A randomised controlled trial assessing the effectiveness and cost effectiveness of thrice weekly, extended, in-centre nocturnal haemodialysis versus standard care using a mixed methods approach: NightLife

End of Study Report

Trial registration: ISRCTN87042063

Report details:
Statistical Report Version: V1.0
Date: 19-02-2026
Author: Ghazala Waheed
Reviewers: Cassey Brookes and Professor James Burton

Data lock date: 2nd September 2025
Based on Protocol: V5.0, 1st October 2025
Based on SAP: version 1.0; 09-07-2025
Software: Stata v19

IRAS Number:	280452
REC Reference Number:	20/WM/0275
Funder Reference:	NIHR127440
CAG reference:	20/CAG/0136

Key Contacts

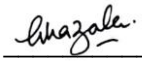
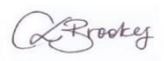
Sponsor:	University of Leicester Research and Enterprise Division University Road Leicester, LE1 7RH Email: RGOsponsor@leicester.ac.uk
Principal Statistician:	Cassey Brookes Leicester Clinical Trials Unit University of Leicester Maurice Shock Building University Road Leicester, LE1 7RH Email: cassey.brookes@leicester.ac.uk
Trial Statistician:	Ghazala Waheed Leicester Clinical Trials Unit University of Leicester Maurice Shock Building University Road Leicester, LE1 7RH Email: gw179@leicester.ac.uk
Lead Statistician and Co-Applicant	Professor Laura Gray Division of Public Health and Epidemiology School of Medical Sciences University of Leicester Email: lg48@leicester.ac.uk
Chief Investigator:	Professor James Burton Division of Cardiovascular Sciences School of Medical Sciences University of Leicester Email: jb343@leicester.ac.uk
Clinical Research Fellow:	Dr Katherine Hull Division of Cardiovascular Sciences School of Medical Sciences University of Leicester Email: kh326@leicester.ac.uk
Senior Trial Manager:	Cathy Young Leicester Clinical Trials Unit University of Leicester Maurice Shock Building University Road Leicester, LE1 7RH Email: nightlife@leicester.ac.uk
Former Senior Trial Manager:	Niamh Quann Division of Cardiovascular Sciences School of Medical Sciences University of Leicester Email: nq8@leicester.ac.uk

Contents

List of Tables

List of Figures

Statistical Report approval for finalised version:

Trial Statistician	***Ghazala Waheed***	
		19/02/2026
	Signature	**Date**
Chief Investigator	***Professor James Burton***	
		25/02/2026
	Signature	**Date**
Principal Statistician	***Cassey Brookes***	
		12/03/2025
	Signature	**Date**

1 Introduction

This document details the analyses for reporting results from the study titled **A randomised controlled trial assessing the effectiveness and cost effectiveness of thrice weekly, extended, in-centre nocturnal haemodialysis versus standard care using a mixed methods approach (NightLife)**. The results reported in this document follow the strategy set out in the Statistical Analysis Plan (SAP) (Version 1.0; 09-07-2025). Any exploratory analyses not pre-specified in the protocol and/or SAP will be expected to follow the broad principles laid out in the SAP and will be reported as post-hoc analyses in this report.
The analysis strategy will be available on request when the principal papers are submitted for publication in a journal. Suggestions for subsequent analyses by journal editors or referees, will be considered carefully, and carried out as far as possible in line with the principles of the analysis strategy; if reported, the source of the suggestion will be acknowledged.

Any deviations from the SAP will be described and justified in this report.

1.1 Changes from previous versions of the statistical report

Revision History

0.1	09/10/2025	Ghazala Waheed	Not applicable as this was the initial draft version.
0.2	10/10/2025	Ghazala Waheed	Amended following review by Cassey Brookes and implementation of all necessary changes and comments.
0.3	14/10/2025	Ghazala Waheed	Medication information table added in response to request from James Burton.
0.4	22/10/2025	Ghazala Waheed	Amended following review by Katherine Hull, Niamh Quann and Laura Gray, implementation of all necessary changes and comments.
0.4	13/02/2026	Ghazala Waheed	Amended CONSORT diagram screening numbers by Katherine Hull and Cathy Young
1.0	19/02/2026	Ghazala Waheed	Final version

1.2 Software employed

All statistical analyses were undertaken using Stata Version 19.0 (StataCorp, College Station, Texas, United States). The University of Leicester possesses a licence for the use of this programme.

2 Trial Methods

2.1 Interim Analysis and Data Review

A Data Safety Monitoring Committee (DSMC) was in place for the NightLife study, comprising an Independent Chair, Independent Statistician, and Independent Clinician. This committee met approximately every six months during the active recruitment period to assess the progress, conduct and critical endpoints of the study, monitor recruitment and protocol compliance, as well as participant safety.

No interim statistical tests/analysis were carried out prior to data lock or before all participants randomised had completed the study according to the protocol.

2.2 Changes to original randomisation

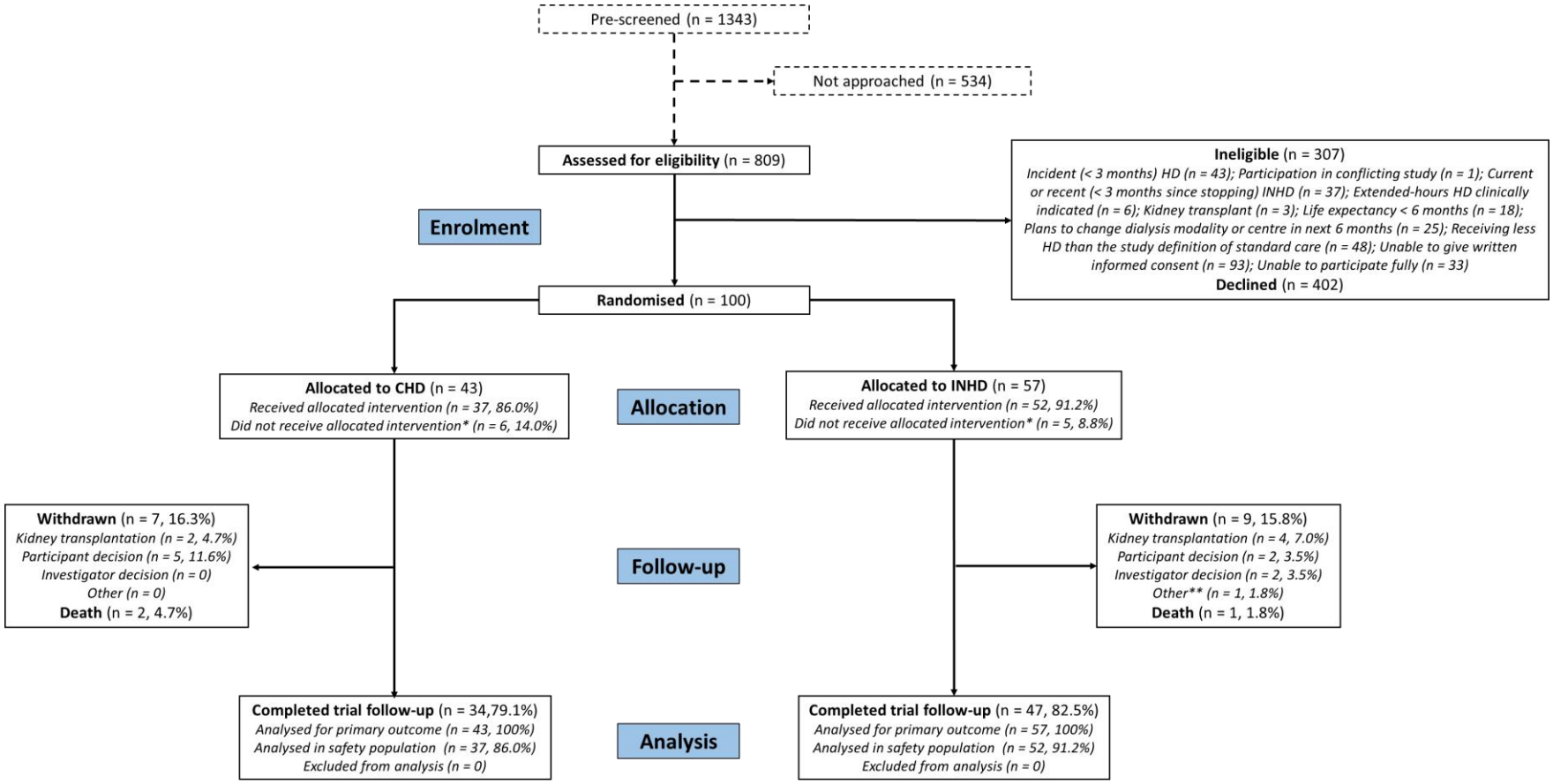
The original sample size was 350 participants (200 to the intervention arm and 150 to the control arm) with a randomisation ratio of 1.33:1 to overcome an anticipated crossover from the intervention arm to the control arm and to ensure adequate power in a per protocol analysis. In practice, the observed crossover was lower than expected, therefore the Trial Steering Committee (TSC) agreed to change to a conventional 1:1 randomisation. In addition, the TSC agreed to include the 1-month and 3-month KDQoL measures in the analysis. These two changes combined enabled a reduction in the sample size to 216 participants (108 to the intervention arm and 108 to the control arm).

2.3 Deviations from the statistical analysis plan

The trial was stopped early, resulting in an underpowered study. The original statistical analysis plan was followed, with the exception of subgroup analyses, which were conducted descriptively and formal statistical testing was not performed.

A Complier Average Causal Effect (CACE) analysis was conducted and adjusted for additional covariates—time since dialysis initiation and time since onset of end-stage renal disease—which were not pre-specified in the SAP.

3 CONSORT Diagram



*Participants did not receive their allocated intervention as they withdrew following randomisation.
**Participant had frequent hospital admissions due to complications from an ischaemic foot.

4 Randomisation by minimisation variables

Table 1: Minimisation variable age and haemodialysis unit

	Daytime dialysis	Nocturnal dialysis	Total
Randomised participants	43 (100%)	57 (100%)	100 (100%)
Category of age			
Age <65 years	28 (65.1%)	42 (73.7%)	70 (70.0%)
Age ≥65 years	15 (34.9%)	15 (26.3%)	30 (30.0%)
Haemodialysis unit			
BCU-1: Ysbyty Gwynedd Renal Unit	4 (9.30%)	6 (10.5%)	10 (10.0%)
GGC-1: New Victoria Hospital Dialysis Unit	0 (0.0%)	2 (3.51%)	2 (2.00%)
KCH-1: Dulwich Satellite Unit	8 (18.6%)	11 (19.3%)	19 (19.0%)
MFT-2: Tameside Renal Dialysis Unit	8 (18.6%)	9 (15.8%)	17 (17.0%)
MFT-3: Octogan Satellite Unit	6 (14.0%)	8 (14.0%)	14 (14.0%)
NEW-1: Daisy Hill Renal Unit	5 (11.6%)	8 (14.0%)	13 (13.0%)
STT-1: Stockton Dialysis Unit	1 (2.33%)	1 (1.75%)	2 (2.00%)
UHL-1: Leicester General Hospital Renal Unit	3 (6.98%)	2 (3.51%)	5 (5.00%)
UHL-2: Kettering Renal Unit	2 (4.65%)	2 (3.51%)	4 (4.00%)
UHL-7: Loughborough Renal Unit	2 (4.65%)	1 (1.75%)	3 (3.00%)
UHL-8: Hamilton Renal Unit	4 (9.30%)	7 (12.3%)	11 (11.0%)

5 Disposition of Patients by treatment arm

Table 2: Disposition of patients by treatment arm

	Daytime dialysis n (%)	Nocturnal dialysis n (%)	Total n (%)
Randomised participants	43	57	100
Completed trial follow-up	34 (79.1%)	47 (82.5%)	81 (81.0%)
Discontinued treatment early	9 (20.9%)	10 (17.5%)	19 (19.0%)
Withdrawn:			
Due to kidney transplant	2 (4.65%)	4 (7.02%)	6 (6.00%)
Participant decision to withdraw consent	5 (11.6%)	2 (3.51%)	7 (7.00%)
Investigator decision	0 (0.0%)	2 (3.51%)	2 (2.00%)
Other reason *(if available)*	0 (0.0%)	*1 (1.75%)	1 (1.00%)
Participant deceased	2 (4.65%)	1 (1.75%)	3 (3.00%)
Withdrawn within 1st 2 weeks	4 (9.30%)	2 (3.51%)	6 (6.00%)
Early terminate - active follow-up	2 (4.65%)	7 (12.3%)	9 (9.00%)
Early terminate - long term remote follow-up	1 (2.33%)	1 (1.75%)	2 (2.00%)
Terminated optional CMR sub- study only	3 (6.98%)	3 (5.26%)	6 (6.00%)
Compliance with randomisation			
Switched treatment from:			
*Permanent change (crossover)^*	0 (0.00%)	7 (12.3%)	7 (7.00%)
Temporary change	3 (6.98%)	30 (52.6%)	33 (33.0%)
Randomised participants with Protocol Deviations	22 (51.2%%)	49 (85.9%)	71 (71.0%)
1-4 deviations	13 (59.1%)	33 (67.3%)	46 (64.8%)
>=5 deviations	9 (40.9%)	16 (32.7%)	25 (35.2%)
Number of Protocol Deviations	95	222	317

* Frequent hospital admissions for ischaemic foot complications.
^Agitation and unable to sleep overnight.
^Became too anxious on nocturnal haemodialysis (HD), requested to return to daytime HD.
^Difficulty sleeping on nocturnal haemodialysis.
^ Frequent hospital admissions for ischaemic foot complications; no longer wished to do nights and declined continuation of the study.
^ Participant changed to daytime sessions due to sleeping problems on extended hours nocturnal haemodialysis
^Temporary crossover due to being hospital inpatient. Participant subsequently changed permanently.
^Participant non-compliant due to sleeping difficulties and anxiety.

6 Demographics and Baseline characteristics

Table 3: Demographic and Baseline Clinical Characteristics

Characteristics	Descriptive	Daytime Dialysis	Nocturnal Dialysis	Total
Demographics				
Age	**N**	43	57	100
	Mean [SD]	55.0 [16.9]	52.3 [15.9]	53.5 [16.3]
	Median [IQR]	58.0 [41.0, 67.0]	52.0 [41.0, 67.0]	52.5 [41.0, 67.0]
	Min, Max	19.0, 86.0	22.0, 78.0	19.0, 86.0
Gender				
	Male	30 (69.8%)	42 (73.7%)	72 (72.0%)
	Female	13 (30.2%)	15 (26.3%)	28 (28.0%)
Ethnicity				
	White British	24 (55.8%)	36 (63.2%)	60 (60.0%)
	Asian or Asian British	6 (14.0%)	3 (5.3%)	9 (9.0%)
	Black or Black British	13 (30.2%)	15 (26.3%)	28 (28.0%)
	Other ethnic group	0 (0.0%)	3 (5.3%)	3 (3.0%)
Time since dialysis began (Years)	**N**	43	57	100
	Mean [SD]	3.0 [4.4]	2.6 [2.3]	2.7 [3.4]
	Median [IQR]	1.7 [0.7, 3.6]	1.9 [0.8, 3.6]	1.8 [0.7, 3.6]
	Min, Max	0.3, 25.6	0.3, 9.1	0.3, 25.6
Time since end stage renal failure (Years)	**N**	43	57	100
	Mean [SD]	3.5 [4.7]	4.4 [6.3]	4.0 [5.7]
	Median [IQR]	2.1 [0.7, 4.4]	2.1 [1.0, 4.9]	2.1 [0.9, 4.6]
	Min, Max	0.3, 25.6	0.3, 29.8	0.3, 29.8
Baseline Characteristics				
Urine collection and paired blood samples for residual kidney function				
Urine volume result (mL)	**N**	9	19	28
	Mean [SD]	1006.6 [460.7]	1037.7 [759.5]	1027.7 [669.1]
	Median [IQR]	1136.0 [700.0, 1178.0]	800.0 [481.0, 1600.0]	957.5 [623.0, 1391.0]
	Min, Max	200.0, 1700.0	15.0, 2466.0	15.0, 2466.0
Creatinine clearance (mls/min)	**N**	5	15	20
	Mean [SD]	5.5 [4.3]	7.7 [9.4]	7.1 [8.4]
	Median [IQR]	6.4 [2.7, 6.5]	3.8 [0.8, 10.0]	4.4 [1.1, 8.9]
	Min, Max	0.3, 11.6	0.4, 28.5	0.3, 28.5
Urea clearance (mls/min)		6	18	24
	Mean [SD]	2.0 [1.2]	3.2 [5.6]	2.9 [4.9]
	Median [IQR]	2.0 [1.6, 2.6]	1.7 [0.5, 3.7]	1.7 [0.5, 3.3]
	Min, Max	0.1, 3.6	0.0, 24.4	0.0, 24.4
Blood Results				
Haemoglobin (g/L)	**N**	40	57	97
	Mean [SD]	115.5 [13.1]	111.1 [12.9]	112.9 [13.1]
	Median [IQR]	117.5 [107.5, 122.0]	111.0 [104.0, 117.0]	112.0 [104.0, 121.0]
	Min, Max	80.0, 152.0	79.0, 151.0	79.0, 152.0
Ferritin (ug/L)	**N**	37	53	90
	Mean [SD]	383.6 [216.4]	444.5 [271.4]	419.4 [250.7]
	Median [IQR]	372.0 [240.0, 468.0]	381.0 [277.0, 528.0]	379.5 [273.0, 522.0]
	Min, Max	47.0, 897.0	18.0, 1396.0	18.0, 1396.0
TSAT (Transferrin saturation) %	**N**	23	36	59
	Mean [SD]	25.3 [12.5]	26.1 [17.6]	25.8 [15.7]
	Median [IQR]	23.0 [15.0, 34.0]	21.5 [17.0, 27.5]	23.0 [17.0, 32.0]
	Min, Max	8.0, 59.0	10.0, 95.0	8.0, 95.0
Calcium (mmol/L)	**N**	40	57	97
	Mean [SD]	2.3 [0.2]	2.2 [0.2]	2.3 [0.2]
	Median [IQR]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]

