SUPPLEMENTAL MATERIAL TABLE OF CONTENTS

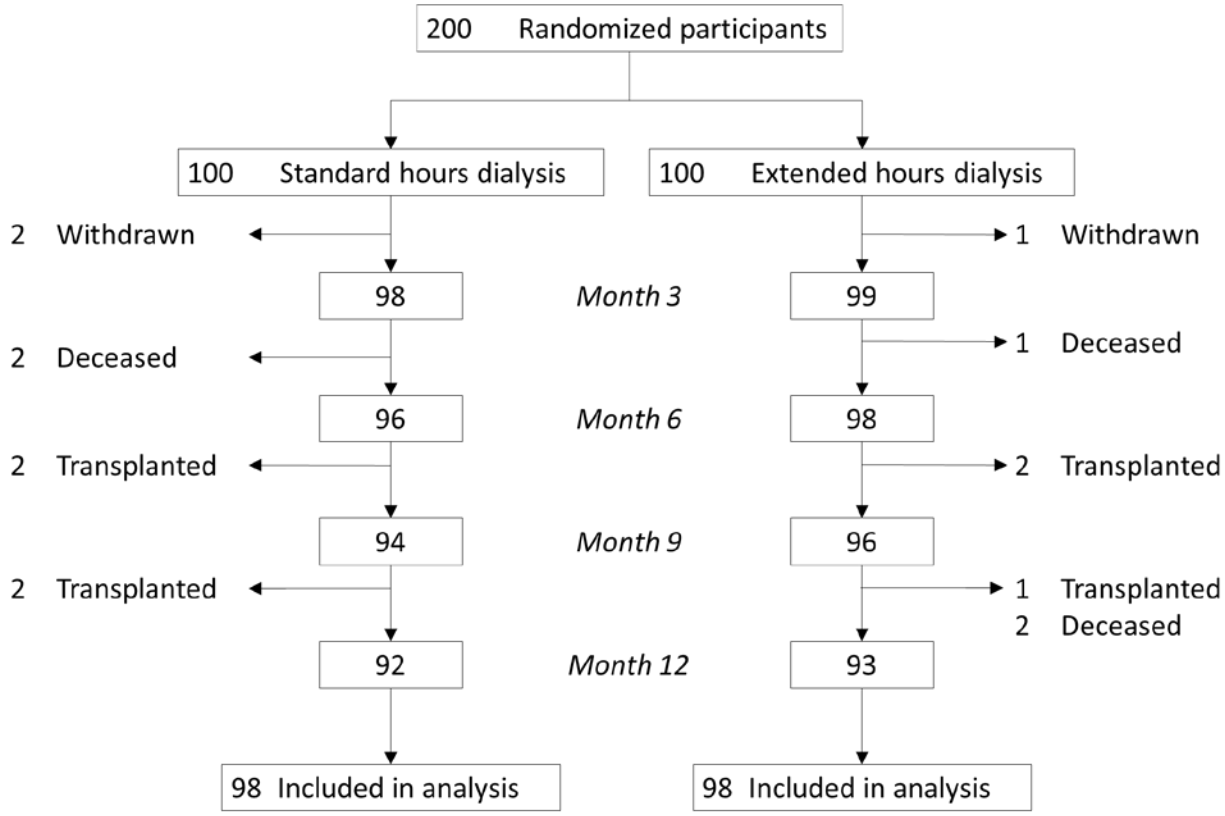
Supplemental Table 1. Missing value summary

	Standard hours dialysis			Extended dialysis hours		
	Missing	Remaining participants	Complete (%)	Missing	Remaining participants	Complete (%)
BASELINE						
EQ5D	0	100	100	1	100	99
SF6D	6	100	94	3	100	97
SF36 PCS	7	100	93	3	100	97
SF36 MCS	7	100	93	3	100	97
KDCS	0	100	100	0	100	100
MONTH 3						
EQ5D	7	98	92.9	9	99	90.9
SF6D	9	98	90.8	12	99	87.9
SF36 PCS	11	98	88.8	16	99	83.8
SF36 MCS	11	98	88.8	16	99	83.8
KDCS	9	98	90.8	10	99	89.9
MONTH 6						
EQ5D	14	96	85.4	12	98	87.8
SF6D	19	96	80.2	17	98	82.7
SF36 PCS	21	96	78.1	20	98	79.6
SF36 MCS	21	96	78.1	20	98	79.6
KDCS	14	96	85.4	14	98	85.7
MONTH 9						
EQ5D	8	94	91.5	15	96	84.4
SF6D	11	94	88.3	18	96	81.3
SF36 PCS	14	94	85.1	18	96	81.3
SF36 MCS	14	94	85.1	18	96	81.3
KDCS	8	94	91.5	17	96	82.3
MONTH 12						
EQ5D	4	92	95.7	4	93	95.7
SF6D	6	92	93.5	6	93	93.5
SF36 PCS	10	92	89.1	10	93	89.2
SF36 MCS	10	92	89.1	10	93	89.2
KDCS	5	92	94.6	4	93	95.7
		AVERAGE	89.7		**AVERAGE**	88.6

