

SUPPLEMENTAL MATERIAL

SUPPLEMENTAL TABLES

Table S1. Number of events and event rate by baseline dialysis stdKt/V category among patients undergoing home hemodialysis (n = 2,373) and in-center hemodialysis (n = 109,273).

	StdKt/V	Mortality		Hospitalization		Transfer to in-center hemodialysis	
		Events	Crude rate (95% CI) ^a	Events	Crude rate (95% CI) ^a	Events	Crude rate (95% CI) ^a
Home hemodialysis	<2.1	86	6.8 (5.4, 8.2)	587	68.6 (63.0, 74.2)	184	14.5 (12.4, 16.6)
	2.1-<2.3	38	7.0 (4.7, 9.2)	230	65.9 (57.4, 74.5)	67	12.3 (9.3, 15.2)
	≥2.3	58	8.0 (5.9, 10.0)	321	67.7 (60.3, 75.1)	102	14.0 (11.3, 16.8)
In-center hemodialysis	<2.1	7287	14.9 (14.6, 15.3)	21,356	105.9 (104.4, 107.3)	-	-
	2.1-<2.3	7733	15.1 (14.8, 15.4)	21,476	99.1 (97.8, 100.5)	-	-
	≥2.3	13502	16.0 (15.7, 16.3)	36,994	108.7 (107.6, 109.8)	-	-

^a Rates per 100 person-years

Table S2. Restricted cohort: Number of events and event rate by baseline dialysis stdKt/V category among patients undergoing home hemodialysis (n = 2,373) and in-center hemodialysis (n = 109,273), stratified by availability of data for residual kidney function.

Home hemodialysis

	StdKt/V	Mortality		Hospitalization		Transfer to in-center hemodialysis	
		Events	Crude rate (95% CI) ^a	Events	Crude rate (95% CI) ^a	Events	Crude rate (95% CI) ^a
Residual Kidney Function Data (N = 347)	<2.1	6	2.7 (0.5, 4.8)	88	49.2 (38.9, 59.5)	25	11.1 (6.8, 15.5)
	2.1-<2.3	3	6.4 (0.0, 13.7)	20	52.9 (29.7, 76.1)	5	10.7 (1.3, 20.2)
	≥2.3	1	2.0 (0.0, 6.0)	17	44.4 (23.3, 65.5)	6	12.2 (2.4, 22.0)
No Residual Kidney Function Data (N = 2,026)	<2.1	80	7.7 (6.0, 9.4)	499	73.7 (67.2, 80.2)	159	15.3 (12.9, 17.7)
	2.1-<2.3	35	7.0 (4.7, 9.3)	210	67.5 (58.4, 76.7)	62	12.4 (9.3, 15.5)
	≥2.3	57	8.4 (6.2, 10.6)	304	69.7 (61.9, 77.6)	96	14.2 (11.3, 17.0)

^a Rates per 100 person-years

In-center Hemodialysis

	StdKt/V	Mortality		Hospitalization	
		Events	Crude rate (95% CI) ^a	Events	Crude rate (95% CI) ^a
Residual Kidney Function Data (N = 31,748)	<2.1	2681	12.6 (12.1, 13.1)	8593	87.1 (85.3, 89.0)
	2.1-<2.3	2251	13.5 (12.9, 14.1)	6613	86.1 (84.1, 88.2)
	≥2.3	2317	14.1 (13.6, 14.7)	6890	94.9 (92.7, 97.1)
No Residual Kidney Function Data (N = 77,525)	<2.1	4606	16.7 (16.2, 17.2)	12763	123.8 (121.7, 126.0)
	2.1-<2.3	5482	15.9 (15.5, 16.3)	14863	106.3 (104.6, 108.0)
	≥2.3	11185	16.5 (16.2, 16.8)	30104	112.4 (111.2, 113.7)

^a Rates per 100 person-years

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Table S3. Baseline characteristics of patients ever treated with in-center hemodialysis, stratified by presence or absence of data on residual kidney function.