	Min, Max	2.0, 2.6	1.5, 2.5	1.5, 2.6
Potassium (mmol/L)	**N**	40	55	95
	Mean [SD]	4.9 [0.9]	5.1 [1.0]	5.0 [1.0]
	Median [IQR]	4.9 [4.3, 5.4]	5.1 [4.3, 6.0]	5.0 [4.3, 5.6]
	Min, Max	3.1, 7.4	3.2, 7.2	3.1, 7.4
Phosphate (mmol/L)	**N**	40	57	97
	Mean [SD]	1.7 [0.7]	1.7 [0.6]	1.7 [0.7]
	Median [IQR]	1.5 [1.2, 2.0]	1.7 [1.3, 2.1]	1.6 [1.2, 2.1]
	Min, Max	0.6, 4.3	0.6, 3.4	0.6, 4.3
Parathyroid Hormone Test (pmol/L)	**N**	24	37	61
	Mean [SD]	59.5 [50.0]	68.9 [68.5]	65.2 [61.6]
	Median [IQR]	43.6 [24.5, 82.6]	55.1 [25.2, 91.2]	52.4 [25.2, 86.3]
	Min, Max	0.5, 183.0	0.4, 384.8	0.4, 384.8
Residual kidney function (serum beta 2-M) (mg/L)	**N**	27	39	66
	Mean [SD]	19.1 [11.5]	21.5 [10.6]	20.5 [11.0]
	Median [IQR]	18.9 [7.3, 28.9]	23.2 [9.7, 29.7]	21.2 [8.5, 29.4]
	Min, Max	3.8, 40.3	4.0, 42.4	3.8, 42.4
Assessment of dialysis adequacy				
Pre-dialysis urea (mmol/L)	**N**	38	56	94
	Mean [SD]	19.8 [7.4]	21.1 [6.6]	20.6 [6.9]
	Median [IQR]	19.4 [14.2, 24.6]	21.1 [17.4, 25.6]	20.2 [16.0, 24.8]
	Min, Max	7.2, 37.3	7.3, 36.2	7.2, 37.3
Post-dialysis urea (mmol/L)	**N**	33	52	85
	Mean [SD]	5.7 [2.6]	6.0 [3.3]	5.9 [3.0]
	Median [IQR]	5.3 [3.4, 7.4]	5.4 [3.4, 8.5]	5.3 [3.4, 7.6]
	Min, Max	1.1, 10.3	1.0, 13.4	1.0, 13.4
Post-dialysis weight (kg)	**N**	40	55	95
	Mean [SD]	81.9 [23.0]	83.4 [21.1]	82.8 [21.8]
	Median [IQR]	77.2 [68.6, 92.1]	83.3 [68.0, 97.7]	78.0 [68.6, 96.8]
	Min, Max	39.8, 139.4	48.5, 128.8	39.8, 139.4
Ultrafiltration volume removed (mLs)	**N**	40	57	97
	Mean [SD]	1902.7 [1000.6]	2026.2 [1172.7]	1975.2 [1101.2]
	Median [IQR]	2000.0 [1200.0, 2650.0]	2000.0 [1300.0, 2900.0]	2000.0 [1300.0, 2700.0]
	Min, Max	0.0, 4000.0	0.0, 4500.0	0.0, 4500.0
Urea reduction ratio (%)	**N**	32	51	83
	Mean [SD]	70.2 [13.2]	71.4 [14.2]	70.9 [13.8]
	Median [IQR]	69.0 [66.0, 77.5]	75.0 [65.0, 80.0]	73.0 [65.0, 79.0]
	Min, Max	12.0, 86.0	4.0, 91.0	4.0, 91.0
Kt/V calculation	**N**	32	49	81
	Mean [SD]	1.5 [0.4]	1.5 [0.5]	1.5 [0.5]
	Median [IQR]	1.3 [1.2, 1.8]	1.5 [1.2, 1.8]	1.4 [1.2, 1.8]
	Min, Max	0.2, 2.3	0.1, 2.8	0.1, 2.8
Pre dialysis systolic blood pressure (mm Hg)	**N**	40	56	96
	Mean [SD]	146.2 [25.5]	146.4 [28.9]	146.3 [27.4]
	Median [IQR]	146.5 [128.5, 166.5]	144.5 [126.5, 168.0]	145.5 [127.5, 168.0]
	Min, Max	85.0, 187.0	77.0, 196.0	77.0, 196.0
Pre dialysis diastolic blood pressure (mm Hg)	**N**	40	56	96
	Mean [SD]	77.6 [17.9]	77.8 [16.7]	77.7 [17.1]
	Median [IQR]	78.5 [65.0, 87.0]	79.0 [65.5, 87.5]	79.0 [65.0, 87.0]
	Min, Max	44.0, 116.0	48.0, 125.0	44.0, 125.0

Abbreviations: SD= Standard deviation; IQR= Inter-quartile range
NB: *N represents the number of participants with available data for the variable.*

Table 4: Previous medical history and physical examination by treatment arm and overall

Characteristics	Category	Daytime Dialysis=43	Nocturnal Dialysis=57	Total = 100 N (%)
Previous kidney transplant	No	35 (81.4%)	47 (82.5%)	82 (82.0%)
	Yes	8 (18.6%)	10 (17.5%)	18 (18.0%)
Dyslipidaemia	No	32 (74.4%)	44 (77.2%)	76 (76.0%)
	Yes	11 (25.6%)	13 (22.8%)	24 (24.0%)
Peripheral vascular disease	No	40 (93.0%)	49 (86.0%)	89 (89.0%)
	Yes	3 (7.0%)	8 (14.0%)	11 (11.0%)
Myocardial Infarction	No	39 (90.7%)	48 (84.2%)	87 (87.0%)
	Yes	4 (9.3%)	9 (15.8%)	13 (13.0%)
Congestive heart failure	No	39 (90.7%)	47 (82.5%)	86 (86.0%)
	Yes	4 (9.3%)	10 (17.5%)	14 (14.0%)
Cerebrovascular accident	No	40 (93.0%)	55 (96.5%)	95 (95.0%)
	Yes	3 (7.0%)	2 (3.5%)	5 (5.0%)
Transient ischaemic attacks	No	41 (95.3%)	56 (98.2%)	97 (97.0%)
	Yes	2 (4.7%)	1 (1.8%)	3 (3.0%)
Atrial fibrillation	No	37 (86.0%)	50 (87.7%)	87 (87.0%)
	Yes	6 (14.0%)	7 (12.3%)	13 (13.0%)
Hypertension	No	12 (27.9%)	11 (19.3%)	23 (23.0%)
	Yes	31 (72.1%)	46 (80.7%)	77 (77.0%)
Ischaemic heart disease	No	37 (86.0%)	47 (82.5%)	84 (84.0%)
	Yes	6 (14.0%)	10 (17.5%)	16 (16.0%)
Chronic obstructive pulmonary disease (COPD)	No	41 (95.3%)	55 (96.5%)	96 (96.0%)
	Yes	2 (4.7%)	2 (3.5%)	4 (4.0%)
Connective tissue disease	No	42 (97.7%)	55 (96.5%)	97 (97.0%)
	Yes	1 (2.3%)	2 (3.5%)	3 (3.0%)
Peptic ulcer disease	No	43 (100.0%)	55 (96.5%)	98 (98.0%)
	Yes	0 (0.0%)	2 (3.5%)	2 (2.0%)
Liver disease	No	40 (93.0%)	53 (93.0%)	93 (93.0%)
	Yes	3 (7.0%)	4 (7.0%)	7 (7.0%)
Diabetes Mellitus	No	25 (58.1%)	31 (54.4%)	56 (56.0%)
	Yes	18 (41.9%)	26 (45.6%)	44 (44.0%)
Type of Diabetes Mellitus	Type 1	6 (14.0%)	5 (8.8%)	11 (11.0%)
	Type 2	11 (25.6%)	20 (35.1%)	31 (31.0%)
	Other	1 (2.3%)	1 (1.8%)	2 (2.0%)
Hemiplegia	No	43 (100.0%)	57 (100.0%)	100 (100.0%)
	Yes	0 (0.0%)	0 (0.0%)	0 (0.0%)
Solid tumour	No	37 (86.0%)	56 (98.2%)	93 (93.0%)
	Yes	6 (14.0%)	1 (1.8%)	7 (7.0%)
Leukaemia	No	43 (100.0%)	56 (98.2%)	99 (99.0%)
	Yes	0 (0.0%)	1 (1.8%)	1 (1.0%)
Lymphoma	No	43 (100.0%)	57 (100.0%)	100 (100.0%)
	Yes	0 (0.0%)	0 (0.0%)	0 (0.0%)
AIDS	No	43 (100.0%)	57 (100.0%)	100 (100.0%)
	Yes	0 (0.0%)	0 (0.0%)	0 (0.0%)
	No	43 (100.0%)	55 (96.5%)	98 (98.0%)

Pulmonary embolism	Yes	0 (0.0%)	2 (3.5%)	2 (2.0%)
Deep vein thrombosis	No	42 (97.7%)	54 (94.7%)	96 (96.0%)
	Yes	1 (2.3%)	3 (5.3%)	4 (4.0%)
Sleep apnoea	No	41 (95.3%)	54 (94.7%)	95 (95.0%)
	Yes	2 (4.7%)	3 (5.3%)	5 (5.0%)
Cognitive deficit	No	43 (100.0%)	56 (98.2%)	99 (99.0%)
	Yes	0 (0.0%)	1 (1.8%)	1 (1.0%)
Depression	No	37 (86.0%)	50 (87.7%)	87 (87.0%)
	Yes	6 (14.0%)	7 (12.3%)	13 (13.0%)
COVID-19	No	33 (76.7%)	39 (68.4%)	72 (72.0%)
	Yes	10 (23.3%)	18 (31.6%)	28 (28.0%)
COVID-19 related				
Hospital admission to ICU		0 (0.0%)	1 (1.8%)	1 (1.0%)
Hospitalisation admission (non-ICU)		3 (7.0%)	6 (10.5%)	9 (9.0%)
Positive test with mild symptoms		6 (14.0%)	7 (12.3%)	13 (13.0%)
Positive test with no symptoms		1 (2.3%)	4 (7.0%)	5 (5.0%)

7 Treatment Adherence

Each participant was classified as either adherent or non- adherent based on the 80% adherence rule. The total number of sessions that occurred outside the randomised treatment group—including sessions where participants temporarily received a different treatment (e.g., those randomised to nocturnal haemodialysis but attended daytime haemodialysis sessions, and vice versa) or permanently crossed over—as well as completely missed sessions, were summed. Participants were then classified into a binary variable 'adherent or 'non- adherent based on a cut-point of 15 sessions, where 15 or more missed or incorrect sessions observed were classified as 'non- adherent.

Table 5: Participants' treatment adherence

Compliance with treatment		Daytime dialysis	Nocturnal dialysis	Total
		N=43	N=57	N=100
Participants non- adherent to treatment allocation*		10 (23.3%)	13 (22.8%)	23 (23.0%)
Sessions attended	N	37	52	89
	Mean [SD]	76.1 (15.6)	74.5 (14.3)	75.2 (14.8)
	Min, Max	15, 94	15, 87	15, 94
Hours per session	N	36	50	86
	Mean [SD]	4.07 (0.38)	6.61 (1.13)	5.55 (1.54)
	Min, Max	3.23, 4.97	4.0, 8.0	3.23, 8.0
Sessions where fewer hours were received	N	12	28	40
	Mean [SD]	23.4 (27.1)	23.2 (21.7)	23.3 (23.1)
	Min, Max	1, 89	1, 75	1, 89
Sessions missed	N	5	4	9
	Mean [SD]	12.2 (15.8)	6.0 (4.97)	9.44 (12.1)
	Min, Max	1, 38	1, 12	1, 38
Temporary change to daytime session	N (Yes)	0	30	-
	Mean [SD]	-	4.39 (5.45)	-
	Min, Max	-	1, 22	-
	Missing**	-	12	-
Additional daytime sessions	N (Yes)	3	0	-
	Mean [SD]	1.5 (0.71)	-	-
	Min, Max	1, 2	-	-
	Missing**	1	-	-

*Attended less than 80% of allocated dialysis sessions. This is defined as: (i) the proportion of participants who temporarily changed from the treatment to which they were allocated; (ii) permanently crossed over; or (iii) those totally missed i.e., participant did not attend haemodialysis appointment(s) during the monthly follow-up period.
**Yes is indicated for sessions swapped but the number of sessions were not given.
Note: Only one individual had sessions length more than 5 hours, and this occurred twice. After crossing over permanently to daytime, the participant received two sessions where the duration exceeded 5 hours.

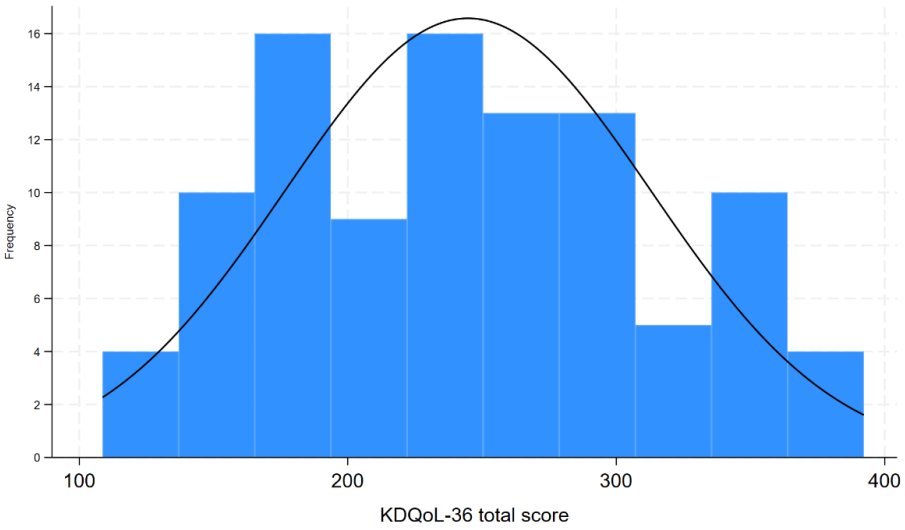
8 Analysis of the Primary Outcome

The primary outcome of the study was defined as the Kidney Disease Quality of Life (KDQoL) total score measured over 6-months. The analysis took place on the intention to treat population. All participants were included in the model. The primary outcome is the KDQoL-36 total score, calculated as the aggregate of the scores from the physical component summary (PCS), mental component summary (MCS) and 3 of the kidney disease targeted domains; effects, symptoms and burden.

Histograms at baseline to check the normality of distribution was presented in graph (Figure 2). The KDQOL total score was normally distributed; therefore, The KDQoL-36 total score over 6 months (i.e. 1-, 3- and 6-months) was compared between the treatment arms using a repeated measures mixed linear regression model with participant as a random effect to account for repeated measures over time. The model was adjusted for a treatment group, minimisation factors (haemodialysis unit and age) with haemodialysis unit as a random effect, and baseline KDQoL-36 total score. Adjusted mean difference between treatment arms and change from baseline in each treatment arm with 95% confidence interval were reported (Table 6).

For the analysis of the KDQoL-36 total score over 6 months (primary outcome) imputation was utilised because the number of participants with missing KDQOL-36 score (1, 3 or 6 months) exceed 5% of data. For the key secondary outcomes (KDQOL-36 total score at 1, 3, and 6 months), missing data were also assessed separately at each follow-up time point. More than 5% of KDQoL-36 data points across follow-up visits were missing, therefore imputation was performed. In line with the 'while alive' estimand strategy for handling death as an intercurrent event, analysis includes the participant's data up to the point of death, with no data included or imputed beyond that time.

Figure 1: Distribution of the KDQoL total score



The adjusted mean difference over 6 months was suggesting an improvement in the nocturnal dialysis compared to daytime dialysis for KDQoL-36 total score (3.00 (-12.4 to 18.3)), but this change was not statistically significant.

Table 6: Comparison of KDQOL-36 total scores between treatment groups over the 6-month follow-up period using imputed data

	Time point	Mean (SD)[$]		Adjusted Mean Change from baseline (95% CI)[¥]		Adjusted Mean Difference Nocturnal versus Daytime (95% CI)[£]	P-value^
		Daytime dialysis N=43	Nocturnal dialysis N=57	Daytime dialysis	Nocturnal dialysis		
KDQoL total score	Baseline	255.2 (70.0)	236.9 (66.4)			-	
	Over 6 months	257.7 (60.3)	247.9 (67.7)	5.88 (-6.57 to 18.3)	8.87 (-2.26 to 20.0)	3.00 (-12.4 to 18.3)	0.702

^A two-sided p-value ≤ 0.05 was considered significant

[$]*Mean and standard deviation (SD) in each treatment arm was calculated at baseline as well as over all the follow-up time points using the* observed data

[¥]*Calculated using mixed effect linear model of the difference from baseline with explanatory variables treatment, age (<65, ≥65) and number of haemodialysis units (stratification variables), visit time point (as categorical variable) and baseline score as fixed effects. Number of haemodialysis units and Participant ID as a random effect to take in to account the repeated measurement (i.e inter-class correlation). Estimated using margins option in Stata.*

[£] *Calculated using mixed effect linear model with explanatory variables of treatment arm, age (<65, ≥65) and number of haemodialysis units (stratification variables), visit time point (categorical) and baseline value as fixed effects with dialysis unit and participant identification as a random effect to account for repeated measures over time.*

9 Sensitivity Analysis of Primary Outcome

9.1 Complier Average Causal Effect (CACE) Analysis

A sensitivity analysis of the primary outcome was performed using the Complier Average Causal Effect (CACE) approach to estimate the treatment effect among participants who adhered to their assigned treatment (compliers). Compliance was defined as attending at least 80% of the assigned dialysis sessions (described in Section 7). The estimation was based on an instrumental variable (IV) approach using randomisation as the instrument. This method relied on standard assumptions: no defiers (monotonicity), randomisation affected outcomes only through the treatment received, and treatment assignment was independent of potential outcomes. The CACE analysis was conducted within a structural equation modelling (SEM) framework, implemented using Stata's gsem command, with random assignment serving as the instrumental variable for treatment received. The analysis was adjusted for predefined covariates, including age, haemodialysis unit, baseline KDQOL-36 score, gender, time since dialysis began (years), and time since end stage renal failure (years). In this approach, the adherence variable was coded as 1 for compliers and 0 for all others, including non-compliers in both the intervention and control groups. The causal effect of treatment among compliers was reported with 95% confidence intervals. Statistical significance was determined at the 5% level.