Supplemental Table 2. Mean quality of life scores over the study duration

		Baseline		3 months		6 months		9 months		12 months	
Score	**Treatment Group**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**	**Mean**	**SD**
EQ5D	Standard	0.762	0.245	0.737	0.282	0.715	0.328	0.713	0.314	0.709	0.291
	Extended	0.792	0.233	0.764	0.273	0.796	0.269	0.723	0.314	0.762	0.278
Short Form-6 Dimension	Standard	0.682	0.115	0.673	0.112	0.665	0.128	0.675	0.13	0.666	0.141
	Extended	0.677	0.129	0.696	0.142	0.698	0.134	0.691	0.14	0.695	0.137
PCS	Standard	39.95	9.36	40.36	10.04	40.19	10.4	39.19	10.2	38.38	10.57
	Extended	39.54	9.93	41.91	11.27	41.95	10.73	40.79	10.84	41.49	10.01
MCS	Standard	50.07	10.49	48.75	10.72	46.93	11.84	48.43	11.1	47.89	11.61
	Extended	48.33	11.02	50.91	10.13	50.09	10.69	48.62	12.52	49.48	11.59
Kidney Disease Component Summary	Standard	66.58	12.53	64.94	13	63.79	15.72	64.99	14.44	64.98	14.48
	Extended	65.96	13.86	67.7	14.07	67.78	13.59	67.03	14.54	66.75	14.35

Supplemental Figure 1. Participant flow



Use of Chinese population preference weights

EQ5D-3L preference weights obtained from Liu GG, Wu H, Li M, Gao C, Luo N. Chinese time trade-off values for EQ-5D health states. *Value Health.* 2014;17(5):597-604.

Average treatment effect for EQ5D: 0.034 (95%CI -0.010, 0.078; P=0.13)

SF6D preference weights obtained from Lam CL, Brazier J, McGhee SM. Valuation of the SF-6D Health States Is Feasible, Acceptable, Reliable, and Valid in a Chinese Population. *Value Health*. 2008;11(2):295-303.

Average treatment effect for SF6D: 0.034 (95%CI 0.007, 0.062; P=0.014)

Holm-Bonferroni adjustment for multiple comparisons

Holm described a method for adjusting the alpha for each hypothesis test that provides equivalent control of family-wise error rate to the original Bonferroni method, but additional power. The method requires *P*-values to be ranked from lowest to highest, then the alpha for each hypothesis test is derived as the total alpha divided by number of hypothesis tests+1-rank. Sequential rejection is then undertaken, commencing with the hypothesis test ranked 1, and continuing up the ranked tests until a *P*-value above the adjusted alpha (i.e. null hypothesis is retained) is identified. The null hypotheses for any subsequent hypothesis tests are automatically considered to be retained (regardless of adjusted alpha). Adjusted *P*-values (P_{adj}) can be derived according to rank, which permits comparison with the familiar alpha of 0.05.

Derivation of Holm-Bonferroni adjusted alpha values in the present analysis:

	P-value	Rank	Adjustment calculation	Adjusted alpha	Null hypothesis	*P*-value calculation	P_{adj}
Kidney Disease Component Summary	0.001	1	0.05/(5-1+1)	0.01	Reject	*P*(5-1+1)	0.005
Physical Component Summary	0.01	2	0.05/(5-2+1)	0.0125	Reject	*P*(5-2+1)	0.04
Mental Component Summary	0.016	3	0.05/(5-3+1)	0.01667	Reject	*P*(5-3+1)	0.048
Short Form-6 Dimension	0.026	4	0.05/(5-4+1)	0.025	Retain	*P*(5-4+1)	0.052
EuroQOL-5 Dimension	0.223	5	0.05/(5-5+1)	0.05	Automatically retained	*P*(5-5+1)	0.223

Reference

Holm S. A Simple Sequentially Rejective Multiple Test Procedure. *Scand J Stat*. 1979;6(2):65-70.

