759 (5.4)	683 (9.0)	1,165 (7.7)	1,511 (20.3)	4,118 (9.3)
Neighborhood Characteristics					
Median % Black residents (Mean (SD))	32.1 (23.1)	32.8 (23.3)	33.4 (23.0)	36.3 (24.6)	33.3 (23.4)
Median % high school graduates (Mean (SD))	85.6 (6.7)	85.2 (6.5)	84.8 (7.0)	84.7 (6.8)	85.1 (6.8)
Neighborhood poverty level					
<20% (low poverty)	8,701 (61.7)	4,484 (59.1)	8,756 (57.6)	4,133 (55.5)	26,074 (58.8)
≥20% (high poverty)	5,202 (36.9)	3,008 (39.7)	6,204 (40.8)	3,225 (43.3)	17,639 (39.8)
Urbanicity					
Urban	10,994 (78.0)	5,916 (78.0)	11,336 (74.6)	5,746 (77.2)	33,992 (76.7)
Large rural city/town	2,115 (15.0)	1,130 (14.9)	2,498 (16.4)	1,146 (15.4)	6,889 (15.5)
Small rural town	642 (4.6)	361 (4.8)	952 (6.3)	377 (5.1)	2,332 (5.3)
Isolated small rural town	347 (2.5)	173 (2.3)	401 (2.6)	172 (2.3)	1,093 (2.5)
Dialysis Facility Characteristics					
Profit status					
For-profit	12,290 (87.1)	6,643 (87.6)	13,185 (86.8)	6,472 (86.9)	38,590 (87.1)
Not-for-profit	1,748 (12.4)	919 (12.1)	1,893 (12.5)	945 (12.7)	5,505 (12.4)
Facility type					
Freestanding	13,783 (97.7)	7,455 (98.3)	14,732 (97.0)	7,291 (97.9)	43,261 (97.6)
Not freestanding	255 (1.8)	107 (1.4)	346 (2.3)	126 (1.7)	834 (1.9)
Facility size (# of patients) (Mean (SD))	97.4 (58.4)	87.9 (48.0)	88.5 (48.1)	88.7 (49.7)	91.3 (52.0)
Patient-to-social-worker ratio (Mean (SD))	78.6 (33.5)	76.2 (32.2)	76.4 (30.9)	76.4 (30.9)	77.1 (32.0)
Patient-to-nurse ratio (Mean (SD))	15.9 (8.0)	16.1 (7.7)	15.6 (7.1)	15.5 (7.1)	15.7 (7.5)

Data are N (%) unless otherwise specified ; Columns may not total 100% due to missing data; *32% of data is missing

Abbreviations: BMI = body mass index; COPD = chronic obstructive pulmonary disease; SD = standard deviation.

Table S2. Association between pre-dialysis care context and referral, evaluation start, and waitlisting among patients initiating dialysis (2015-2019), followed through 2021, *excluding those with missing nephrology care and access type data (n=44,318, excluded 9.7%)*

	Referral			Evaluation Start			Waitlisted		
	Unadjusted	**Partially adjusted[1]**	**Fully adjusted[2]**	**Unadjusted**	**Partially adjusted[1]**	**Fully adjusted[2]**	**Unadjusted**	**Partially adjusted[1]**	**Fully adjusted[2]**
	Sub Distribution Hazard Ratio (95%CI)								
Highly Optimal	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*
Moderately Optimal	0.63 (0.60, 0.65)	0.68 (0.65, 0.71)	0.72 (0.69, 0.75)	0.68 (0.64, 0.71)	0.73 (0.69, 0.77)	0.77 (0.73, 0.81)	0.57 (0.53, 0.62)	0.63 (0.58, 0.69)	0.68 (0.62, 0.73)
Minimally Optimal	0.59 (0.58, 0.61)	0.66 (0.64, 0.69)	0.69 (0.66, 0.71)	0.71 (0.68, 0.74)	0.74 (0.71, 0.78)	0.78 (0.74, 0.81)	0.70 (0.66, 0.74)	0.75 (0.71, 0.80)	0.78 (0.73, 0.83)
Non-optimal	0.44 (0.42, 0.46)	0.43 (0.41, 0.45)	0.45 (0.43, 0.47)	0.62 (0.59, 0.66)	0.61 (0.58, 0.65)	0.64 (0.60, 0.68)	0.61 (0.56, 0.66)	0.57 (0.52, 0.62)	0.61 (0.56, 0.67)

[1]Partially adjusted for age, obesity status, comorbidities, and primary cause of kidney failure

