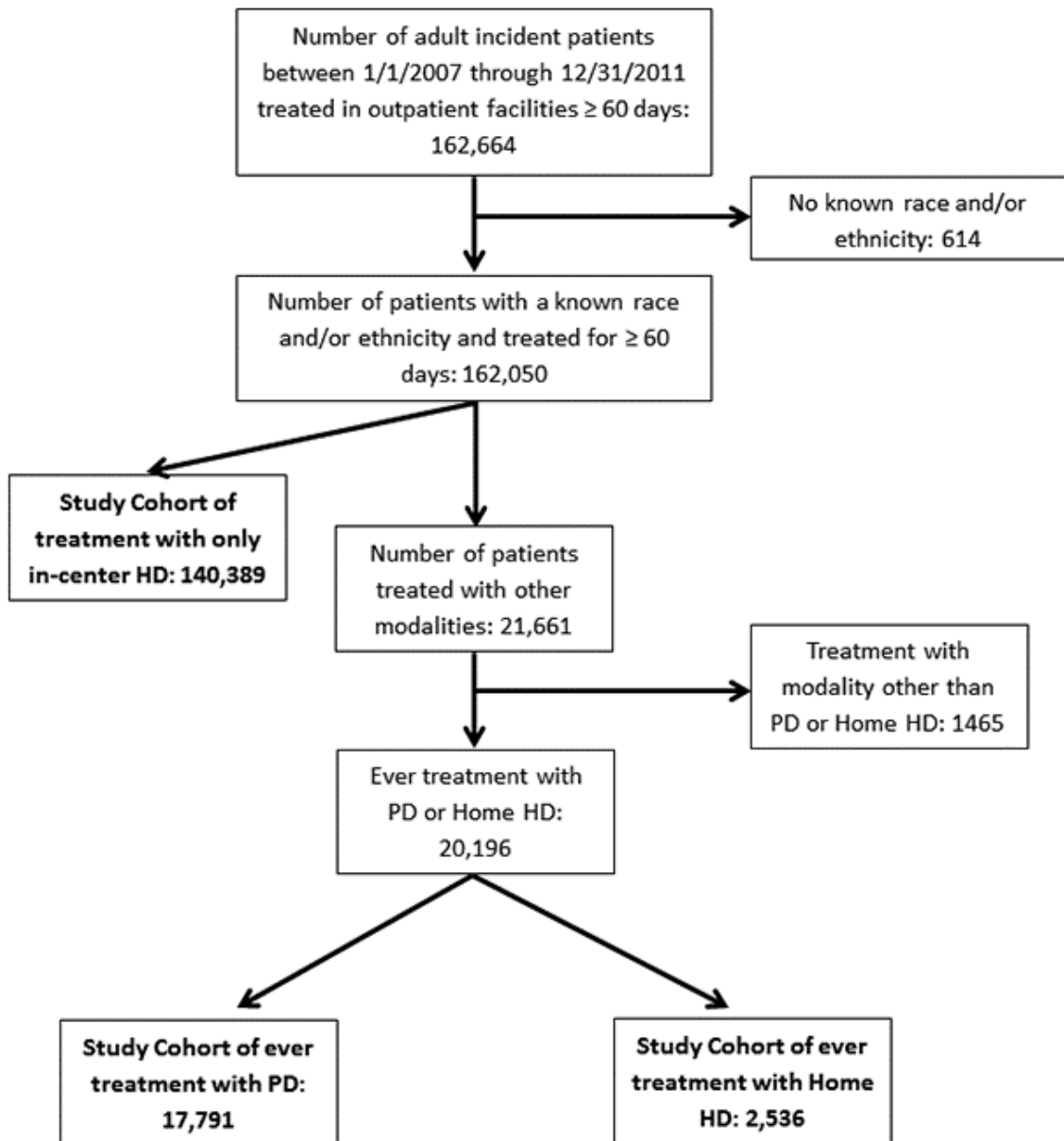


SUPPLEMENTARY MATERIALS

Racial and Ethnic Disparities in Utilization of and Outcomes with Home Dialysis in the United States

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S. Figure 1: Consort diagram summarizing the inclusion and exclusion criteria used to constitute the cohort for analysis. Of the 20,196 patients ever treated with PD or home HD, 131 were treated with PD as well as home HD at different points in time.