Results of following imputation of missing values

EQ5D-3L
Average intervention effect: 0.029 (95%CI -0.026, 0.084; P=0.307)
QALY mean difference : 0.045 (-0.022, 0.112; P=0.185)
Mean QALYs
standard arm: 0.724 (0.675, 0.772)
extended arm: 0.767 (0.723, 0.814)

SF6D
Average intervention effect : 0.026 (95%CI 0.004, 0.049; P=0.021)
QALY mean difference : 0.022 (95%CI -0.015, 0.059; P=0.245)
Mean QALYs
standard arm: 0.662 (0.636, 0.687)
extended arm: 0.684 (0.657, 0.711)

PCS
Average intervention effect: 1.95 (95%CI 0.34, 3.57; P=0.018)

MCS
Average intervention effect: 2.66 (95%CI 0.68, 4.63; P=0.009)

KDCS
Average intervention effect: 3.30 (95%CI 1.35, 5.25; P=0.001)

Meta-analysis of randomized trials of intensive hemodialysis

The authors are aware of three other randomized trials of intensive hemodialysis.

	N	Duration (months)	Intervention (setting)	Control (setting)
Culleton, et al.[1]	51	6	5-6x/week; ≥6 hours/session (home, nocturnal)	3x/week; spKt/V≥1.2 (in-center)
FHN Daily[2]	245	12	5-6x/week; 1.5-2.75 hours/session (in-center)	3x/week; eKt/V≥1.1 (in-center)
FHN Nocturnal[3]	87	12	6x/week; ≥6 hours/session (home)	3x/week; <5 hours/session eKt/V≥1.1 (home)

Either in the primary publication, or in secondary analyses, all present mean change in SF-36 physical and mental component scores. Meta-analysis was performed using the effect estimate and 95% confidence intervals for mean difference in score between groups. This was derived directly where possible.[4,5] Confidence intervals for PCS from FHN Daily were derived from Figure 1C – which presents standardized effect sizes – using WebPlotDigitizer (https://automeris.io/WebPlotDigitizer/) and back transformation based on the reported adjusted mean difference of 3.2 points.[2] Both unadjusted and adjusted PCS effect estimates were provided for the FHN Nocturnal study[3] and the unadjusted estimate was chosen for meta-analysis, in line with the methodology used in the ACTIVE Dialysis study analysis.

Meta-analysis was performed in Stata/IC 15.1 (StataCorp, USA), using the *metan* command and inputting effect estimates and 95% confidence intervals with the *random* option (random effects as per DerSimonian and Laird) specified.

References

[1] Culleton BF, Walsh M, Klarenbach SW, et al. Effect of frequent nocturnal hemodialysis vs conventional hemodialysis on left ventricular mass and quality of life: A randomized controlled trial. *JAMA.* 2007;298(11):1291-9.
[2] Rocco MV, Lockridge RS, Beck GJ, Eggers PW, Gassman JJ, Greene T, et al. The effects of frequent nocturnal home hemodialysis: the Frequent Hemodialysis Network Nocturnal Trial. *Kidney Int.* 2011;80(10):1080-91.
[3] Chertow GM, Levin NW, Beck GJ, Depner TA, Eggers PW, Gassman JJ, et al. In-Center Hemodialysis Six Times per Week versus Three Times per Week. *N Engl J Med.* 2010;363(24):2287-300.
[4] Unruh ML, Larive B, Chertow GM, Eggers PW, Garg AX, Gassman J, et al. Effects of 6-times-weekly versus 3-times-weekly hemodialysis on depressive symptoms and self-reported mental health: Frequent Hemodialysis Network (FHN) Trials. *Am J Kidney Dis.* 2013;61(5):748-58.
[5] Manns BJ, Walsh MW, Culleton BF, Hemmelgarn B, Tonelli M, Schorr M, et al. Nocturnal hemodialysis does not improve overall measures of quality of life compared to conventional hemodialysis. *Kidney Int.* 2009;75(5):542-9.