[2]Fully adjusted for the covariates in the partially adjusted model and sex, race/ethnicity, patients being informed of transplant options, insurance status, neighborhood-level information, and facility-level information

Table S3. Association between pre-dialysis care context and likelihood of referral, evaluation start, and waitlisting among patients initiating dialysis (2015-2019), followed through 2021 using multiple imputation to account for missing covariate data

	Referral			Evaluation Start			Waitlisted		
	Unadjusted	**Partially adjusted[1]**	**Fully adjusted[2]**	**Unadjusted**	**Partially adjusted[1]**	**Fully adjusted[2]**	**Unadjusted**	**Partially adjusted[1]**	**Fully adjusted[2]**
	Sub Distribution Hazard Ratio (95%CI)								
Highly Optimal	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*
Moderately Optimal	0.63 (0.60, 0.65)	0.66 (0.64, 0.69)	0.7 (0.67, 0.73)	0.68 (0.64, 0.71)	0.72 (0.68, 0.76)	0.75 (0.71, 0.79)	0.57 (0.53, 0.62)	0.63 (0.58, 0.68)	0.67 (0.63, 0.73)
Minimally Optimal	0.59 (0.58, 0.61)	0.64 (0.62, 0.66)	0.68 (0.65, 0.7)	0.71 (0.68, 0.74)	0.74 (0.71, 0.77)	0.76 (0.73, 0.79)	0.70 (0.66, 0.74)	0.74 (0.7, 0.78)	0.77 (0.73, 0.81)
Non-optimal	0.41 (0.40, 0.42)	0.39 (0.38, 0.41)	0.42 (0.41, 0.44)	0.61 (0.58, 0.63)	0.60 (0.57, 0.63)	0.62 (0.59, 0.65)	0.56 (0.53, 0.60)	0.53 (0.49, 0.56)	0.57 (0.53, 0.61)

[1]Partially adjusted for age, obesity status, comorbidities, and primary cause of end-stage kidney disease

[2]Fully adjusted for the covariates in the partially adjusted model and sex, race/ethnicity, patients being informed of transplant options, insurance status, neighborhood-level information, and facility-level information

Table S4. Association between pre-dialysis care context and referral, evaluation start, and waitlisting among patients initiating dialysis (2015-2019), followed through 2021, *excluding those with pre-emptive referral, evaluation, and waitlisted (n=41,492, excluded 15.4%)*

	Referral			Evaluation Start			Waitlisted		
	Unadjusted	**Partially adjusted[1]**	**Fully adjusted[2]**	**Unadjusted**	**Partially adjusted[1]**	**Fully adjusted[2]**	**Unadjusted**	**Partially adjusted[1]**	**Fully adjusted[2]**
	Sub Distribution Hazard Ratio (95%CI)								
Highly Optimal	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*
Moderately Optimal	0.89 (0.84, 0.93)	0.91 (0.86, 0.97)	0.92 (0.87, 0.98)	0.88 (0.82, 0.95)	0.92 (0.84, 1.00)	0.92 (0.85, 1.01)	0.79 (0.70, 0.88)	0.82 (0.72, 0.93)	0.84 (0.73, 0.96)
Minimally Optimal	0.79 (0.75, 0.82)	0.85 (0.81, 0.90)	0.85 (0.81, 0.90)	0.92 (0.86, 0.98)	0.94 (0.87, 1.01)	0.96 (0.89, 1.03)	0.97 (0.88, 1.06)	1.01 (0.91, 1.13)	1.00 (0.89, 1.12)
Non-optimal	0.79 (0.76, 0.83)	0.75 (0.71, 0.79)	0.75 (0.71, 0.79)	0.99 (0.93, 1.05)	0.93 (0.86, 1.00)	0.91 (0.84, 0.99)	1.05 (0.96, 1.16)	0.88 (0.79, 0.98)	0.90 (0.80, 1.02)

[1]Partially adjusted for age, obesity status, comorbidities, and primary cause of end-stage kidney disease
[2]Fully adjusted for the covariates in the partially adjusted model and sex, race/ethnicity, patients being informed of transplant options, insurance status, neighborhood-level information, and facility-level information

Table S5. Association between pre-dialysis care context and likelihood of referral, evaluation, and waitlisting among patients initiating dialysis between 2015-2019, and followed through 2021 *with additional adjustment for hypoalbuminemia and functional impairment*