The adjusted CACE was 1.64 (95% CI: -22.0 to 25.3), indicating that, among participants who complied with the intervention, the adjusted KDQoL-36 total score was on average 1.64 points higher in the Nocturnal dialysis group compared with the Daytime dialysis. However, this result is not statistically significant and the true effect remains uncertain.

Table 7: Complier Average Causal Effect (CACE) of Nocturnal dialysis on KDQoL-36 Total Score

	Number non-compliers	Number compliers	Nocturnal versus Daytime dialysis	P-value
Complier Average Causal Effect (CACE)	56	44	1.64 (-22.0 to 25.3)*	0.892

**Based on an instrumental variable regression model, adjusted for age (<65, ≥65) and number of haemodialysis units (stratification variables), and baseline KDQOL total score, gender, Time since dialysis began, Time since end stage renal failure.*
^A two-sided p-value ≤ 0.05 was considered significant

9.2 Assessing impact of missing data not at random

Post-baseline KDQoL-36 missing data were observed in more than 5% of participants: 15% at visit 1, 17% at visit 3, and 22% at visit 6. Overall, 54% of participants had missing KDQoL-36 data over the 6-month period, approximately equally distributed between the Daytime (26%) and Nocturnal (28%) groups. To assess the robustness of the primary outcome analysis for the KDQoL-36 total score, sensitivity analyses were conducted using the dataset with imputed values.

To assess the impact of data missing not at random (MNAR), a reference-based sensitivity analysis was conducted using a pattern-mixture model with multiple imputation (Morris, Kenward and, Carpenter, 2016). This two-stage approach first imputed missing values under the missing at random (MAR) assumption. In the second stage, imputed values were adjusted for participants who exited early due to kidney transplant. For participants who died after withdrawal, imputed values were retained only up to the date of death.

Two reference-based scenarios were applied:

1. Replacing imputed values with the participant's last observed mean (LMCF), or
2. Replacing them with the control group mean.

The analysis was conducted using the mimix command in Stata (v19.0), which automates the construction of joint distributions and combines results across imputations using Rubin's rules. A total of 20 datasets were imputed, with a fixed random seed (101) to ensure reproducibility. The primary sensitivity analysis used a mixed-effects linear regression model, adjusted for treatment group, minimisation factors (haemodialysis unit and age group), and baseline KDQoL-36 total score. Haemodialysis unit was included as a random effect. For the sensitivity analysis of the key secondary outcome (KDQoL-36 at 1, 3, and 6 months), a simple linear regression model was used, adjusting for treatment group, minimisation factors, and baseline KDQoL-36 score. For three participants with missing data due to death, imputed values were retained only up to the date of death.

Results from the mixed effect linear regression model for each imputed dataset, combined using Rubin's rules, yielded an adjusted mean difference of 5.83 (95% CI: -10.3 to 21.9; p = 0.477) for the LMCF imputation and 6.34 (95% CI: -9.31 to 22.0; p = 0.427) for control group mean imputation, consistent with the intention-to-treat analysis using observed data (Table 8).

Results of the sensitivity analysis of treatment comparisons for KDQoL-36 total Score at 1, 3 and 6 months from simple linear regression model for each imputed dataset, combined using Rubin's rules, were given in Table 9.

Table 8: Sensitivity Analysis of Treatment Comparisons for KDQoL-36 total Score over 6 months

	Adjusted Mean Change from baseline (95% CI)**		Adjusted Mean Difference Nocturnal versus Daytime (95% CI)*	P-value^
Outcomes	**Daytime dialysis (n=43)**	**Nocturnal dialysis (n=57)**		
Primary Analysis:				
KDQoL-36 total score	5.88 (-6.57 to 18.3)	8.87 (-2.26 to 20.0)	3.00 (-12.4 to 18.3)	0.702
According to pattern mixture models:				
KDQoL-36 Total Score				
LMCF imputation	2.97 (-9.24 to 15.2)	8.80 (-1.57 to 19.2)	5.83 (-10.3 to 21.9)	0.477
Mean of the outcome variable in the control group imputation	2.78 (-9.91 to 15.5)	9.12 (-1.90 to 20.1)	6.34 (-9.31 to 22.0)	0.427

*^A two-sided p-value ≤ 0.05 was considered significant *Calculated using mixed effect linear model with explanatory variables of treatment arm, age (<65, ≥65) and number of haemodialysis units (stratification variables), visit number in weeks (categorical) and baseline value as fixed effects with number of haemodialysis units and participant identification as a random effect to account for repeated measures over time.*

***Estimated from the model in * using margins option in Stata.*

Table 9: Sensitivity Analysis of Treatment Comparisons for Secondary Outcome of KDQoL-36 total Score at 1, 3 and 6 months

	Time point	Adjusted Mean Change from baseline (95% CI)**		Adjusted Mean Difference Nocturnal versus Daytime (95% CI)*	P-value^
		Daytime dialysis	Nocturnal dialysis		
KDQoL total score	Baseline	-	-	-	-
	Month-1	8.56 (-4.80 to 21.9)	11.4 (-0.14 to 23.0)	2.85 (-15.0 to 20.8)	0.751
	Month-3	4.44 (-11.1 to 20.0)	8.68 (-5.16 to 22.5)	4.23 (-16.7 to 25.1)	0.688
	Month-6	2.87 (-11.9 to 17.6)	4.44 (-8.18 to 17.1)	1.57 (-18.1 to 21.2)	0.874
LMCF imputation					
KDQoL total score	Baseline	-	-	-	-
	Month-1	3.90 (-9.96 to 17.8)	11.1 (-1.15 to 23.3)	7.17 (-11.6 to 26.0)	0.449
	Month-3	3.27 (-12.6 to 19.1)	8.40 (-5.83 to 22.6)	5.13 (-17.0 to 27.3)	0.645
	Month-6	1.47 (-13.0 to 15.9)	6.14 (-7.10 to 19.4)	4.68 (-15.5 to 24.8)	0.644
Mean of the outcome variable in the control group imputation					
KDQoL total score	Baseline	-	-	-	-
	Month-1	3.79 (-9.95 to 17.5)	11.9 (0.07 to 23.8)	8.14 (-9.98 to 26.3)	0.373
	Month-3	2.70 (-13.2 to 18.6)	9.17 (-4.59 to 22.9)	6.47 (-14.3 to 27.2)	0.536
	Month-6	1.14 (-13.4 to 15.7)	4.74 (-8.43 to 17.9)	3.60 (-16.3 to 23.5)	0.718

^A two-sided p-value ≤ 0.05 was considered significant
**Calculated using simple linear regression model with explanatory variables of treatment arm, age (<65, ≥65) and number of haemodialysis units (stratification variables), and baseline value.*
***Estimated from the model in * using margins option in Stata.*

10 Sub group analysis of Primary Outcomes

Due to the early termination of study recruitment, these analyses were descriptive only. Summary statistics (means, standard deviations, medians, interquartile ranges, and minimum and maximum values) were presented for each subgroup (Table 10). Changes from baseline were presented in Table 11 to allow numerical comparison of subgroups with the primary outcome. Formal statistical testing was not conducted; therefore, no interaction tests or subgroup-specific p-values were reported. The primary outcome analysis was conducted over a 6-month period with missing data imputed. Accordingly, the subgroup analysis was also performed over the same 6-month period using the imputed dataset.

*Table 10: Subgroup Analysis of Age and Haemodialysis Unit (Minimisation variables) on Primary Outcome KDQoL-total score over 6 months on imputed dataset**

		Daytime dialysis N=43	Nocturnal dialysis N=57	Total N=100
Category of age				
Age<65	N	28	42	70
	Mean [SD]	250.8 (58.0)	242.6 (65.1)	245.9 (62.4)
	Median [IQR]	257.9 [200.5- 294.5]	242.8 [200.3- 288.4]	251.1 [200.4- 288.7]
	Min, Max	131.0, 366.1	82.4, 394.7	82.4, 394.7
Age≥65	**N**	15	15	30
	Mean [SD]	271.1 (54.7)	262.3 (64.2)	266.6 (59.6)
	Median [IQR]	267.3 [237.3- 309.1]	252.5 [209.7- 313.8]	263.7 [224.9- 309.1]
	Min, Max	150.4, 381.9	111.9, 379.3	111.9, 381.9
Haemodialysis unit				
BCU-1: Ysbyty Gwynedd Renal Unit	**N**	4	6	10
	Mean [SD]	217.5 (49.5)	238.3 (50.7)	230.9 (50.4)
	Median [IQR]	208.3 [178.2- 270.0]	241.9 [201.9- 283.8]	232.6 [178.7- 274.9]
	Min, Max	150.4, 292.8	150.5, 303.9	150.4, 303.9
GGC-1: New Victoria Hospital Dialysis Unit	**N**	0	2	2
	Mean [SD]	-	290.9 (77.5)	290.9 (77.5)
	Median [IQR]	-	286.7 [215.0- 365.2]	286.7 [215.0- 365.2]
	Min, Max	-	212.3, 379.3	212.3, 379.3
KCH-1: Dulwich Satellite Unit	**N**	8	11	19
	Mean [SD]	254.0 (35.5)	282.4 (57.2)	270.4 (50.9)
	Median [IQR]	262.1 [222.8- 280.9]	273.8 [244.6- 314.3]	266.6 [242.0- 296.0]
	Min, Max	192.0, 302.3	134.3, 394.7	134.3, 394.7
MFT-2: Tameside Renal Dialysis Unit	**N**	8	9	17
	Mean [SD]	224.4 (54.5)	225.5 (85.5)	225.0 (71.9)
	Median [IQR]	222.0 [188.4- 267.0]	244.8 [161.3- 303.5]	222.1 [169.2- 290.3]
	Min, Max	131.0, 313.3	82.4, 368.3	82.4, 368.3
MFT-3: Octogan Satellite Unit	**N**	6	8	14
	Mean [SD]	312.7 (44.1)	248.1 (49.0)	275.8 (56.6)
	Median [IQR]	328.5 [266.2- 342.8]	257.4 [209.8- 286.3]	279.4 [229.1- 326.4]
	Min, Max	242.6, 381.9	145.1, 333.8	145.1, 381.9
NEW-1: Daisy Hill Renal Unit	**N**	5	8	13
	Mean [SD]	267.3 (36.0)	240.3 (59.3)	250.7 (52.7)
	Median [IQR]	269.0 [231.3- 309.1]	239.4 [187.2- 291.0]	257.9 [224.4- 294.3]
	Min, Max	196.2, 317.0	104.6, 328.1	104.6, 328.1

STT-1: Stockton Dialysis Unit	**N**	1	1	2
	Mean [SD]	184.2 (8.11)	265.0 (3.51)	216.6 (44.6)
	Median [IQR]	187.1 [175.1- 190.6]	265.0 [262.5- 267.5]	190.6 [187.1- 262.5]
	Min, Max	175.1, 190.6	262.5, 267.5	175.1, 267.5
UHL-1: Leicester General Hospital Renal Unit	**N**	3	2	5
	Mean [SD]	313.1 (47.5)	260.3 (91.0)	292.0 (70.4)
	Median [IQR]	322.1 [275.1- 347.9]	285.9 [159.8- 332.8]	322.1 [239.8- 347.9]
	Min, Max	237.3, 373.9	148.2, 349.1	148.2, 373.9
UHL-2: Kettering Renal Unit	**N**	2	2	4
	Mean [SD]	218.5 (29.9)	206.9 (29.4)	212.7 (28.9)
	Median [IQR]	212.4 [199.0- 251.4]	208.9 [202.1- 230.6]	208.9 [199.4- 233.8]
	Min, Max	181.8, 254.1	153.8, 237.1	153.8, 254.1
UHL-7: Loughborough Renal Unit	**N**	2	1	3
	Mean [SD]	331.9 (33.0)	225.2 (23.0)	296.4 (60.5)
	Median [IQR]	336.7 [298.6- 365.4]	216.4 [207.9- 251.4]	298.6 [251.4- 342.9]
	Min, Max	288.1, 366.1	207.9, 251.4	207.9, 366.1
UHL-8: Hamilton Renal Unit	**N**	4	7	11
	Mean [SD]	229.7 (46.6)	236.3 (65.7)	233.9 (58.8)
	Median [IQR]	248.9 [196.9- 259.9]	206.2 [190.5- 312.9]	231.2 [190.5- 261.2]
	Min, Max	151.7, 287.6	144.4, 347.4	144.4, 347.4

**Summary statistics based on imputed values, calculated by first taking the average for each participant and then summarising the data. The subgroup analysis was performed over the 6-month period using the imputed dataset*

Table 11: Mean Change From Baseline: Subgroup Analysis by Age and Haemodialysis Unit (Minimisation Variables) for the Primary Outcome (KDQoL-Total Score) Over 6 Months Using the Imputed Dataset

		Daytime dialysis	Nocturnal dialysis	Mean change from baseline (95% CI)	
Category of age		**N=43**	**N=57**	**Daytime**	**Nocturnal**
Age<65, mean (SD)					
Baseline	70	238.1 (69.4)	231.0 (68.6)	-	-
Over 6-months	70	250.8 (58.0)	242.6 (65.1)	12.7 (3.09 to 22.4)	11.6 (3.76 to 19.5)
Age≥65, mean (SD)					
Baseline	30	287.1 (61.3)	253.4 (58.7)	-	-
Over 6-month	30	271.1 (54.7)	262.3 (64.2)	-19.7^ (-32.5 to -6.99)	8.86 (-4.56 to 22.3)
Haemodialysis unit					
BCU-1: Ysbyty Gwynedd Renal Unit					
Baseline	10	246.3 (67.0)	195.1 (37.1)	-	-
Over 6-month	10	217.5 (49.5)	238.3 (50.7)	-36.5 (-72.4 to -0.65)	43.2 (28.2 to 58.1)
GGC-1: New Victoria Hospital Dialysis Unit					
Baseline	2	-	275.0 (130.9)	-	-
Over 6-month	2	-	290.9 (77.5)	-	-
KCH-1: Dulwich Satellite Unit					
Baseline	19	242.7 (53.9)	274.6 (50.6)	-	-
Over 6-month	19	254.0 (35.5)	282.4 (57.2)	11.3 (0.96 to 21.6)	7.76 (-9.58 to 25.1)
MFT-2: Tameside Renal Dialysis Unit					
Baseline	17	231.1 (55.9)	236.4 (94.8)	-	-
Over 6-month	17	224.4 (54.5)	225.5 (85.5)	-6.71 (-18.8 to 5.38)	-10.9 (-26.2 to 4.34)
MFT-3: Octogan Satellite Unit					

Baseline	14	321.0 (58.0)	226.7 (45.6)	-	-
Over 6-month	14	312.7 (44.1)	248.1 (49.0)	-8.25 (-36.1 to 19.8)	21.4 (7.99 to 34.7)
NEW-1: Daisy Hill Renal Unit					
Baseline	13	267.4 (66.9)	229.3 (67.3)	-	-
Over 6-month	13	267.3 (36.0)	240.3 (59.3)	-0.05 (-31.2 to 31.1)	10.9 (-13.3 to 35.2)
STT-1: Stockton Dialysis Unit					
Baseline	2	126.6 (0.00)	222.0 (0.00)	-	-
Over 6-month	2	184.2 (8.11)	265.0 (3.51)	57.6 (37.5 to 77.8)	43.0 (11.4 to 74.6)
UHL-1: Leicester General Hospital Renal Unit					
Baseline	5	270.7 (104.2)	250.0 (137.7)	-	-
Over 6-month	5	313.1 (47.5)	260.3 (91.0)	42.4 (-15.7 to 100.4)	10.3 (-30.3 to 50.9)
UHL-2: Kettering Renal Unit					
Baseline	4	208.5 (71.4)	242.3 (8.46)	-	-
Over 6-month	4	218.5 (29.9)	206.9 (29.4)	10.0 (-22.0 to 42.0)	-35.4 (-69.4 to -1.53)
UHL-7: Loughborough Renal Unit					
Baseline	3	332.7 (43.6)	215.4 (0.00)	-	-
Over 6-month	3	332.0 (33.0)	225.2 (23.0)	-0.71 (-18.6 to 17.2)	9.88 (-11.4 to 17.1)
UHL-8: Hamilton Renal Unit					
Baseline	11	228.5 (76.3)	223.2 (67.6)	-	-
Over 6-month	11	229.7 (46.6)	236.3 (65.7)	1.25 (-22.7 to 25.2)	13.1 (-5.65 to 31.9)

**Summary statistics based on imputed values, calculated by first taking the average for each participant and then summarising the data.*

^ The reason for the difference is that one individual only has one follow-up value (1 month) and thus only contributes once to the average score over 6 months while all others contribute 3 times, likewise with the change from baseline so it's score weighs less in the average of these two values compared to other individuals. Meanwhile it contributes once to the baseline the same as all other individuals so it weighs the same. Therefore the change in raw scores (6 months - baseline) does not equal the mean difference calculated and given in the table.

11 Secondary Outcome Analyses

11.1 Primary Analysis of Secondary Outcomes

For the analysis of KDQoL-36 at 1-, 3- and 6-months, more than 5% of participants had missing at baseline and post-baseline data. Therefore multiple imputation was applied using the same methodology as that used for the primary outcome.

Data were assessed for the normality assumption using histogram for each variable and the distribution of KDQoL total score at 1, 3 and 6 months was found to be normally distributed, therefore outcomes were compared using a simple linear regression model and were adjusted for treatment group, randomisation stratification factors (haemodialysis unit and age), and baseline value of the outcome. Treatment comparison estimates were presented as adjusted mean differences and 95% confidence intervals (95% CI). Statistical significance was considered at less than or equal to 5%.