Supplemental Table 1 Odds ratio for treatment with peritoneal dialysis or home hemodialysis of individuals of different race/ethnicity

Race/Ethnicity	Peritoneal Dialysis		Home Hemodialysis	
	Unadjusted Odds Ratio (95%CI)	Adjusted Odds Ratio (95%CI) ⁽¹⁾	Unadjusted Odds Ratio (95%CI)	Adjusted Odds Ratio (95%CI) ⁽¹⁾
White	Reference	Reference	Reference	Reference
Black	0.64 (0.61, 0.66)	0.53 (0.50, 0.56)	0.49 (0.44, 0.54)	0.40 (0.36, 0.44)
Hispanic	0.74 (0.71, 0.78)	0.57 (0.53, 0.61)	0.27 (0.23, 0.32)	0.25 (0.21, 0.30)
Asian	1.01 (0.99, 1.10)	0.82 (0.72, 0.93)	0.49 (0.38, 0.64)	0.53 (0.41, 0.69)
Other	0.80 (0.73, 0.87)	0.60 (0.52, 0.68)	0.45 (0.35, 0.59)	0.44 (0.33, 0.57)

⁽¹⁾ Adjusted for age, gender, primary health insurance, geographic location at the time of starting treatment with the modality, incidence year, cause of ESRD, history of previous transplant, presence of diabetes, hypertension, congestive heart failure, atherosclerotic heart disease, other cardiovascular disease, access type at the time of first dialysis.

Supplemental Table 2 Baseline characteristics of patients, stratified by race/ethnicity, treated with in-center hemodialysis

	White	Black	Hispanic	Asian	Other
No. of subjects	67,026	43,007	20,596	4,727	5,033
Age, years	66 ± 14	58 ± 15	59 ± 15	63 ± 15	60 ± 15
% Male	59	53	58	56	56
Primary Health Insurance, %					
Medicare	60	52	48	47	51
Medicaid	4	7	13	9	7
Initially Uninsured	3	4	6	4	5
Veterans Affairs	1	1	1	<1	1
Other*	33	36	33	39	36
Cause of ESRD, %					
Diabetes	43	42	60	49	56
Hypertension	26	39	22	29	23
Glomerular Disease	11	9	7	10	8
Other	20	10	11	12	13
h/o previous transplant, %	2	1	1	1	1
Comorbidities, %					
Diabetes	53	56	65	56	64
Hypertension	48	60	44	47	44
Congestive Heart Failure	36	35	37	35	36
Atherosclerotic Heart Disease	16	12	12	9	12
Other Cardiovascular	18	13	11	9	12
Dyslipidemia	26	23	22	25	24
Access Type at start of in-center HD					
Central Venous Catheter	68	69	73	66	70
AV Fistula	19	15	16	19	18
AV Graft	4	7	3	5	4

	White	Black	Hispanic	Asian	Other
Unknown	9	9	8	10	8
Baseline Body Mass Index, kg/m ²	28 ± 7	29 ± 8	28 ± 6	24 ± 5	28 ± 7
Lab Variables from the first 91-days period of treatment with in-center HD					
Hemoglobin, g/dL	11.2 ± 1.2	10.9 ± 1.2	11.3 ± 1.2	11.2 ± 1.2	11.2 ± 1.1
Iron Saturation, %	22 [17, 27]	22 [18, 28]	23 [18, 28]	24 [19, 30]	22 [18, 28]
Serum Ferritin, ng/mL	293 [169, 512]	315 [178, 556]	280 [159, 491]	376 [213, 644]	318 [174, 539]
Serum Albumin, g/dL	3.5 ± 0.5	3.5 ± 0.5	3.5 ± 0.5	3.6 ± 0.5	3.5 ± 0.5
Serum Calcium, mg/dl	8.7 ± 0.6	8.7 ± 0.7	8.5 ± 0.6	8.6 ± 0.6	8.6 ± 0.6
Serum Phosphorous, mg/dL	4.9 ± 1.2	4.9 ± 1.2	5.1 ± 1.2	5.0 ± 1.2	5.1 ± 1.3
Parathyroid hormone, pg/mL	262 [163, 401]	400 [254, 610]	324 [212, 485]	296 [194, 431]	318 [205, 471]
Alkaline phosphatase, IU/L	85 [67, 112]	86 [68, 115]	95 [75, 124]	82 [65, 106]	89 [70, 117]
Hemoglobin A1C, %	6.2 [5.6, 7.0]	6.2 [5.6, 7.1]	6.4 [5.7, 7.3]	6.2 [5.7, 7.0]	6.3 [5.7, 7.2]
Potassium, meq/L	4.5 ± 0.5	4.3 ± 0.5	4.6 ± 0.6	4.5 ± 0.5	4.5 ± 0.5
Bicarbonate, meq/L	24 ± 3	24 ± 3	23 ± 3	23 ± 3	23 ± 3
IV medication from the first 91-days period of treatment with in-center HD					
Cumulative Iron, mg/month	800 [200, 1300]	800 [175, 1350]	800 [200, 1300]	600 [100, 1200]	800 [175, 1300]
ESA Median Week Dose, units	4620 [1467, 11880]	4644 [1466, 11826]	4491 [1328, 11338]	4708 [1540, 11733]	4714 [1523, 11739]
Geographic Location, %					
Northeast	15	12	7	8	7
Midwest	26	17	5	9	9
West	22	11	52	67	49
South	37	60	35	16	35
Year of Incidence, %					
2007	21	22	21	20	23
2008	21	21	21	20	24