	Referral			Evaluation Start			Waitlisted		
	Unadjusted	**Partially adjusted[1]**	**Fully adjusted[2]**	**Unadjusted**	**Partially adjusted[1]**	**Fully adjusted[2]**	**Unadjusted**	**Partially adjusted[1]**	**Fully adjusted[2]**
	Sub Distribution Hazard Ratio (95%CI)								
Highly Optimal	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*	*Ref*
Moderately Optimal	0.63 (0.60, 0.65)	0.69 (0.65, 0.72)	0.73 (0.69, 0.77)	0.68 (0.64, 0.71)	0.77 (0.72, 0.82)	0.81 (0.75, 0.87)	0.57 (0.53, 0.62)	0.65 (0.59, 0.72)	0.71 (0.64, 0.79)
Minimally Optimal	0.59 (0.58, 0.61)	0.69 (0.66, 0.72)	0.72 (0.69, 0.75)	0.71 (0.68, 0.74)	0.77 (0.73, 0.82)	0.81 (0.77, 0.86)	0.70 (0.66, 0.74)	0.79 (0.73, 0.85)	0.82 (0.76, 0.89)
Non-optimal	0.41 (0.40, 0.42)	0.43 (0.41, 0.46)	0.46 (0.44, 0.49)	0.61 (0.58, 0.63)	0.62 (0.58, 0.66)	0.64 (0.6, 0.69)	0.56 (0.53, 0.60)	0.58 (0.52, 0.63)	0.65 (0.59, 0.72)

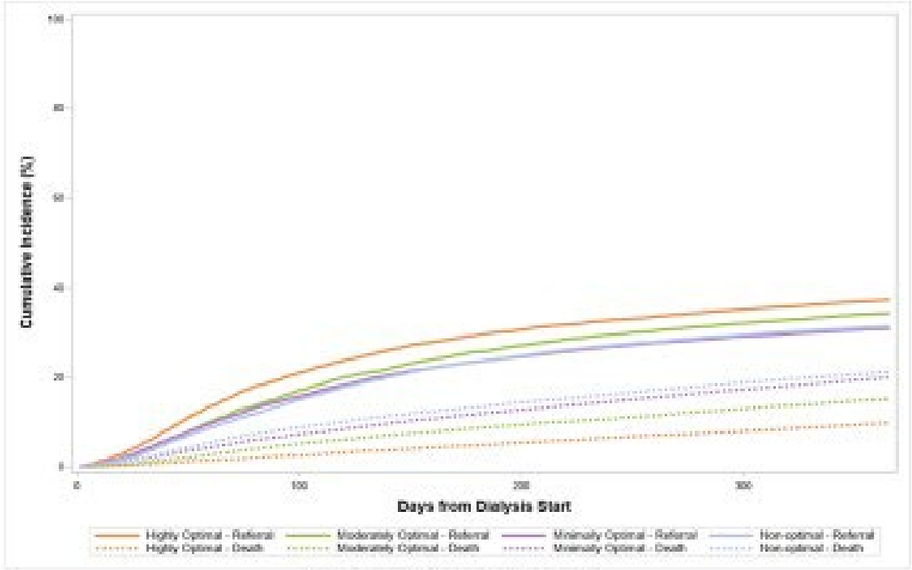
[1]Partially adjusted for age, obesity status, comorbidities (including hypoalbuminemia and functional impairment) and primary cause of kidney failure
[2]Fully adjusted for the covariates in the partially adjusted model and sex, race/ethnicity, patients being informed of transplant options, insurance status, neighborhood-level, and facility-level covariates
Study Population is n=28,034 (57.15% of overall population) owing to high missing rate (32%) of missing for hypoalbuminemia in partial model, and n=28,034 (54.4%) for full model.

Table S6. Distribution of pre-dialysis duration care across the 3 groups who received some pre-dialysis care

	Pre-Dialysis Care Classification		
	Highly Optimal	**Moderately Optimal**	**Minimally Optimal**
A. In all patients			
<6 months	1,605 (12.44)	1,078 (19.58)	4,298 (29.2)
6-12 months	3,572 (27.69)	1,795 (32.59)	4,428 (30.08)
>12 months	7,724 (59.87)	2,634 (47.83)	5,994 (40.72)
B. Excluding pre-emptive patients			
<6 months	1,176 (13.53)	965 (20.41)	4,000 (30.42)
6-12 months	2,487 (28.61)	1,546 (32.7)	3,986 (30.32)
>12 months	5,030 (57.86)	2,217 (46.89)	5,162 (39.26)