Table 12: Comparison of KDQoL total score between the two treatment arms at each time point using imputed data

	Time point	Mean (SD)[$]		Adjusted Mean Change from baseline (95% CI)[**]		Adjusted Mean Difference Nocturnal versus Daytime (95% CI)[*]	P-value^
		Daytime dialysis N=43	Nocturnal dialysis N=57	Daytime dialysis	Nocturnal dialysis		
KDQoL total score	Baseline	255.2 (70.0)	236.9 (66.4)	-	-	-	-
	Month-1	261.1 (57.5)	250.3 (67.0)	8.56 (-4.80 to 21.9)	11.4 (-0.14 to 23.0)	2.85 (-15.0 to 20.8)	0.751
	Month-3	257.1 (62.3)	248.3 (68.8)	4.44 (-11.1 to 20.0)	8.68 (-5.16 to 22.5)	4.23 (-16.7 to 25.1)	0.688
	Month-6	254.7 (62.2)	244.9 (68.3)	2.87 (-11.9 to 17.6)	4.44 (-8.18 to 17.1)	1.57 (-18.1 to 21.2)	0.874

**Calculated using simple linear regression model with dependent variable of the outcome at baseline and explanatory variables of treatment arm, age(<65, ≥65) and haemodialysis units (stratification variables)*

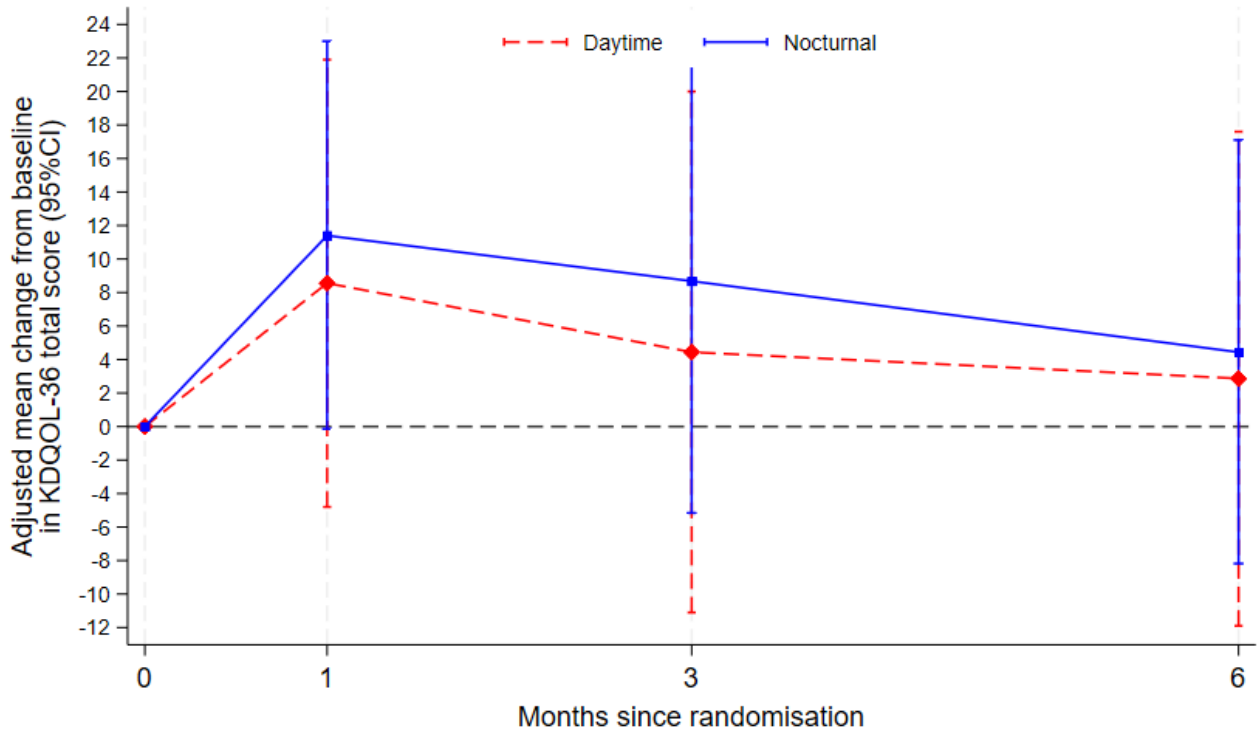
***Estimated from the model * using margins option in Stata.*

^A two-sided p-value ≤ 0.05 was considered significant

[$]Mean and standard deviation (SD) in each treatment arm was calculated at baseline and at each follow-up time points using the observed data.

Note: *In line with the 'while alive' estimand strategy for handling death as an intercurrent event, analysis includes the participant's data up to the point of death, with no data included or imputed beyond that time.*

Figure 2: Adjusted mean change from baseline in KDQoL-36 total score in each treatment arm at each time point with 95% CI



The KDQoL domains were analysed using the same method as the KDQoL total score. Histograms at baseline to check the normality of distributions were presented in graph (Figure 4). Adjusted mean difference between treatment arms and change from baseline in each treatment arm with 95% confidence interval were reported (Table 13).

Figure 3: Distribution of KDQoL Domain scores:

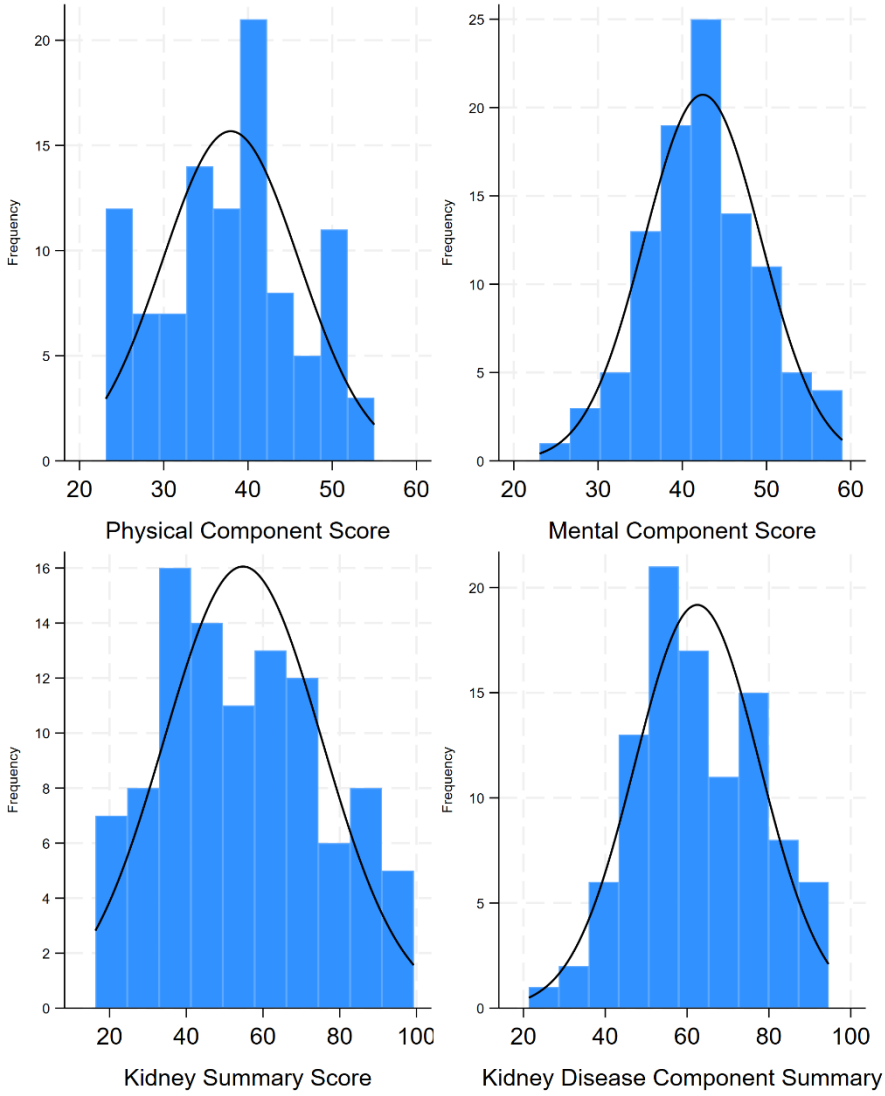


Table 13: Comparison of KDQoL domains scores between the treatment arms over 6 month follow up period

KDQoL domains score	Time point	Mean (SD)[$]				Adjusted Mean Change from baseline (95% CI)[¥]		Adjusted Mean Difference Nocturnal versus Daytime* (95% CI)	P-value*^
		N[£]	Daytime Dialysis (n = 43)	N[£]	Nocturnal Dialysis (n =57)	Daytime dialysis	Nocturnal dialysis		
PCS	Baseline	43	37.7 (8.4)	57	38.1 (8.0)	-		-	
	Over 6 month	43	36.7 (7.6)	57	38.9 (8.4)	-0.21 (-1.79 to 1.37)	0.75 (-0.59 to 2.09)	0.96 (-1.14 to 3.06)	0.371
MCS	Baseline	43	42.9 (7.6)	57	42.1 (6.4)	-	-	-	-
	Over 6 month	43	42.8 (5.9)	57	41.4 (6.9)	-0.17 (-1.50 to 1.17)	-0.83 (-1.96 to 0.30)	-0.67 (-2.44 to 1.11)	0.461
KSS	Baseline	43	58.2 (21.5)	57	52.2 (19.7)	-	-	-	-
	Over 6 month	43	59.3 (17.3)	57	55.7 (19.9)	2.06 (-1.39 to 5.51)	3.49 (0.59 to 6.38)	1.43 (-3.17 to 6.02)	0.543
KDCS	Baseline	43	64.9 (14.7)	57	60.7 (15.5)	-	-	-	-
	Over 6 month	43	64.9 (12.3)	57	65.0 (15.5)	1.25 (-1.17 to 3.66)	3.74 (1.71 to 5.76)	2.49 (-0.72 to 5.70)	0.128

**Calculated using mixed effect linear model with explanatory variables treatment, age (<65, ≥65) and number of haemodialysis units (stratification variables), visit time point (as categorical variable) and baseline score as fixed effects. Participant ID as a random effect to take in to account the repeated measurement (i.e inter-class correlation)*

[¥]Calculated using mixed effect linear model of the difference from baseline with explanatory variables treatment, age (<65, ≥65) and number of haemodialysis units (stratification variables), visit time point (as categorical variable) and baseline score as fixed effects. Participant ID as a random effect to take in to account the repeated measurement (i.e inter-class correlation). Estimated using margins option in Stata.

^A two-sided p-value ≤ 0.05 was considered significant

[£]in the case the follow-up time points (over 6 month) N denotes the number of individuals contributing at least one observation

[$]Mean and standard deviation (SD) in each treatment arm was calculated at baseline as well as over all the follow-up time points using the observed data

The adjusted mean change from baseline in PCS , MCS, KSS and KDCS score in each treatment arm at each time point alongside the 95% CI are presented in table 14 and (Figures 5-8).

Table 14: Comparison of KDQoL domains score between the two treatment arms at each time point

KDQoL-36 domains score	Time	Mean (SD)$				Adjusted Mean Change from baseline (95% CI)**		Adjusted Mean Difference Nocturnal versus Daytime* (95% CI)	P-value*^
		N£	Daytime Dialysis (n = 43)	N£	Nocturnal Dialysis (n =57)	Daytime dialysis	Nocturnal dialysis		
PCS	Baseline	43	37.7 (8.4)	57	38.1 (8.0)	-	-	-	-
	Month-1	36	36.1 (7.0)	48	39.1 (7.5)	-1.25 (-3.45 to 0.95)	0.57 (-1.33 to 2.47)	1.82 (-1.08 to 4.73)	0.219
	Month-3	34	37.8 (7.8)	48	39.4 (8.7)	0.54 (-1.70 to 2.79)	1.10 (-0.80 to 3.01)	0.56 (-2.38 to 3.50)	0.707
	Month-6	33	36.2 (8.1)	44	38.3 (9.2)	-0.87 (-3.14 to 1.39)	0.11 (-1.83 to 2.05)	0.98 (-2.00 to 3.96)	0.519
MCS	Baseline	43	42.9 (7.6)	57	42.1 (6.4)	-	-	-	-
	Month-1	36	43.4 (6.3)	48	41.3 (6.1)	0.60 (-1.78 to 2.98)	-0.56 (-2.62 to 1.49)	-1.17 (-4.31 to 1.97)	0.466
	Month-3	34	41.5 (6.0)	48	40.8 (6.5)	-1.66 (-4.08 to 0.76)	-1.07 (-3.12 to 0.99)	0.59 (-2.58 to 3.76)	0.715
	Month-6	33	43.4 (5.1)	44	42.1 (8.1)	0.39 (-2.05 to 2.84)	0.12 (-1.98 to 2.22)	-0.27 (-3.49 to 2.94)	0.867
KSS	Baseline	43	58.2 (21.5)	57	52.2 (19.7)	-	-	-	-
	Month-1	36	59.1 (17.6)	49	57.4 (19.5)	1.22 (-2.92 to 5.36)	5.32 (1.78 to 8.86)	4.10 (-1.34 to 9.54)	0.140
	Month-3	34	60.5 (17.6)	49	55.5 (20.8)	0.68 (-3.54 to 4.91)	4.29 (0.76 to 7.84)	3.61 (-1.90 to 9.13)	0.199
	Month-6	33	58.2 (17.1)	44	54.2 (19.7)	-0.20 (-4.47 to 4.07)	3.01 (-0.64 to 6.65)	3.21 (-2.40 to 8.82)	0.262
KDCS	Baseline	43	64.9 (14.7)	57	60.7 (15.5)	-	-	-	-
	Month-1	36	65.1 (11.9)	49	64.9 (15.2)	0.89 (-2.04 to 3.81)	3.89 (1.39 to 6.39)	3.00 (-0.84 to 6.85)	0.126
	Month-3	34	64.7 (11.9)	49	64.6 (16.8)	-0.14 (-3.13 to 2.85)	3.96 (1.46 to 6.47)	4.10 (0.21 to 8.00)	0.039
	Month-6	33	64.8 (13.5)	44	65.7 (14.7)	0.77 (-2.24 to 3.79)	4.63 (2.06 to 7.21)	3.86 (-0.10 to 7.83)	0.056

***PCS**: Physical Component Score, **MCS**: Mental Component Score, **KSS**=Kidney Summary Score, **KDCS**: Kidney disease component summary score*

**Calculated using mixed effect linear model with dependent variable of the outcome at baseline and follow-up time points; explanatory variables of treatment arm, age (<65, ≥65) and number of haemodialysis units (stratification variables), visit time point (as categorical variable), baseline score; an interaction term between treatment and visit as fixed effects; and patient identification as a random effect. **Estimated from the model * using margins option in Stata.*

^A two-sided p-value ≤ 0.05 was considered significant

£in the case the follow-up time points (over 6 month) N denotes the number of individuals contributing at least one observation

$Mean and standard deviation (SD) in each treatment arm was calculated at baseline and at each follow-up time points using the observed data.

Figure 4: Adjusted mean change from baseline in physical health component score in each treatment arm at each time point with 95% CI

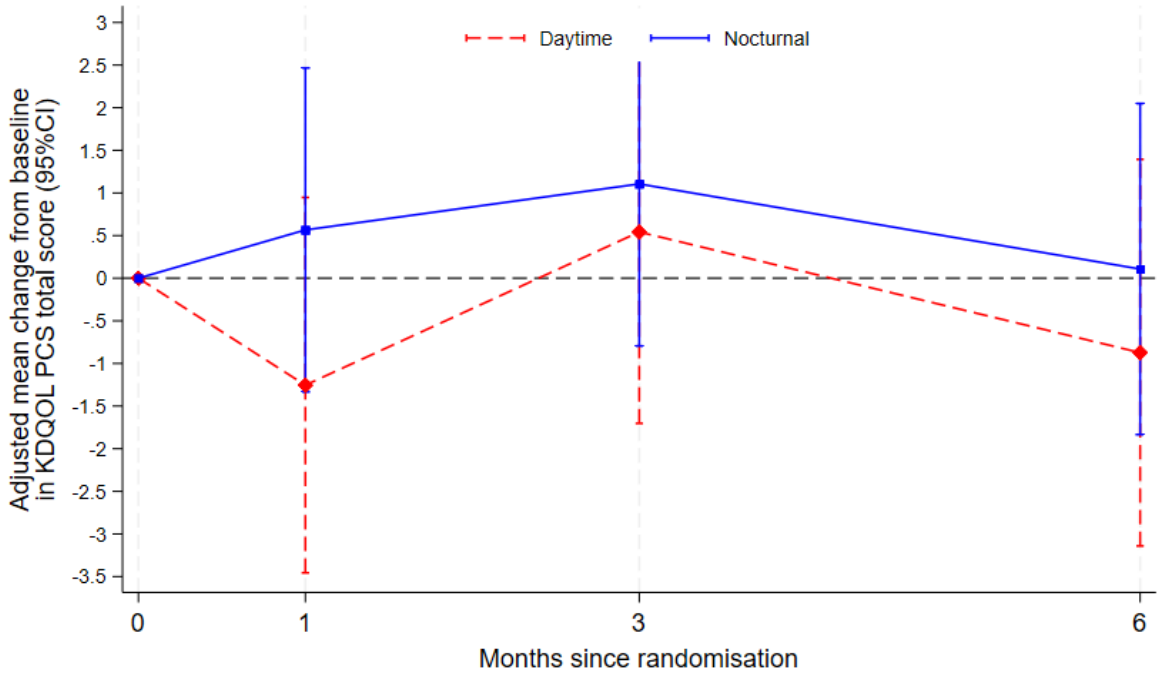


Figure 5: Adjusted mean change from baseline in mental health component score in each treatment arm at each time point with 95% CI