		Residual Kidney Function Data	No Residual Kidney Function Data
<i>n</i>	109,273	31,748	77,525
Age	63 ± 15	62±15	63±15
Sex (% female)	43	36	46
Body mass index (kg/m ²)	28 ± 7	29.02±7.53	27.78±7.22
Weekly treatment frequency	3 (3, 3)	3 (3, 3)	3 (3, 3)
Mean treatment time (minutes)	212 ± 23	208±24	213±23
Weekly interdialytic weight gain (kg)	5.7 ± 2.9	6±3	6±3
Race (%)			
White	47	55	44
Black	31	27	33
Asian	3	4	3
Hispanic	15	11	16
Other	4	4	4
Primary Insurance (%)			
Medicare	54	51	55
Medicaid	6	6	7
Other Insurance	40	43	38
Access Type (%)			
CVC	78	76	79
AV Fistula	15	18	14
AV Graft	4	4	4
Unknown	3	2	3
Facility Region (%)			
Northeast	13	10	14
Midwest	18	22	17
South	43	39	44
West	25	27	24
Coexisting Illnesses (%)			
Diabetes	58	59	58
Hypertension	51	50	52
Atherosclerotic heart disease	14	14	15
Congestive heart failure	37	38	37
Other cardiovascular disease	15	15	15
Cerebrovascular disease	2	2	2
Chronic obstructive pulmonary disease	5	5	5
History of malignancy	2	2	2

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IV Medications			
Iron (median monthly dose)	333 (150, 483)	367 (183, 533)	333 (133, 467)
ESA (median weekly dose)	26,400 (16,500, 36,300)	26,400 (16,500, 36,300)	26,400 (16,200, 36,300)
Laboratory Data			
Albumin (g/dl)	3.5 ± 0.5	3.57±0.46	3.49±0.48
Creatinine (mg/dl)	5.9 ± 2.4	5.85±2.35	5.88±2.36
Potassium (mEq/L)	4.4 ± 0.5	4.43±0.49	4.41±0.52
Sodium (mEq/L)	138 ± 3	138.21±2.92	138.16±3.07
Bicarbonate (mg/dl)	24 ± 3	23.46±2.62	23.65±2.7
Hemoglobin (g/dL)	11.1 ± 1.2	11.26±1.11	11.07±1.19
Ferritin (ng/mL)	282 (164, 481)	267 (156, 447)	289 (168, 497)
Total iron binding capacity (mg/dl)	225 ± 49	232.11±47.11	222.63±49.17
Iron Saturation (%)	23 ± 9	22.63±8.36	23.23±9.19
Calcium (mg/dl)	9.1 ± 0.6	9.07±0.54	9.11±0.57
Phosphorus (mg/dl)	4.9 ± 1.1	4.99±1.12	4.9±1.15
Intact Parathyroid Hormone (pg/mL)	314 (198, 486)	312 (202, 478)	315 (197, 490)
Alkaline Phosphatase (U/L)	87 (69, 115)	84 (67, 110)	88 (70, 116)
WBC (x10 ³ /μl)	7.8 ± 2.7	7.76±2.62	7.82±2.66
Lymphocytes, % of total WBCs	21 ± 8	20.68±7.46	20.7±7.5

Abbreviations: CVC, central venous catheter; AV, arteriovenous; IV, intravenous; ESA, erythropoiesis stimulating agent; WBC, white blood cells

Data presented as mean ± SD, median (interquartile range), or percentage. Values presented are from the first 91-day period after initiation of in-center hemodialysis

Table S4. Restricted Cohort: Associations of dialysis and renal stdKt/V with clinical outcomes in patients with available data on residual kidney function treated with in-center hemodialysis (N = 31,748)

	StdKt/V	Hazards Ratio (95% Confidence Interval)					
		Mortality			Hospitalization		
		Unadjusted	Minimally Adjusted ^a	Fully Adjusted ^b	Unadjusted	Minimally Adjusted ^a	Fully Adjusted ^b
Dialysis StdKt/V	<2.1	0.95 (0.91, 1.02)	1.04 (0.98, 1.10)	1.07 (1.01, 1.14)	1.03 (0.99, 1.06)	1.05 (1.02, 1.09)	1.08 (1.04, 1.11)
	2.1-<2.3	Reference	Reference	Reference	Reference	Reference	Reference
	≥2.3	1.04 (0.98, 1.10)	0.99 (0.94, 1.05)	0.95 (0.89, 1.01)	1.08 (1.04, 1.11)	1.04 (1.01, 1.08)	1.02 (0.98, 1.06)
Renal StdKt/V	<0.5	1.21 (1.15, 1.28)	1.29 (1.22, 1.36)	1.23 (1.16, 1.30)	1.09 (1.05, 1.12)	1.10 (1.06, 1.13)	1.05 (1.02, 1.09)
	0.5-<1.0	Reference	Reference	Reference	Reference	Reference	Reference
	≥1.0	0.95 (0.89, 1.01)	0.91 (0.86, 0.97)	0.94 (0.88, 0.99)	0.96 (0.92, 0.99)	0.95 (0.92, 0.98)	0.97 (0.94, 1.0)

^a Data adjusted for age, sex, and race/ethnicity

^b Data adjusted for demographic characteristics above, plus body mass index, diabetes status, history of congestive heart failure, history of atherosclerotic heart disease, serum albumin, and vascular access type. Additionally, minimally adjusted and fully adjusted dialysis stdKt/V models are adjusted for renal stdKt/V. Minimally adjusted and fully adjusted renal stdKt/V models are adjusted for dialysis stdKt/V.