	White	Black	Hispanic	Asian	Other
2009	21	21	21	22	19
2010	20	20	20	22	20
2011	16	15	16	17	14

Data are presented as mean \pm standard deviation, median [Interquartile range] or proportion where appropriate

*Includes Medicare Advantage plans, managed care Medicaid, and employer-based health insurance

Supplemental Table 3 Events rates and hazards ratio for all-cause mortality by race/ethnicity in patients treated with different dialysis modalities

Race/ Ethnicity	N	Events	Event rate, per 1000 patient-year	Hazards Ratio (95% confidence interval)		
				Unadjusted	Primary Analysis (Adjusted for age, gender, diabetes)	Sensitivity Analysis (Fully Adjusted)
Peritoneal Dialysis						
White	10,123	1,675	127	Reference	Reference	Reference
Black	4,094	326	57	0.44 (0.39, 0.49)	0.63 (0.56, 0.71)	0.54 (0.47, 0.61)
Hispanic	2,263	197	60	0.48 (0.41, 0.55)	0.64 (0.55, 0.75)	0.58 (0.50, 0.68)
Asian	1,130	59	52	0.43 (0.33, 0.56)	0.49 (0.38, 0.64)	0.51 (0.39, 0.67)
Other	598	69	78	0.64 (0.50, 0.81)	0.75 (0.59, 0.95)	0.73 (0.57, 0.93)
Home Hemodialysis						
White	1,753	177	89	Reference	Reference	Reference
Black	525	23	39	0.43 (0.28, 0.67)	0.57 (0.37, 0.89)	0.52 (0.32, 0.84)
Hispanic	139	10	71	0.74 (0.39, 1.39)	0.85 (0.45, 1.60)	0.73 (0.39, 1.36)
Asian	61	3	37	0.45 (0.15, 1.38)	0.58 (0.19, 1.77)	0.51 (0.16, 1.60)
Other	58	2	29	0.34 (0.08, 1.36)	0.37 (0.09, 1.48)	0.32 (0.08, 1.29)

In-Center Hemodialysis						
White	67,026	19,800	200	Reference	Reference	Reference
Black	43,007	8,705	114	0.58 (0.56, 0.59)	0.73 (0.72, 0.75)	0.69 (0.67, 0.71)
Hispanic	20,596	3,595	99	0.50 (0.48, 0.51)	0.62 (0.60, 0.64)	0.58 (0.56, 0.60)
Asian	4,727	838	104	0.52 (0.49, 0.56)	0.55 (0.52, 0.59)	0.51 (0.47, 0.55)
Other	5,033	999	112	0.56 (0.53, 0.60)	0.67 (0.63, 0.71)	0.63 (0.59, 0.67)

Adjustment for age, gender, primary health insurance, geographic location at the time of starting PD, home HD, or in-center HD, incidence year, cause of ESRD, history of previous transplant, presence of diabetes, hypertension, congestive heart failure, atherosclerotic heart disease, other cardiovascular disease, laboratory variables from the first 91-day period of start of PD, home HD, or in-center HD (hemoglobin, calcium, phosphorous, parathyroid hormone, ferritin, iron saturation, CO₂, potassium), and modality-specific variables (PD: weekly total Kt/V_{urea}, weekly residual renal Kt/V_{urea}, use of automated PD, and 4-hour dialysate-to-plasma creatinine; home HD: access type in the first 91-day period of therapy, and urea reduction ratio). Body mass index was available and included in analyses for in-center or home HD; interval from date of first dialysis to start of PD or home HD was included for analyses of outcomes for patients treated with PD and home HD, respectively.

Supplemental Table 4 Events rates and hazards ratio for transfer to in-center hemodialysis by race/ethnicity in patients treated with different dialysis modalities

Race/ Ethnicity	N	Events	Event rate, per 1000 patient-year	Hazards Ratio (95% confidence interval)		
				Unadjusted	Primary Analysis (Adjusted for age, gender, diabetes)	Sensitivity Analysis (Fully Adjusted)
Peritoneal Dialysis						
White	10,123	1,606	122	Reference	Reference	Reference
Black	4,094	925	161	1.46 (1.35, 1.58)	1.37 (1.26, 1.49)	1.24 (1.13, 1.36)
Hispanic	2,263	423	128	1.17 (1.05, 1.30)	1.07 (0.96, 1.19)	1.02 (0.91, 1.14)
Asian	1,130	94	83	0.76 (0.62, 0.93)	0.74 (0.60, 0.91)	0.77 (0.62, 0.95)
Other	598	90	101	0.91 (0.73, 1.12)	0.86 (0.69, 1.06)	0.81 (0.66, 1.00)
Home Hemodialysis						
White	1,753	282	142	Reference	Reference	Reference
Black	525	109	184	1.40 (1.12, 1.74)	1.41 (1.12, 1.77)	1.65 (1.28, 2.13)
Hispanic	139	29	205	1.49 (1.00, 2.21)	1.45 (0.97, 2.16)	1.46 (0.95, 2.23)
Asian	61	6	74	0.56 (0.25, 1.26)	0.56 (0.25, 1.28)	0.47 (0.20, 1.12)
Other	58	10	146	1.12 (0.59, 2.13)	1.13 (0.60, 2.14)	1.14 (0.59, 2.20)