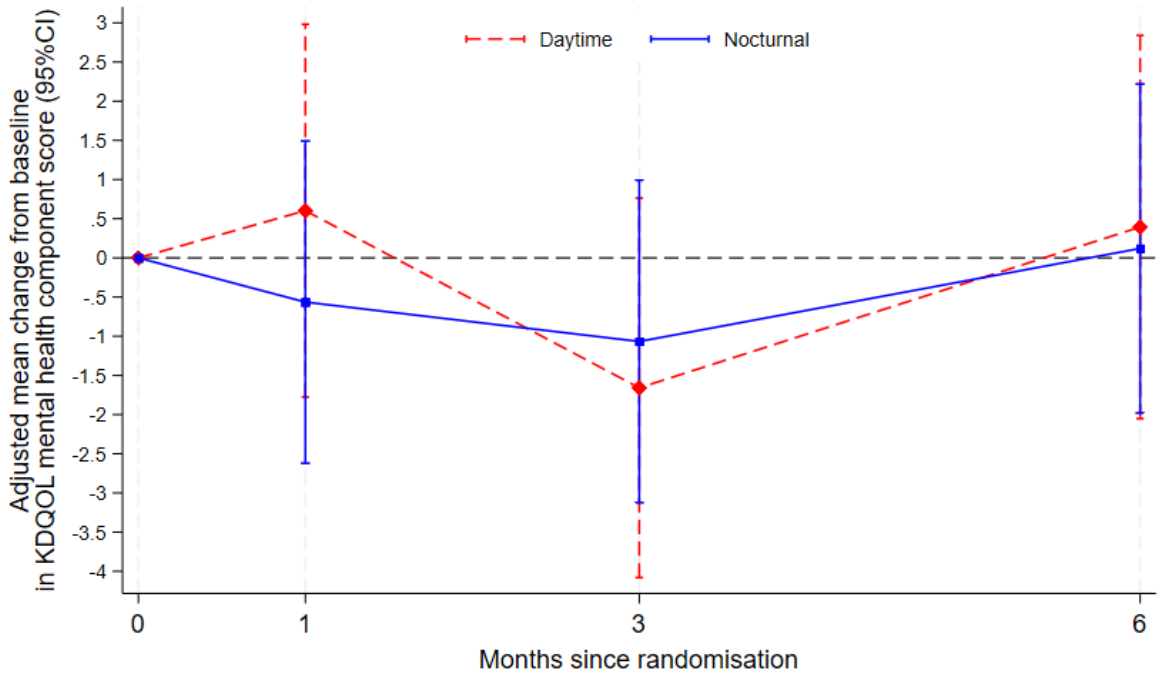


Figure 6: Adjusted mean change from baseline in kidney summary score in each treatment arm at each time point with 95% CI

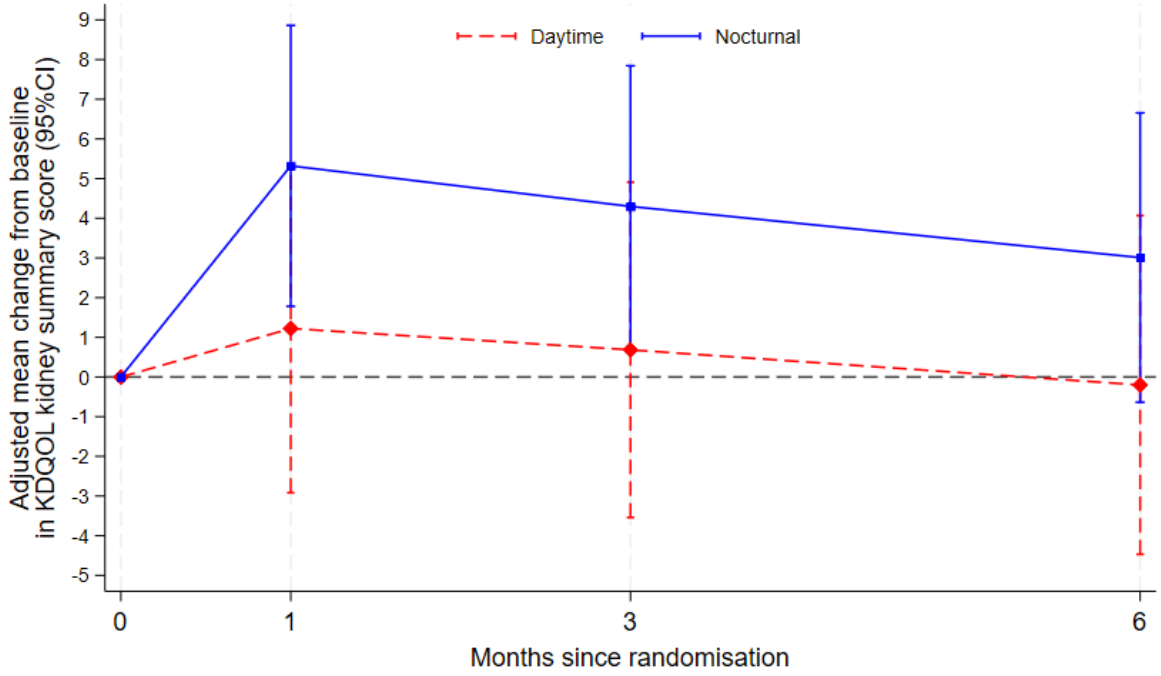
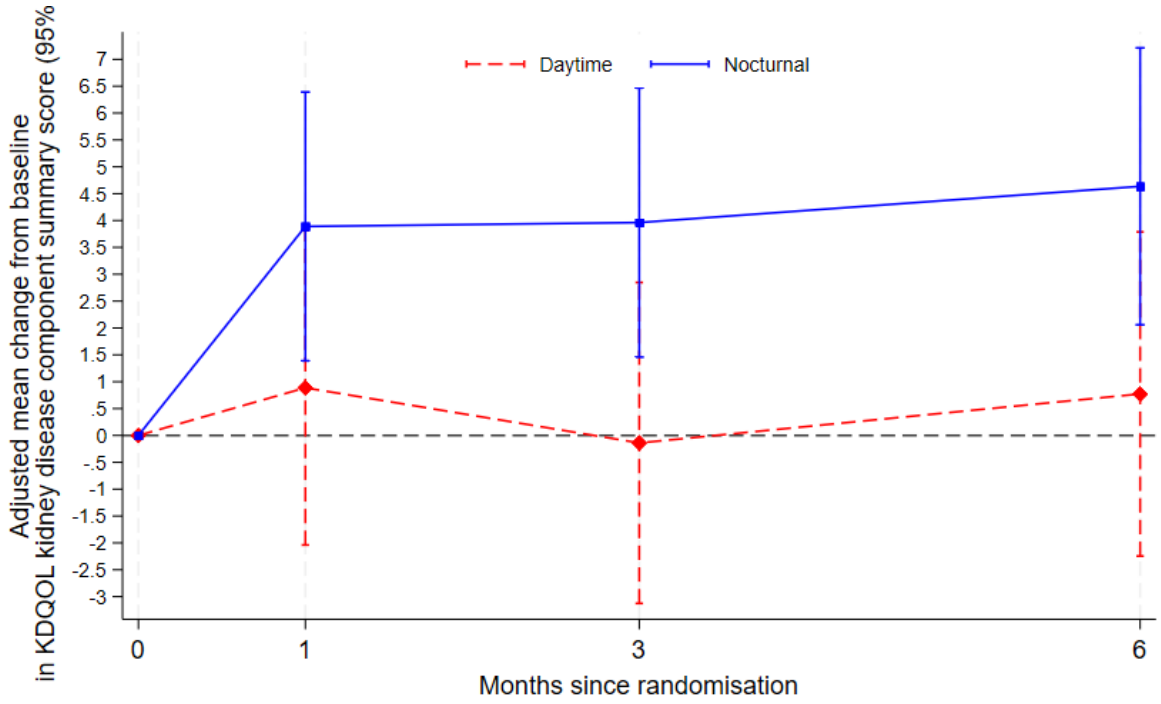


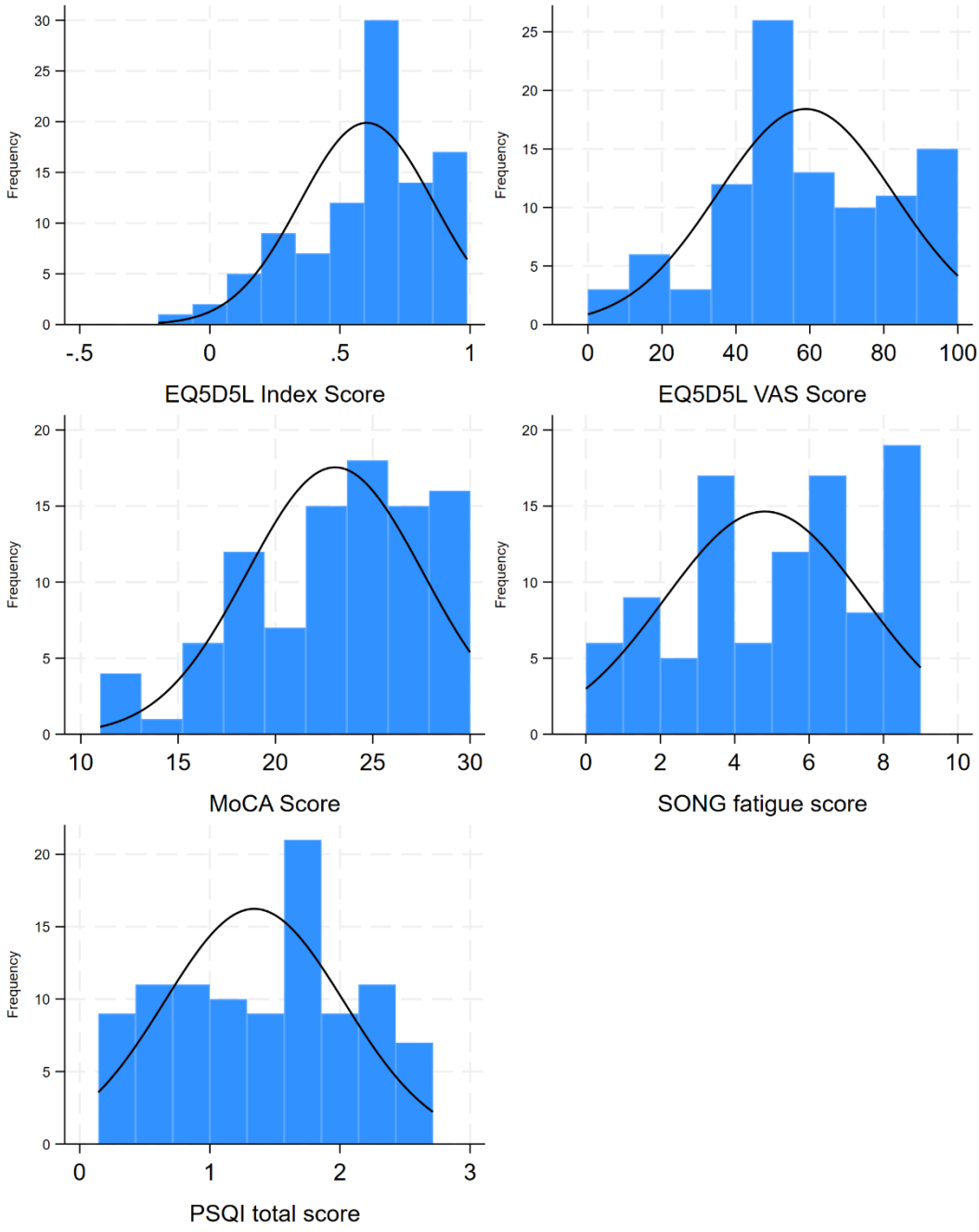
Figure 7: Adjusted mean change from baseline in kidney disease component score in each treatment arm at each time point with 95% CI



11.1.1 Patient related outcomes (PROs)

Patient-reported outcomes (EQ-5D-5L, Pittsburgh Sleep Quality Index (PSQI), SONG-Haemodialysis Fatigue measure, Time to recovery (TTR)) measured at baseline, 1, 3, and 6 months; Montreal Cognitive Assessment (MoCA) measured at baseline, 3 and 6 months. All scores were found to follow a normal distribution (see Figure 9).

Figure 8: Distribution of the patient reported outcome (PROs) at baseline



Patient reported outcomes are reported in Table-10. Health-related quality of life was assessed using the EQ-5D-5L questionnaire (Herdman et al., 2011). The EQ-5D-5L consists of five dimensions (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression), each rated on five levels from no problems to extreme problems. Responses were converted into a utility index score using the UK country-specific value set where 1 represents full health and scores <0 represent worse possible condition. Participants also completed the EQ VAS, a 0–100 visual analogue scale on which respondents rate their overall health, with 0 indicating the worst imaginable health and 100 the best imaginable health. Higher scores on both the EQ-5D-5L index and the EQ VAS indicate better health-related quality of life. EQ-5D-5L values were mapped onto the 3L value set using data recorded at Baseline, 1 month, 3 month and 6 month follow-up in accordance with new guidance published by National Institute for Health and Care Excellence (NICE).

Cognitive function was assessed with the Montreal Cognitive Assessment (MoCA; Nasreddine et al., 2005). The MoCA is a 30-point screening tool covering visuospatial/executive function, naming, memory, attention, language, abstraction, delayed recall, and orientation. Possible maximum score is 30 and scores <26 indicate possible cognitive impairment. MoCA was assessed at baseline, 3- and 6-months.

Fatigue was assessed using the SONG-HD Fatigue measure (Evans et al., 2020), which includes three items capturing fatigue severity and impact over the past week, each rated on a 4-point Likert scale (0 = not at all, 3 = severely). Higher scores indicate greater fatigue.

Sleep quality was assessed using the Pittsburgh Sleep Quality Index (PSQI; Buysse et al., 1989). The PSQI consists of 19 self-rated items forming seven components (subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleep medication, and daytime dysfunction), each scored from 0 to 3, with higher scores indicating worse sleep quality. The component scores are summed to yield a global score (range 0–21), with scores >5 indicating poor sleep quality.

All patient reported outcome scores were found to follow a normal distribution and therefore were compared using mixed effects model with explanatory variables of treatment arm, randomisation stratification factors (haemodialysis unit and age) and baseline value of the outcome as fixed effects with participant identification as a random effect to account for repeated measures over time. Adjusted mean differences alongside two sided 95% CI and P-value were reported for these outcomes. Mean and standard deviation at baseline and over 6 months of the observed data were also presented by treatment arm. The adjusted mean change from baseline in each arm (with 95% confidence intervals) and the adjusted mean difference between groups (with 95% confidence intervals) were presented alongside the 2-sided p-value from the model (Table 15).

Time To Recover (TTR) was summarised using mean and standard deviation (SD), median and interquartile range (IQR), and minimum and maximum values (Table 17)

Table 15: Comparison of patient reported outcomes (PROs) between the treatment arms over 6 month follow up period

PROs	Time point	Mean (SD)[$]		Adjusted Mean Change from baseline (95% CI)[¥]		Adjusted Mean Difference Nocturnal versus Daytime (95% CI)[£]	P-value^
		Daytime dialysis	Nocturnal dialysis	Daytime dialysis	Nocturnal dialysis		
EQ-5D-5L Index score	N	41	56				
	Baseline	0.62 (0.23)	0.59 (0.27)	-	-	-	-
	Over 6 month	0.58 (0.26)	0.55 (0.33)	-0.00 (-0.06 to 0.05)	-0.03 (-0.08 to 0.01)	-0.03 (-0.10 to 0.04)	0.417
EQ-5D-5L VAS score	N	42	57				
	Baseline	58.3 (24.4)	59.3 (23.6)				
	Over 6 month	60.5 (20.9)	62.0 (22.4)	2.13 (-2.18 to 6.44)	2.66 (-0.93 to 6.26)	0.53 (-5.14 to 6.21)	0.854
MoCA total score	N	40	54				
	Baseline	22.4 (4.68)	23.6 (4.36)	-	-	-	-
	Over 6 month	22.1 (4.81)	24.3 (4.50)	-0.16 (-0.91 to 0.59)	0.94 (0.33 to 1.56)	1.10 (0.12 to 2.08)	0.028
SONG-Fatigue total score	N	42	57				
	Baseline	4.71 (2.59)	4.88 (2.80)	-	-	-	-
	Over 6 month	4.74 (2.63)	4.59 (2.91)	-0.18 (-0.63 to 0.26)	-0.33 (-0.70 to 0.04)	-0.15 (-0.73 to 0.44)	0.627
PSQI total score	N	41	57				
	Baseline	1.36 (0.66)	1.33 (0.71)	-	-	-	-
	Over 6 month	1.30 (0.63)	1.19 (0.68)	-0.08 (-0.21 to 0.04)	-0.12 (-0.23 to -0.02)	-0.04 (-0.21 to 0.12)	0.614

^A two-sided p-value ≤ 0.05 was considered significant

[$] *Mean and standard deviation (SD) in each treatment arm was calculated at baseline as well as over all the follow-up time points using the* observed data

[¥] *Calculated using mixed effect linear model of the difference from baseline with explanatory variables treatment group, age categorical (<65, ≥65) and dialysis units (minimisation variables), visit time point (as categorical variable) and baseline score as fixed effects. Participant ID as a random effect to take in to account the repeated measurement (i.e inter-class correlation). Estimated using margins option in Stata.*

[£] *Calculated using mixed effect linear model with explanatory variables of treatment arm, age categorical (<65, ≥65) and dialysis units (minimisation variables), visit number in weeks (categorical) and baseline value as fixed effects with participant identification as a random effect to account for repeated measures over time.*

Further analysis of the patient reported outcomes were carried out assessing the treatment effect by visit. Mean and standard deviation (SD) in each treatment arm was calculated at baseline and each follow-up time point for each outcome using the observed data. A mixed effect linear model with dependent variable of the outcome at baseline and follow-up time points; explanatory variables of treatment arm, age categorical *(<65, ≥65)* and dialysis units (minimisation variables), visit time point (as categorical variable), baseline score; an interaction term between treatment and visit; and patient identification as a random effect was fitted for each outcome. Adjusted mean change from baseline in each treatment arm as well as adjusted mean difference between treatment arms at each time point with 95% confidence intervals and p-value were reported (Table 16).

To calculate the average change from baseline in each arm, the margins in each treatment arm of the mixed effect linear model of the difference from baseline were calculated; this model includes explanatory variables of treatment arm, age categorical *(<65, ≥65)* and dialysis units (minimisation variables), visit time point (as categorical variable) and baseline score as fixed effects and patient identification as a random effect to account for repeated measures over time. Adjusted mean change from baseline in each treatment arm with 95% confidence interval were reported (Table 16).