Table S5. Sensitivity Analysis: Associations of quintiles of baseline stdKt/V with clinical outcomes in patients treated with home hemodialysis

Outcome	StdKt/V Quintile	Number of Patients	Number of Events	Hazard Ratio	95% CI
Mortality	<1.76	442	33	0.87	0.54, 1.39
	1.76-<1.99	442	33	0.94	0.59, 1.51
	1.99-<2.18	432	42	Reference	Reference
	2.18-<2.41	421	53	1.2	0.79, 1.83
	>2.41	430	45	1.02	0.66, 1.58
Hospitalization	<1.76	442	248	1.18	0.97, 1.41
	1.76-<1.99	442	238	1.15	0.96, 1.39
	1.99-<2.18	432	224	Reference	Reference
	2.18-<2.41	421	232	1.05	0.87, 1.27
	>2.41	430	240	1.04	0.87, 1.26
Transfer to In-Center Hemodialysis	<1.76	442	84	1.24	0.89, 1.73
	1.76-<1.99	442	79	1.24	0.89, 1.73
	1.99-<2.18	432	66	Reference	Reference
	2.18-<2.41	421	70	1.04	0.74, 1.46
	>2.41	430	80	1.15	0.83, 1.60

Data adjusted for age, sex, race/ethnicity, body mass index, coexisting diabetes, history of congestive heart failure, history of atherosclerotic heart disease, serum albumin, and vascular access type

Table S6. Sensitivity Analysis: Associations of baseline stdKt/V with clinical outcomes in patients treated with home hemodialysis, modeling stdKt/V as a binary exposure.

A. StdKt/V <2.1 versus ≥ 2.1

Outcome	StdKt/V category	Number of Patients	Number of Events	Adjusted Hazard Ratio ^a	95% CI
All-cause Mortality	<2.1	1221	96	0.98	0.74, 1.31
	≥ 2.1	1152	110	Reference	Reference
Hospitalization	<2.1	1221	611	1.07	0.95, 1.20
	≥ 2.1	1152	571	Reference	Reference
Transfer to in-center hemodialysis	<2.1	1221	202	1.15	0.93, 1.41
	≥ 2.1	1152	177	Reference	Reference

^a Hazard ratio estimates adjusted for age, sex, race/ethnicity, BMI, coexisting diabetes, history of CHF, history of atherosclerotic heart disease, serum albumin, and vascular access type

B. StdKt/V <2.3 versus ≥ 2.3

Outcome	StdKt/V category	Number of Patients	Number of Events	Adjusted Hazard Ratio ^a	95% CI
All-cause Mortality	<2.3	1717	142	0.94	0.69, 1.28
	≥ 2.3	656	64	Reference	Reference
Hospitalization	<2.3	1717	849	1.03	0.89, 1.17
	≥ 2.3	656	333	Reference	Reference
Transfer to in-center hemodialysis	<2.3	1717	273	1.01	0.80, 1.28
	≥ 2.3	656	106	Reference	Reference

^a Hazard ratio estimates adjusted for age, sex, race/ethnicity, BMI, coexisting diabetes, history of CHF, history of atherosclerotic heart disease, serum albumin, and vascular access type

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Table S7. Sensitivity analysis: Associations of time-varying stdKt/V with clinical outcomes in patients treated with home hemodialysis and in-center hemodialysis.

	StdKt/V	Hazard Ratio (95% Confidence Interval)		
		All-cause mortality	Hospitalization	Transfer to In-Center Hemodialysis
Home hemodialysis	<2.1	1.24 (0.82, 1.88)	1.13 (0.96, 1.32)	1.25 (0.94, 1.67)
	2.1-<2.3	Reference	Reference	Reference
	≥2.3	1.44 (0.95, 2.21)	1.05 (0.89, 1.25)	0.97 (0.71, 1.34)
In-Center hemodialysis	<2.1	1.36 (1.31, 1.41)	1.19 (1.16, 1.21)	-
	2.1 to <2.3	Reference	Reference	-
	≥ 2.3	0.89 (0.87, 0.92)	0.94 (0.93, 0.96)	-

Data adjusted for age, sex, race/ethnicity, body mass index, coexisting diabetes, history of congestive heart failure, history of atherosclerotic heart disease, serum albumin, and vascular access type

SUPPLEMENTAL FIGURES

FIGURE S1. Construction of study cohort.