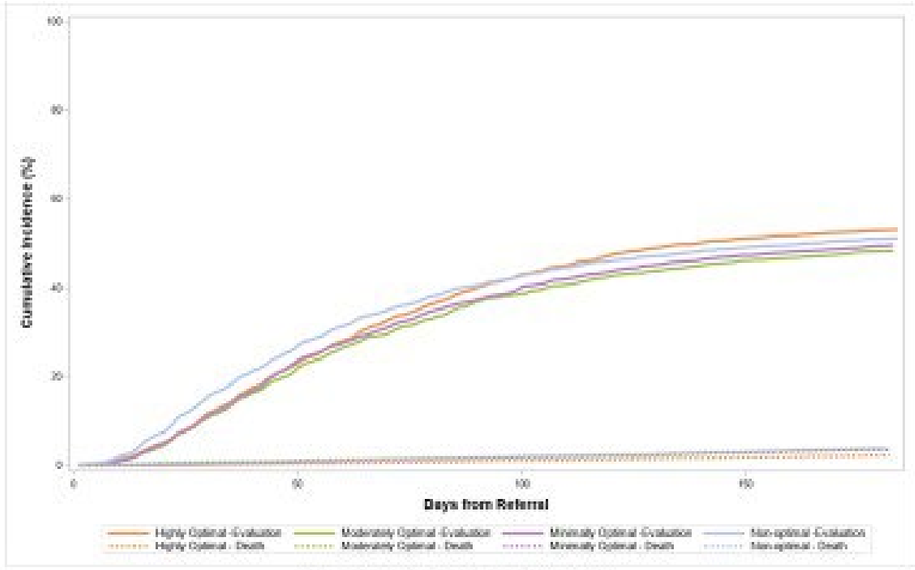
Note: >10% of pre-dialysis duration data is missing not at random, and thus we did not include this variable in our final models in primary analyses.

A



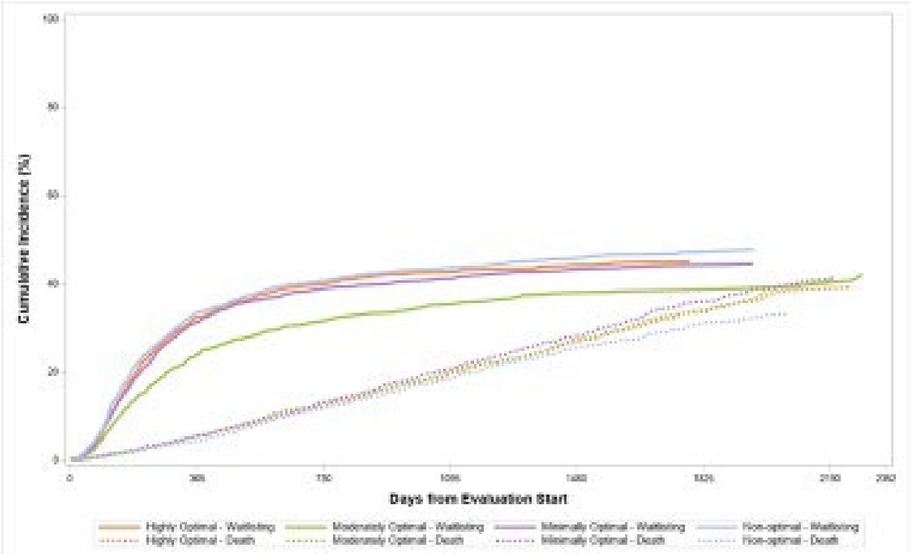
1-year cumulative incidence (%)				
	Highly Optimal	Moderately Optimal	Minimally Optimal	Non-optimal
Referral	37.34	34.39	31.03	31.47
Death	9.82	15.20	20.05	21.24

B



6-month cumulative incidence (%)				
	Highly Optimal	Moderately Optimal	Minimally Optimal	Non-optimal
Evaluation Start	53.13	48.43	49.73	51.25
Death	2.31	3.72	3.65	3.88

C



6-year cumulative incidence (%)				
	Highly Optimal	Moderately Optimal	Minimally Optimal	Non-optimal
Waitlisted	45.03	42.18	44.57	47.75
Death	39.18	41.49	41.07	33.20

Figure S1 Cumulative incidence of referral (A), evaluation start (B), and waitlisting (C) among incident dialysis patients from 2015-2019, followed through 2021, excluding those with pre-emptive referral, evaluation, and waitlisting (n=41,492; excluded 15.4%). Solid lines indicate incidence of each outcome for highly optimal (orange), moderately optimal (green), minimally optimal (purple) and non-optimal (blue) starters. Dotted lines indicate mortality as a competing risk for each outcome and dialysis start group."