Table 16: Comparison of patient reported outcomes (PROs) between the two treatment arms at each time point

PROs	Time	Mean (SD)$				Adjusted Mean Change from baseline (95% CI)**		Adjusted Mean Difference Nocturnal versus Daytime* (95% CI)	P-value*^
		N	Daytime dialysis	N	Nocturnal dialysis	Daytime dialysis	Nocturnal dialysis		
EQ-5D-5L Index score	Baseline	41	0.62 (0.23)	56	0.59 (0.27)	-	-	-	-
	Month-1	35	0.57 (0.30)	48	0.57 (0.33)	-0.02 (-0.08 to 0.05)	-0.02 (-0.08 to 0.03)	-0.00 (-0.09 to 0.08)	0.948
	Month-3	33	0.59 (0.25)	49	0.53 (0.35)	-0.01 (-0.07 to 0.06)	-0.04 (-0.09 to 0.01)	-0.03 (-0.12 to 0.05)	0.466
	Month-6	32	0.59 (0.25)	44	0.57 (0.32)	-0.02 (-0.09 to 0.05)	-0.01 (-0.07 to 0.05)	0.01 (-0.08 to 0.10)	0.831
EQ-5D-5L VAS score	Baseline	42	58.3 (24.4)	57	59.3 (23.6)	-	-	-	-
	Month-1	35	60.5 (19.9)	47	62.3 (21.4)	3.09 (-2.83 to 9.01)	2.59 (-2.49 to 7.67)	-0.50 (-8.29 to 7.29)	0.901
	Month-3	33	60.1 (22.5)	49	61.6 (24.8)	2.13 (-3.90 to 8.15)	2.52 (-2.50 to 7.54)	0.39 (-7.43 to 8.22)	0.921
	Month-6	32	60.9 (20.9)	45	62.3 (21.3)	2.39 (-3.69 to 8.47)	3.68 (-1.48 to 8.83)	1.29 (-6.67 to 9.24)	0.751
MoCA total score	Baseline	40	22.4 (4.68)	54	23.6 (4.36)	-	-	-	-
	Month-3	31	22.0 (4.95)	44	24.2 (4.05)	-0.01 (-0.96 to 0.93)	0.66 (-0.15 to 1.46)	0.67 (-0.57 to 1.92)	0.288

PROs	Time	Mean (SD)[$]			Adjusted Mean Change from baseline (95% CI)**		Adjusted Mean Difference Nocturnal versus Daytime* (95% CI)	P-value*^
		N	Daytime dialysis	N	Nocturnal dialysis	Daytime dialysis	Nocturnal dialysis		
	Month-6	27	22.3 (4.74)	40	24.3 (5.00)	0.32 (-0.67 to 1.31)	0.94 (0.11 to 1.76)	0.62 (-0.67 to 1.91)	0.348
SONG-Fatigue total score	Baseline	42	4.71 (2.59)	57	4.88 (2.80)	-	-	-	-
	Month-1	35	4.97 (2.71)	48	4.52 (2.98)	-0.01 (-0.60 to 0.58)	-0.33 (-0.83 to 0.18)	-0.32 (-1.1- to 0.46)	0.424
	Month-3	33	4.58 (2.62)	48	4.73 (2.91)	-0.13 (-0.74 to 0.47)	-0.33 (-0.84 to 0.17)	-0.20 (-0.99 to 0.59)	0.617
	Month-6	32	4.66 (2.63)	45	4.51 (2.88)	-0.19 (-0.80 to 0.41)	-0.52 (-1.04 to 0.01)	-0.33 (-1.13 to 0.47)	0.420
PSQI total score	Baseline	41	1.36 (0.66)	57	1.33 (0.71)	-	-	-	-
	Month-1	35	1.35 (0.67)	48	1.18 (0.69)	-0.04 (-0.20 to 0.12)	-0.13 (-0.26 to 0.01)	-0.09 (-0.29 to 0.12)	0.407
	Month-3	33	1.29 (0.61)	48	1.21 (0.67)	-0.11 (-0.27 to 0.05)	-0.10 (-0.24 to o.o3)	0.01 (-0.20 to 0.21)	0.956
	Month-6	32	1.25 (0.61)	45	1.16 (0.67)	-0.17 (-0.33 to -0.01)	-0.13 (-0.26 to 0.01)	0.04 (-0.17 to 0.25)	0.695

**Calculated using mixed effect linear model with dependent variable of the outcome at baseline and follow-up time points; explanatory variables of treatment arm, age categorical (<65, ≥65) dialysis units (minimisation factors), visit time point (as categorical variable), baseline score; an interaction term between treatment and visit as fixed effects; and patient identification as a random effect.*

***Estimated from the model * using margins option in Stata.*

^A two-sided p-value ≤ 0.05 was considered significant

[$]Mean and standard deviation (SD) in each treatment arm was calculated at baseline and at each follow-up time points using the observed data.

The adjusted mean change from baseline in EQ-5D-5L index score, EQ-5D-5L VAS score, MoCA score, SONG-fatigue score and PSQI score in each treatment arm at each time point alongside the 95% CI are presented (Figures 10-14).

Figure 9: Adjusted mean change from baseline in EQ-5D-5L index score in each treatment arm at each time point with 95% CI

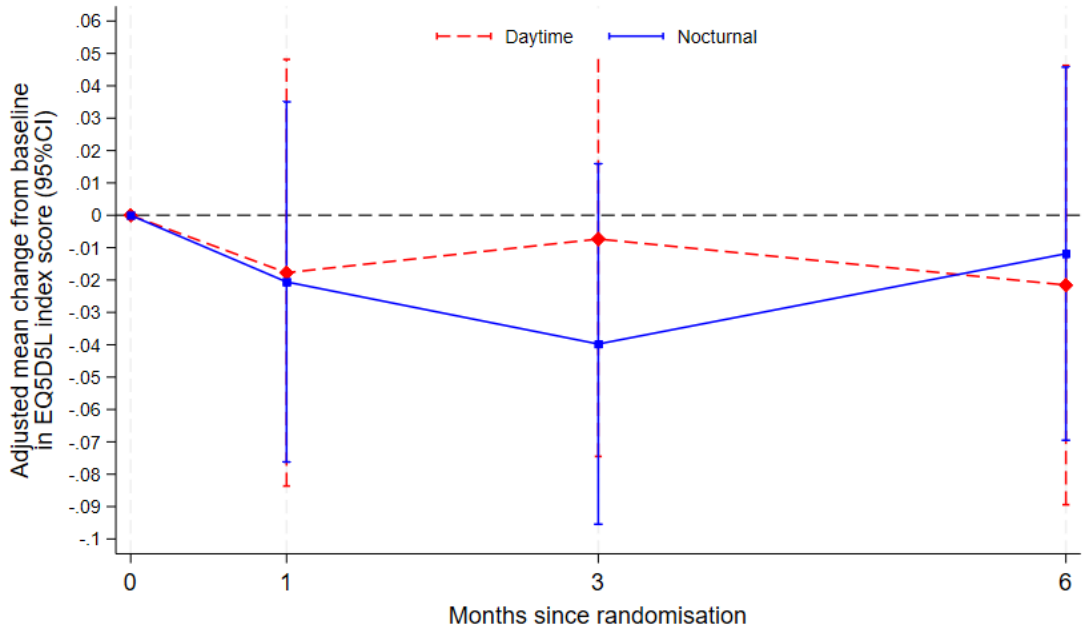


Figure 10: Adjusted mean change from baseline in Eq-5D-5L VAS score in each treatment arm at each time point with 95% CI

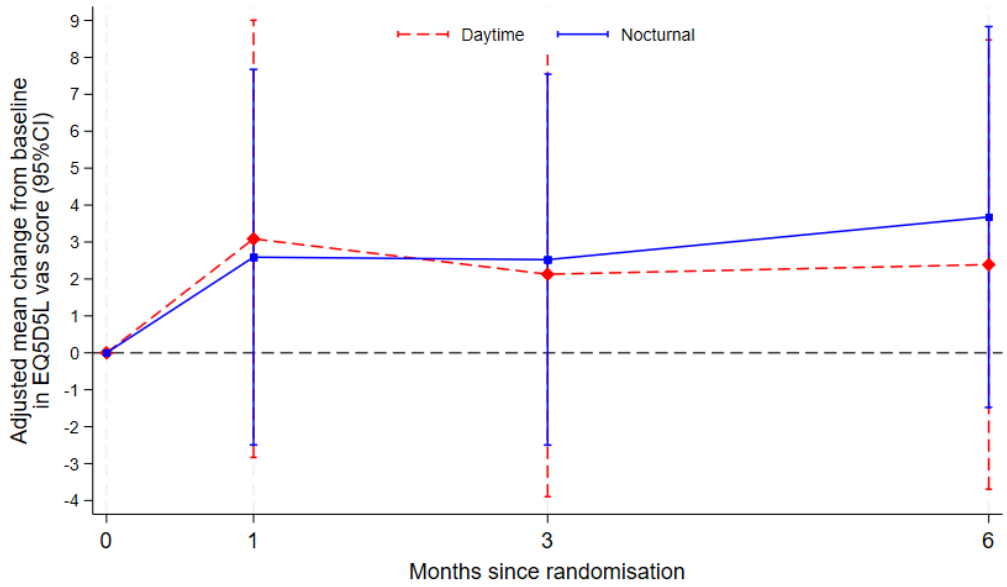


Figure 11: Adjusted mean change from baseline in MoCA total score in each treatment arm at each time point with 95% CI

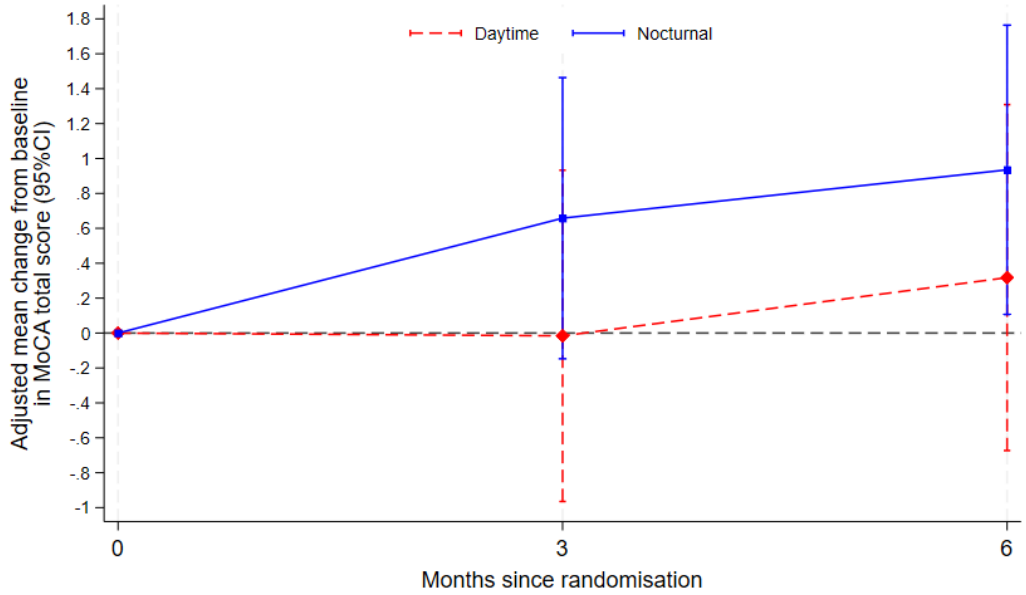


Figure 12: Adjusted mean change from baseline in SONG-Fatigue total score in each treatment arm at each time point with 95% CI

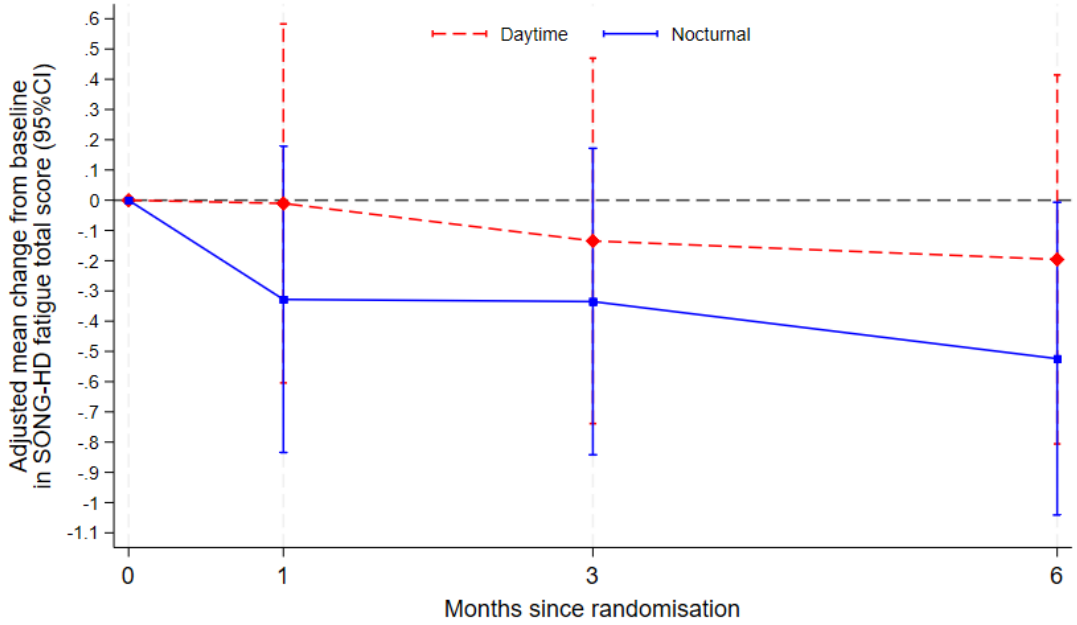


Figure 13: Adjusted mean change from baseline in PSQI total score in each treatment arm at each time point with 95% CI

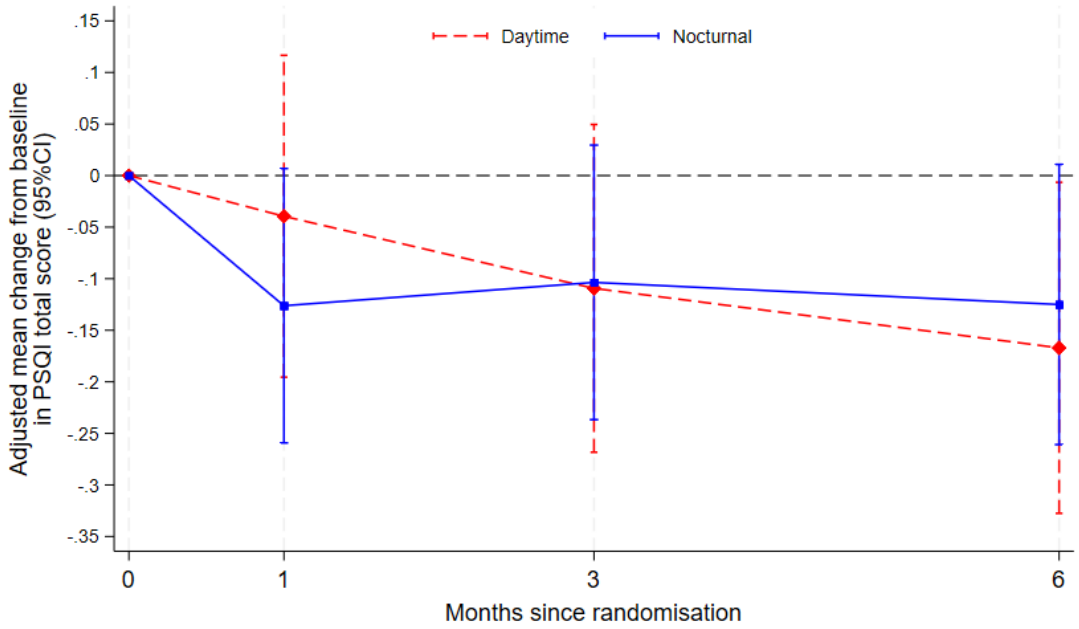


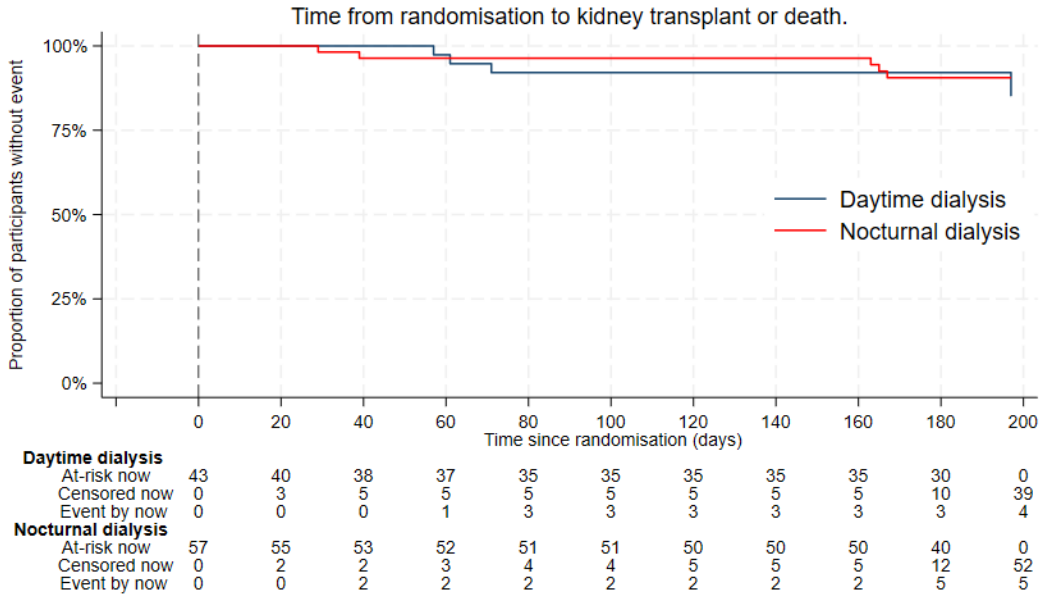
Table 17: Summary Statistics for Time to Recovery After Dialysis Questionnaire

	Descriptive	Daytime dialysis (n=43)	Nocturnal dialysis (n=57)	Total (n=100)
Time to Recovery After Dialysis (in minutes)				
Baseline	**N**	40	53	93
	Mean (SD)	402.1 (594.1)	453.3 (592.5)	431.3 (590.5)
	Median (IQR)	180 [15- 480]	180 [60- 720]	180 [30- 720]
	Min, Max	0, 2880	0, 2880	0, 2880
Month-1	**N**	34	44	78
	Mean (SD)	393.5 (538.9)	446.1 (526.9)	423.2 (529.3)
	Median (IQR)	120 [0- 720]	240 [52.5- 720]	180 [10- 720]
	Min, Max	0, 1440	0, 1920	0, 1920
Month-3	**N**	31	44	75
	Mean (SD)	381.9 (503.3)	436.6 (496.7)	414.0 (496.8)
	Median (IQR)	150 [45- 480]	210 [60- 720]	180 [45- 660]
	Min, Max	0, 1440	0, 1440	0, 1440
Month-6	**N**	31	42	73
	Mean (SD)	527.2 (557.6)	592.5 (660.5)	564.8 (615.7)
	Median (IQR)	240 [60- 720]	360 [120- 1440]	300 [60- 840]
	Min, Max	0, 1440	0, 2880	0, 2880

11.2 Time to event analyses

As the number of deaths and kidney transplants was low, formal time-to-event analyses were not performed. Instead, Kaplan–Meier survival curves were used to describe follow-up time, with death or transplant recorded as events and participants without either outcome censored at their last known follow-up.