Adjustment for age, gender, primary health insurance, geographic location at the time of starting PD, home HD, or in-center HD, incidence year, cause of ESRD, history of previous transplant, presence of diabetes, hypertension, congestive heart failure, atherosclerotic heart disease, other cardiovascular disease, laboratory variables from the first 91-day period of start of PD, home HD, or in-center HD (hemoglobin, calcium, phosphorous, parathyroid hormone, ferritin, iron saturation, CO₂, potassium), and modality-specific variables (PD: weekly total Kt/V_{urea}, weekly residual renal Kt/V_{urea}, use of automated PD, and 4-hour dialysate-to-plasma creatinine; home HD: access type in the first 91-day period of therapy, and urea reduction ratio). Body mass index was available and included in analyses for in-center or home HD; interval from date of first dialysis to start of PD or home HD was included for analyses of outcomes for patients treated with PD and home HD, respectively.

Supplemental Table 5 Events rates and hazards ratio for transplantation by race/ethnicity in patients treated with different dialysis modalities

Race/ Ethnicity	N	Events	Event rate, per 1000 patient-year	Hazards Ratio (95% confidence interval)		
				Unadjusted	Primary Analysis (Adjusted for age, gender, diabetes)	Sensitivity Analysis (Fully Adjusted)
Peritoneal Dialysis						
White	10,123	885	67	Reference	Reference	Reference
Black	4,094	275	48	0.74 (0.64, 0.84)	0.54 (0.47, 0.62)	0.66 (0.57, 0.76)
Hispanic	2,263	150	45	0.73 (0.61, 0.86)	0.52 (0.44, 0.62)	0.67 (0.55, 0.80)
Asian	1,130	74	65	1.12 (0.89, 1.42)	0.88 (0.69, 1.12)	0.90 (0.69, 1.16)
Other	598	51	57	0.94 (0.71, 1.24)	0.77 (0.58, 1.03)	0.85 (0.63, 1.15)
Home Hemodialysis						
White	1,753	165	83	Reference	Reference	Reference
Black	525	35	59	0.71 (0.50, 1.02)	0.57 (0.40, 0.83)	0.63 (0.41, 0.98)
Hispanic	139	12	85	0.97 (0.54, 1.74)	0.84 (0.46, 1.53)	0.78 (0.41, 1.48)
Asian	61	6	77	1.01 (0.45, 2.27)	0.81 (0.36, 1.83)	0.67 (0.30, 1.53)
Other	58	3	44	0.56 (0.18, 1.73)	0.51 (0.16, 1.62)	0.55 (0.17, 1.74)

In-Center Hemodialysis						
White	67,026	2,498	25	Reference	Reference	Reference
Black	43,007	1,064	14	0.61 (0.57, 0.66)	0.39 (0.36, 0.42)	0.46 (0.42, 0.49)
Hispanic	20,596	654	18	0.81 (0.74, 0.88)	0.52 (0.49, 0.58)	0.63 (0.57, 0.69)
Asian	4,727	169	21	0.94 (0.81, 1.10)	0.78 (0.66, 0.91)	0.81 (0.68, 0.95)
Other	5,033	195	22	0.97 (0.84, 1.12)	0.70 (0.61, 0.82)	0.78 (0.67, 0.91)

Adjustment for age, gender, primary health insurance, geographic location at the time of starting PD, home HD, or in-center HD, incidence year, cause of ESRD, history of previous transplant, presence of diabetes, hypertension, congestive heart failure, atherosclerotic heart disease, other cardiovascular disease, laboratory variables from the first 91-day period of start of PD, home HD, or in-center HD (hemoglobin, calcium, phosphorous, parathyroid hormone, ferritin, iron saturation, CO₂, potassium), and modality-specific variables (PD: weekly total Kt/V_{urea}, weekly residual renal Kt/V_{urea}, use of automated PD, and 4-hour dialysate-to-plasma creatinine; home HD: access type in the first 91-day period of therapy, and urea reduction ratio). Body mass index was available and included in analyses for in-center or home HD; interval from date of first dialysis to start of PD or home HD was included for analyses of outcomes for patients treated with PD and home HD, respectively.