Figure 14: Kaplan-Meier survival curves of the secondary outcome by randomised group: First event kidney transplant or death



Daytime dialysis											
At-risk now	43	40	38	37	35	35	35	35	35	30	0
Censored now	0	3	5	5	5	5	5	5	5	10	39
Event by now	0	0	0	1	3	3	3	3	3	3	4
Nocturnal dialysis											
At-risk now	57	55	53	52	51	51	50	50	50	40	0
Censored now	0	2	2	3	4	4	5	5	5	12	52
Event by now	0	0	2	2	2	2	2	2	2	5	5

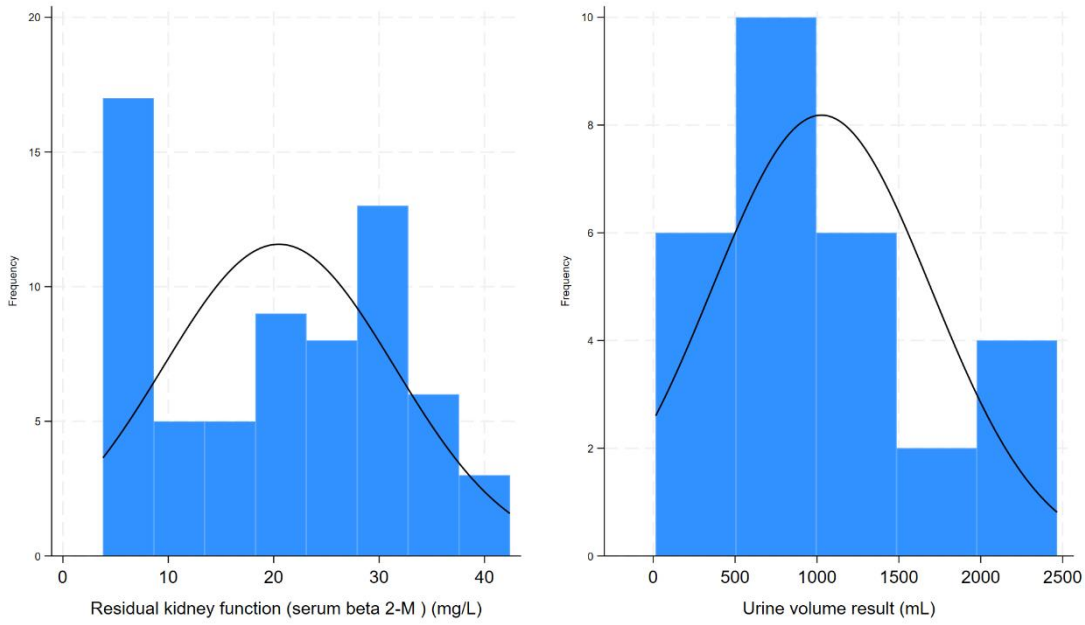
Note: Data were capped at 197 days (6 months plus a 2-week visit window).

12 Clinical results and dialysis parameters

12.1 Residual kidney function (urine collection and serum beta-2 microglobulin)

The residual kidney function urine volume result and serum beta 2-M data at baseline were normally distributed. The distribution was assessed using a histogram (Figure 16).

Figure 15: Distributions of residual kidney function - urine volume result and serum beta 2-M



Outcomes were summarised using means and standard deviations by treatment arm. Adjusted mean differences between arms, with two-sided 95% confidence intervals (CIs) and p-values, were estimated using a simple linear regression model including treatment arm, age (<65, ≥65), number of haemodialysis units (stratification variables), and baseline value (Table17).

Average change from baseline in each arm was estimated using model margins from the same regression, with adjusted mean change from baseline and corresponding 95% CIs reported. No significant differences in outcomes were observed between arms at 6 months (Table 17).

Table 18: Comparison of the residual kidney function between the treatment arms at 6 months follow up period

Residual Kidney Function	Time point	N	Mean (SD)			Adjusted Mean Change from baseline (95% CI)[¥]		Adjusted Mean Difference Nocturnal versus Daytime* (95% CI)	P-value*^
			Daytime dialysis	N	Nocturnal dialysis	Daytime dialysis	Nocturnal dialysis		
Serum beta-2 microglobulin	**Baseline**	27	19.1 (11.5)	39	21.5 (10.6)	-	-	-	-
	6- months	20	21.9 (7.23)	45	25.2 (9.44)	3.31 (-0.78 to 7.41)	3.56 (0.47 to 6.66)	0.25 (-5.05 to 5.56)	0.924
Urine collection results	**Baseline**	9	1006.5 (460.7)	19	1037.7 (759.5)	-	-	-	-
	6- months	8	688.6 (472.5)	8	557.0 (366.4)	-312.7 (-868.4 to 243.0)	-659.8 (-1087.4 to -232.2)	-347.1 (-1086.1 to 391.9)	0.294

** Calculated using simple linear regression model with explanatory variables treatment arm, age (<65, ≥65), number of haemodialysis units (stratification variables), and baseline value.*

[¥]Calculated using simple linear regression model of the difference from baseline with explanatory variables treatment arm, age (<65, ≥65), number of haemodialysis units (stratification variables), and baseline value. Estimated using margins option in Stata.

^A two-sided p-value ≤ 0.05 was considered significant

12.2 Clinical parameters

Continuous outcomes collected monthly (at baseline and months 1 through 6), including blood results (haemoglobin, ferritin, calcium, phosphate, potassium, and parathyroid hormone), routine clinical data (dialysis adequacy: pre- and post-dialysis urea, post-dialysis weight, ultrafiltration volume, urea reduction ratio, and Kt/V), and haemodynamics (pre-dialysis blood pressure) were summarised using descriptive statistics. Summary measures included the number of observations (n), mean, standard deviation, median, interquartile range (IQR), minimum, and maximum, reported separately by treatment group and time point. No formal statistical analyses were planned for these monthly measures.

Table 19: Clinical results and dialysis parameters by treatment group and time point

Characteristics	Time point	Descriptive	Daytime dialysis N=43	Nocturnal dialysis N=57	Overall N=100
Haemoglobin (g/L):	**Baseline**	**N**	40	57	97
		Mean [SD]	115.5 [13.1]	111.1 [12.9]	112.9 [13.1]
		Median[IQR]	117.5 [107.5, 122.0]	111.0 [104.0, 117.0]	112.0 [104.0, 121.0]
		Min, Max	80.0, 152.0	79.0, 151.0	79.0, 152.0
	Month-1	**N**	36	50	86
		Mean [SD]	112.7 [11.9]	111.2 [12.9]	111.8 [12.5]
		Median[IQR]	111.0 [106.5, 119.5]	111.5 [105.0, 121.0]	111.0 [105.0, 120.0]
		Min, Max	92.0, 141.0	71.0, 135.0	71.0, 141.0
	Month-2	**N**	35	51	86
		Mean[SD]	114.0 [13.1]	113.8 [12.0]	113.9 [12.4]
		Median[IQR]	115.0 [108.0, 121.0]	113.0 [103.0, 123.0]	114.0 [107.0, 123.0]
		Min, Max	83.0, 146.0	87.0, 138.0	83.0, 146.0
	Month-3	**N**	33	49	82
		Mean[SD]	112.8 [14.4]	112.3 [15.1]	112.5 [14.7]
		Median[IQR]	111.0 [105.0, 121.0]	112.0 [102.0, 122.0]	112.0 [103.0, 122.0]
		Min, Max	77.0, 156.0	72.0, 146.0	72.0, 156.0
	Month-4	**N**	34	49	83
		Mean[SD]	112.7 [11.6]	112.1 [16.3]	112.4 [14.5]
		Median[IQR]	113.0 [106.0, 119.0]	112.0 [100.0, 124.0]	113.0 [106.0, 124.0]
		Min, Max	81.0, 137.0	74.0, 147.0	74.0, 147.0
	Month-5	**N**	34	48	82
		Mean[SD]	110.3 [13.9]	111.6 [15.6]	111.1 [14.9]
		Median[IQR]	110.0 [102.0, 118.0]	111.0 [103.5, 120.0]	110.5 [103.0, 120.0]
		Min, Max	79.0, 145.0	74.0, 144.0	74.0, 145.0
	Month-6	**N**	33	46	79
		Mean[SD]	110.8 [16.3]	111.0 [15.3]	110.9 [15.6]
		Median[IQR]	111.0 [104.0, 119.0]	112.5 [103.0, 120.0]	112.0 [103.0, 120.0]
		Min, Max	53.0, 139.0	65.0, 143.0	53.0, 143.0
Ferritin (ug/L):	**Baseline**	**N**	37	53	90
		Mean[SD]	383.6 [216.4]	444.5 [271.4]	419.4 [250.7]
		Median[IQR]	372.0 [240.0, 468.0]	381.0 [277.0, 528.0]	379.5 [273.0, 522.0]
		Min, Max	47.0, 897.0	18.0, 1396.0	18.0, 1396.0
	Month-1	**N**	34	48	82
		Mean[SD]	464.9 [267.8]	460.8 [252.2]	462.5 [257.1]
		Median[IQR]	407.5 [297.0, 603.0]	422.5 [304.0, 584.5]	417.0 [302.0, 599.0]
		Min, Max	56.0, 1416.0	22.0, 1414.0	22.0, 1416.0

	Month-2	**N**	33	51	84
		Mean[SD]	528.6 [296.7]	510.8 [284.9]	517.8 [287.9]
		Median[IQR]	514.0 [259.0, 742.0]	430.0 [292.0, 692.0]	456.0 [291.5, 730.5]
		Min, Max	73.0, 1238.0	18.0, 1482.0	18.0, 1482.0
	Month-3	**N**	30	46	76
		Mean[SD]	552.5 [229.0]	476.5 [280.8]	506.5 [262.7]
		Median[IQR]	544.0 [389.0, 769.0]	461.0 [234.0, 630.0]	497.0 [261.5, 705.5]
		Min, Max	64.0, 902.0	16.0, 1125.0	16.0, 1125.0
	Month-4	**N**	31	48	79
		Mean[SD]	560.5 [277.8]	555.4 [301.4]	557.4 [290.6]
		Median[IQR]	497.0 [394.0, 777.0]	519.5 [293.5, 804.5]	506.0 [317.0, 785.0]
		Min, Max	90.0, 1189.0	11.0, 1332.0	11.0, 1332.0
	Month-5	**N**	32	44	76
		Mean[SD]	564.7 [249.2]	547.3 [307.0]	554.6 [282.4]
		Median[IQR]	548.5 [406.0, 722.0]	515.0 [350.0, 750.0]	530.5 [370.0, 740.5]
		Min, Max	109.0, 1229.0	13.0, 1345.0	13.0, 1345.0
	Month-6	**N**	31	46	77
		Mean[SD]	566.6 [242.7]	609.0 [675.0]	592.0 [541.7]
		Median[IQR]	539.0 [388.0, 712.0]	516.5 [302.0, 729.0]	527.0 [383.0, 712.0]
		Min, Max	136.0, 1184.0	36.0, 4690.0	36.0, 4690.0
TSAT (Transferrin saturation) %:	**Baseline**	**N**	23	36	59
		Mean[SD]	25.3 [12.5]	26.1 [17.6]	25.8 [15.7]
		Median[IQR]	23.0 [15.0, 34.0]	21.5 [17.0, 27.5]	23.0 [17.0, 32.0]
		Min, Max	8.0, 59.0	10.0, 95.0	8.0, 95.0
	Month-1	**N**	24	31	55
		Mean[SD]	25.2 [10.1]	24.5 [11.4]	24.8 [10.7]
		Median[IQR]	27.0 [18.5, 32.5]	23.0 [17.0, 32.0]	26.0 [17.0, 32.0]
		Min, Max	0.0, 41.0	7.0, 61.0	0.0, 61.0
	Month-2	**N**	23	38	61
		Mean[SD]	27.5 [11.2]	26.4 [11.0]	26.8 [11.0]
		Median[IQR]	25.0 [20.0, 35.0]	25.0 [19.0, 32.0]	25.0 [20.0, 32.0]
		Min, Max	14.0, 52.0	11.0, 63.0	11.0, 63.0
	Month-3	**N**	21	36	57
		Mean[SD]	22.9 [7.6]	26.4 [12.8]	25.1 [11.2]
		Median[IQR]	20.0 [18.0, 29.0]	23.5 [19.5, 29.0]	22.0 [18.0, 29.0]
		Min, Max	10.0, 40.0	12.0, 85.0	10.0, 85.0
	Month-4	**N**	22	34	56
		Mean[SD]	26.0 [10.6]	27.7 [16.4]	27.0 [14.3]
		Median[IQR]	24.5 [18.0, 30.0]	22.5 [17.0, 35.0]	23.5 [17.5, 31.0]
		Min, Max	12.0, 52.0	11.0, 90.0	11.0, 90.0
	Month-5	**N**	23	33	56
		Mean[SD]	28.5 [12.2]	25.7 [12.4]	26.8 [12.3]
		Median[IQR]	27.0 [18.0, 36.0]	25.0 [19.0, 29.0]	25.5 [18.0, 31.5]
		Min, Max	13.0, 58.0	8.0, 73.0	8.0, 73.0
	Month-6	**N**	20	36	56
		Mean[SD]	29.0 [12.3]	23.1 [8.1]	25.2 [10.1]
		Median[IQR]	28.0 [21.5, 42.0]	22.5 [16.5, 27.0]	24.0 [17.5, 30.5]
		Min, Max	2.0, 49.0	8.0, 43.0	2.0, 49.0
Calcium (mmol/L):	**Baseline**	**N**	40	57	97
		Mean[SD]	2.3 [0.2]	2.2 [0.2]	2.3 [0.2]
		Median[IQR]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]
		Min, Max	2.0, 2.6	1.5, 2.5	1.5, 2.6
	Month-1	**N**	36	49	85

		Mean[SD]	2.3 [0.2]	2.3 [0.1]	2.3 [0.1]
		Median[IQR]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]
		Min, Max	2.0, 2.6	1.9, 2.5	1.9, 2.6
	Month-2	**N**	35	51	86
		Mean[SD]	2.3 [0.2]	2.3 [0.2]	2.3 [0.2]
		Median[IQR]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]
		Min, Max	1.9, 2.6	1.9, 2.7	1.9, 2.7
	Month-3	**N**	32	50	82
		Mean[SD]	2.3 [0.2]	2.3 [0.2]	2.3 [0.2]
		Median[IQR]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]
		Min, Max	1.9, 2.6	1.8, 2.7	1.8, 2.7
	Month-4	**N**	34	48	82
		Mean[SD]	2.3 [0.2]	2.3 [0.2]	2.3 [0.2]
		Median[IQR]	2.3 [2.1, 2.4]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]
		Min, Max	1.8, 2.6	2.0, 3.0	1.8, 3.0
	Month-5	**N**	33	48	81
		Mean[SD]	2.3 [0.2]	2.3 [0.2]	2.3 [0.2]
		Median[IQR]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]
		Min, Max	1.9, 2.6	2.0, 2.8	1.9, 2.8
	Month-6	**N**	33	47	80
		Mean[SD]	2.2 [0.4]	2.3 [0.2]	2.3 [0.3]
		Median[IQR]	2.3 [2.1, 2.4]	2.3 [2.2, 2.4]	2.3 [2.2, 2.4]
		Min, Max	0.0, 2.6	1.9, 2.8	0.0, 2.8
Potassium(mmol/L)	**Baseline**	**N**	40	55	95
		Mean[SD]	4.9 [0.9]	5.1 [1.0]	5.0 [1.0]
		Median[IQR]	4.9 [4.3, 5.4]	5.1 [4.3, 6.0]	5.0 [4.3, 5.6]
		Min, Max	3.1, 7.4	3.2, 7.2	3.1, 7.4
	Month-1	**N**	35	49	84
		Mean[SD]	4.9 [0.7]	5.0 [0.8]	5.0 [0.7]
		Median[IQR]	4.9 [4.4, 5.4]	4.9 [4.5, 5.4]	4.9 [4.5, 5.4]
		Min, Max	3.6, 6.3	3.3, 7.0	3.3, 7.0
	Month-2	**N**	35	51	86
		Mean[SD]	5.1 [0.9]	5.1 [0.7]	5.1 [0.8]
		Median[IQR]	5.0 [4.5, 5.6]	5.1 [4.6, 5.6]	5.1 [4.5, 5.6]
		Min, Max	3.6, 6.7	3.5, 6.8	3.5, 6.8
	Month-3	**N**	32	49	81
		Mean[SD]	4.9 [0.9]	5.0 [0.8]	5.0 [0.9]
		Median[IQR]	4.9 [4.4, 5.5]	5.0 [4.5, 5.6]	4.9 [4.4, 5.5]
		Min, Max	3.2, 7.8	3.4, 7.2	3.2, 7.8
	Month-4	**N**	33	49	82
		Mean[SD]	5.0 [0.8]	5.0 [0.8]	5.0 [0.8]
		Median[IQR]	4.7 [4.4, 5.5]	5.0 [4.5, 5.4]	4.8 [4.4, 5.5]
		Min, Max	3.9, 7.1	3.5, 7.5	3.5, 7.5
	Month-5	**N**	34	48	82
		Mean[SD]	5.1 [0.8]	4.8 [0.8]	4.9 [0.8]
		Median[IQR]	5.1 [4.5, 5.5]	4.9 [4.5, 5.3]	4.9 [4.5, 5.4]
		Min, Max	3.5, 6.7	3.1, 6.2	3.1, 6.7
	Month-6	**N**	34	47	81
		Mean[SD]	5.1 [1.0]	5.0 [0.7]	5.1 [0.8]
		Median[IQR]	4.9 [4.5, 5.8]	4.9 [4.5, 5.4]	4.9 [4.5, 5.5]
		Min, Max	3.4, 7.6	3.0, 6.9	3.0, 7.6
Phosphate (mmol/L):	**Baseline**	**N**	40	57	97

		Mean[SD]	1.7 [0.7]	1.7 [0.6]	1.7 [0.7]
		Median[IQR]	1.5 [1.2, 2.0]	1.7 [1.3, 2.1]	1.6 [1.2, 2.1]
		Min, Max	0.6, 4.3	0.6, 3.4	0.6, 4.3
	Month-1	**N**	36	49	85
		Mean[SD]	1.6 [0.5]	1.5 [0.5]	1.6 [0.5]
		Median[IQR]	1.5 [1.2, 2.0]	1.5 [1.1, 1.8]	1.5 [1.2, 1.9]
		Min, Max	0.8, 2.7	0.7, 2.5	0.7, 2.7
	Month-2	**N**	35	51	86
		Mean[SD]	1.7 [0.6]	1.5 [0.5]	1.6 [0.5]
		Median[IQR]	1.6 [1.2, 2.1]	1.5 [1.1, 1.8]	1.5 [1.1, 1.9]
		Min, Max	0.9, 3.2	0.6, 2.8	0.6, 3.2
	Month-3	**N**	32	50	82
		Mean[SD]	1.5 [0.4]	1.5 [0.5]	1.5 [0.4]
		Median[IQR]	1.5 [1.3, 1.7]	1.4 [1.2, 1.7]	1.5 [1.2, 1.7]
		Min, Max	0.8, 2.8	0.5, 2.7	0.5, 2.8
	Month-4	**N**	33	48	81
		Mean[SD]	1.6 [0.5]	1.5 [0.6]	1.5 [0.5]
		Median[IQR]	1.5 [1.2, 2.0]	1.4 [1.2, 1.8]	1.5 [1.2, 1.8]
		Min, Max	0.8, 2.9	0.6, 3.6	0.6, 3.6
	Month-5	**N**	33	48	81
		Mean[SD]	1.6 [0.5]	1.5 [0.6]	1.5 [0.6]
		Median[IQR]	1.5 [1.2, 1.9]	1.4 [1.1, 1.8]	1.5 [1.2, 1.8]
		Min, Max	0.6, 2.9	0.3, 3.2	0.3, 3.2
	Month-6	**N**	33	47	80
		Mean[SD]	1.6 [0.6]	1.5 [0.4]	1.6 [0.5]
		Median[IQR]	1.6 [1.3, 1.8]	1.5 [1.3, 1.8]	1.5 [1.3, 1.8]
		Min, Max	0.0, 2.8	0.8, 3.0	0.0, 3.0
Parathyroid Hormone Test (pmol/L):	**Baseline**	**N**	24	37	61
		Mean[SD]	59.5 [50.0]	68.9 [68.5]	65.2 [61.6]
		Median[IQR]	43.6 [24.5, 82.6]	55.1 [25.2, 91.2]	52.4 [25.2, 86.3]
		Min, Max	0.5, 183.0	0.4, 384.8	0.4, 384.8
	Month-1	**N**	27	41	68
		Mean[SD]	53.5 [43.1]	50.5 [46.0]	51.7 [44.5]
		Median[IQR]	37.8 [21.2, 73.3]	39.7 [17.9, 64.7]	37.8 [20.1, 70.4]
		Min, Max	0.5, 157.0	0.4, 200.0	0.4, 200.0
	Month-2	**N**	27	47	74
		Mean[SD]	39.9 [38.2]	44.0 [41.4]	42.5 [40.0]
		Median[IQR]	21.3 [14.6, 61.2]	24.7 [9.0, 70.1]	24.2 [13.6, 63.3]
		Min, Max	0.7, 149.5	0.4, 180.5	0.4, 180.5
	Month-3	**N**	18	30	48
		Mean[SD]	50.2 [39.8]	46.9 [45.6]	48.1 [43.1]
		Median[IQR]	38.3 [23.1, 72.8]	31.1 [10.4, 67.6]	31.9 [18.1, 70.2]
		Min, Max	0.7, 145.9	0.4, 200.0	0.4, 200.0
	Month-4	**N**	26	43	69
		Mean[SD]	50.5 [42.7]	40.4 [38.2]	44.2 [39.9]
		Median[IQR]	33.2 [20.3, 78.2]	34.3 [13.3, 60.7]	34.3 [15.5, 70.8]
		Min, Max	0.7, 156.0	0.4, 198.7	0.4, 198.7
	Month-5	**N**	25	36	61
		Mean[SD]	48.9 [41.7]	39.8 [36.9]	43.5 [38.8]
		Median[IQR]	31.7 [19.0, 77.8]	24.6 [10.0, 64.4]	31.2 [13.6, 64.9]
		Min, Max	0.6, 140.0	0.4, 146.3	0.4, 146.3
	Month-6	**N**	21	31	52
		Mean[SD]	53.7 [36.6]	49.2 [48.2]	51.0 [43.5]

		Median[IQR]	47.7 [31.0, 66.9]	34.8 [14.1, 73.4]	39.7 [15.1, 73.2]
		Min, Max	0.6, 138.6	0.4, 200.0	0.4, 200.0
Residual kidney function (serum beta 2-M) (mg/L):	**Baseline**	**N**	27	39	66
		Mean[SD]	19.1 [11.5]	21.5 [10.6]	20.5 [11.0]
		Median[IQR]	18.9 [7.3, 28.9]	23.2 [9.7, 29.7]	21.2 [8.5, 29.4]
		Min, Max	3.8, 40.3	4.0, 42.4	3.8, 42.4
	Month-1	**N**	28	42	70
		Mean[SD]	21.0 [9.2]	25.0 [9.4]	23.4 [9.4]
		Median[IQR]	19.6 [15.9, 28.9]	25.6 [19.3, 31.0]	24.9 [16.6, 30.2]
		Min, Max	4.5, 40.2	3.9, 49.7	3.9, 49.7
	Month-2	**N**	18	34	52
		Mean[SD]	25.2 [9.1]	24.3 [9.2]	24.6 [9.1]
		Median[IQR]	24.7 [18.2, 30.6]	25.2 [19.2, 28.5]	24.7 [18.2, 30.0]
		Min, Max	11.3, 47.1	5.4, 49.0	5.4, 49.0
	Month-3	**N**	24	46	70
		Mean[SD]	24.9 [7.4]	23.1 [8.3]	23.7 [8.0]
		Median[IQR]	25.5 [18.4, 30.4]	23.0 [18.0, 27.2]	24.0 [18.0, 28.4]
		Min, Max	13.2, 41.0	5.3, 42.2	5.3, 42.2
	Month-4	**N**	17	38	55
		Mean[SD]	23.4 [9.8]	25.6 [9.2]	24.9 [9.4]
		Median[IQR]	23.8 [19.3, 26.9]	25.6 [19.4, 32.0]	25.2 [19.3, 31.2]
		Min, Max	5.4, 46.3	5.9, 45.8	5.4, 46.3
	Month-5	**N**	18	42	60
		Mean[SD]	23.8 [8.5]	23.1 [8.3]	23.3 [8.3]
		Median[IQR]	23.6 [18.0, 31.8]	23.0 [18.6, 27.8]	23.5 [18.3, 29.9]
		Min, Max	4.5, 38.3	4.8, 44.8	4.5, 44.8
	Month-6	**N**	20	45	65
		Mean[SD]	21.9 [7.2]	25.3 [9.4]	24.2 [8.9]
		Median[IQR]	20.4 [17.4, 25.6]	25.3 [19.6, 29.4]	23.5 [18.0, 28.7]
		Min, Max	10.3, 37.7	4.9, 54.2	4.9, 54.2
Pre-dialysis urea (mmol/L) routine clinical data	**Baseline**	**N**	38	56	94
		Mean[SD]	19.8 [7.4]	21.1 [6.6]	20.6 [6.9]
		Median[IQR]	19.4 [14.2, 24.6]	21.1 [17.4, 25.6]	20.2 [16.0, 24.8]
		Min, Max	7.2, 37.3	7.3, 36.2	7.2, 37.3
	Month-1	**N**	35	50	85
		Mean[SD]	19.4 [7.1]	18.3 [6.1]	18.7 [6.5]
		Median[IQR]	17.8 [14.3, 23.1]	18.8 [13.2, 22.0]	18.3 [14.1, 22.4]
		Min, Max	8.5, 36.2	6.1, 28.8	6.1, 36.2
	Month-2	**N**	35	51	86
		Mean[SD]	20.6 [6.5]	18.0 [6.6]	19.1 [6.7]
		Median[IQR]	21.6 [15.3, 25.4]	16.9 [13.1, 22.5]	19.8 [13.7, 23.6]
		Min, Max	9.4, 34.3	3.1, 31.9	3.1, 34.3
	Month-3	**N**	32	50	82
		Mean[SD]	18.4 [6.4]	17.4 [7.2]	17.8 [6.8]
		Median[IQR]	17.8 [14.3, 23.7]	15.9 [13.0, 20.5]	16.2 [13.7, 22.3]
		Min, Max	6.9, 34.4	3.5, 37.3	3.5, 37.3
	Month-4	**N**	34	49	83
		Mean[SD]	19.4 [6.1]	18.6 [6.8]	18.9 [6.5]
		Median[IQR]	19.7 [13.5, 24.2]	17.1 [13.7, 22.8]	17.7 [13.5, 23.6]
		Min, Max	10.1, 32.8	7.0, 34.2	7.0, 34.2
	Month-5	**N**	34	48	82
		Mean[SD]	19.6 [7.3]	18.1 [6.5]	18.7 [6.8]

		Median[IQR]	18.2 [13.2, 25.7]	18.0 [13.1, 22.7]	18.0 [13.1, 24.5]
		Min, Max	3.3, 33.5	5.0, 32.5	3.3, 33.5
	Month-6	**N**	34	47	81
		Mean[SD]	19.2 [6.3]	17.9 [6.4]	18.4 [6.3]
		Median[IQR]	18.7 [13.6, 24.3]	17.9 [13.9, 22.3]	18.0 [13.8, 23.1]
		Min, Max	6.6, 30.3	4.8, 35.0	4.8, 35.0
Post-dialysis urea (mmol/L) routine clinical data:	**Baseline**	**N**	33	52	85
		Mean[SD]	5.7 [2.6]	6.0 [3.3]	5.9 [3.0]
		Median[IQR]	5.3 [3.4, 7.4]	5.4 [3.4, 8.5]	5.3 [3.4, 7.6]
		Min, Max	1.1, 10.3	1.0, 13.4	1.0, 13.4
	Month-1	**N**	34	48	82
		Mean[SD]	5.6 [3.2]	4.1 [2.8]	4.7 [3.0]
		Median[IQR]	4.7 [3.4, 7.6]	3.8 [1.8, 5.5]	3.8 [2.7, 6.6]
		Min, Max	1.7, 16.7	0.0, 12.6	0.0, 16.7
	Month-2	**N**	34	50	84
		Mean[SD]	5.8 [2.7]	3.9 [2.3]	4.7 [2.6]
		Median[IQR]	5.4 [4.0, 7.0]	3.6 [2.4, 5.2]	4.4 [2.7, 6.4]
		Min, Max	2.0, 14.4	0.5, 10.7	0.5, 14.4
	Month-3	**N**	32	47	79
		Mean[SD]	5.1 [2.3]	3.9 [2.4]	4.4 [2.4]
		Median[IQR]	5.2 [3.2, 6.7]	3.9 [1.8, 5.4]	4.2 [2.3, 6.3]
		Min, Max	1.4, 9.9	0.5, 10.6	0.5, 10.6
	Month-4	**N**	35	48	83
		Mean[SD]	5.9 [2.8]	4.3 [2.6]	4.9 [2.8]
		Median[IQR]	5.1 [4.1, 8.2]	3.8 [2.0, 5.4]	4.5 [2.9, 6.2]
		Min, Max	2.1, 14.4	0.5, 12.9	0.5, 14.4
	Month-5	**N**	33	48	81
		Mean[SD]	6.0 [3.2]	4.3 [2.8]	5.0 [3.1]
		Median[IQR]	6.3 [3.3, 7.9]	3.5 [2.5, 5.5]	4.1 [2.8, 7.0]
		Min, Max	1.4, 14.4	0.5, 13.8	0.5, 14.4
	Month-6	**N**	32	44	76
		Mean[SD]	5.5 [2.3]	3.9 [2.3]	4.6 [2.4]
		Median[IQR]	5.2 [3.8, 6.9]	3.6 [2.5, 5.1]	4.1 [2.8, 6.3]
		Min, Max	1.7, 10.3	0.5, 11.7	0.5, 11.7
Post-dialysis weight (kg) routine clinical data:	**Baseline**	**N**	40	55	95
		Mean[SD]	81.9 [23.0]	83.4 [21.1]	82.8 [21.8]
		Median[IQR]	77.2 [68.6, 92.1]	83.3 [68.0, 97.7]	78.0 [68.6, 96.8]
		Min, Max	39.8, 139.4	48.5, 128.8	39.8, 139.4
	Month-1	**N**	36	49	85
		Mean[SD]	82.3 [23.1]	84.9 [20.4]	83.8 [21.5]
		Median[IQR]	76.9 [69.9, 93.5]	83.4 [69.3, 99.0]	81.7 [69.3, 96.2]
		Min, Max	39.6, 139.0	46.1, 128.0	39.6, 139.0
	Month-2	**N**	35	51	86
		Mean[SD]	81.8 [22.9]	83.1 [20.3]	82.6 [21.3]
		Median[IQR]	77.8 [69.0, 92.2]	81.5 [69.1, 96.9]	80.1 [69.1, 93.3]
		Min, Max	40.4, 138.7	45.0, 130.4	40.4, 138.7
	Month-3	**N**	33	48	81
		Mean[SD]	82.6 [23.9]	84.4 [20.5]	83.7 [21.8]
		Median[IQR]	77.2 [68.9, 91.0]	83.2 [68.8, 98.2]	81.4 [68.9, 97.8]
		Min, Max	41.5, 139.1	43.6, 133.0	41.5, 139.1
	Month-4	**N**	34	46	80
		Mean[SD]	82.3 [23.1]	84.4 [21.0]	83.5 [21.8]
		Median[IQR]	77.2 [69.3, 90.6]	82.4 [68.2, 97.2]	80.6 [69.0, 96.8]

		Min, Max	41.7, 138.6	41.0, 133.9	41.0, 138.6
	Month-5	**N**	33	45	78
		Mean[SD]	82.5 [23.6]	83.7 [21.1]	83.2 [22.0]
		Median[IQR]	77.4 [69.3, 91.4]	82.1 [66.8, 96.5]	79.6 [69.2, 96.5]
		Min, Max	41.9, 139.0	42.6, 133.0	41.9, 139.0
	Month-6	**N**	34	44	78
		Mean[SD]	81.7 [23.2]	84.1 [21.1]	83.1 [21.9]
		Median[IQR]	75.5 [69.5, 91.2]	81.4 [66.2, 98.6]	79.9 [68.0, 98.5]
		Min, Max	42.2, 138.9	42.5, 134.2	42.2, 138.9
Ultrafiltration volume removed (mLs) routine clinical data:	**Baseline**	**N**	40	57	97
		Mean[SD]	1902.7 [1000.6]	2026.2 [1172.7]	1975.2 [1101.2]
		Median[IQR]	2000.0 [1200.0, 2650.0]	2000.0 [1300.0, 2900.0]	2000.0 [1300.0, 2700.0]
		Min, Max	0.0, 4000.0	0.0, 4500.0	0.0, 4500.0
	Month-1	**N**	36	49	85
		Mean[SD]	1856.9 [1234.8]	1873.1 [1331.4]	1866.2 [1283.8]
		Median[IQR]	1995.0 [1000.0, 3000.0]	1983.0 [800.0, 2800.0]	1990.0 [1000.0, 3000.0]
		Min, Max	1.0, 4000.0	0.0, 4900.0	0.0, 4900.0
	Month-2	**N**	35	51	86
		Mean[SD]	2254.3 [912.4]	2396.4 [1199.1]	2338.6 [1088.0]
		Median[IQR]	2000.0 [1700.0, 2800.0]	2100.0 [1500.0, 3100.0]	2050.0 [1600.0, 3000.0]
		Min, Max	500.0, 4900.0	0.0, 5000.0	0.0, 5000.0
	Month-3	**N**	34	50	84
		Mean[SD]	1974.2 [1015.7]	2148.9 [1313.1]	2078.2 [1198.1]
		Median[IQR]	2000.0 [1300.0, 2800.0]	2019.5 [1400.0, 3000.0]	2000.0 [1380.0, 3000.0]
		Min, Max	2.0, 4000.0	0.0, 5500.0	0.0, 5500.0
	Month-4	**N**	35	49	84
		Mean[SD]	1601.5 [1031.9]	2256.2 [1247.9]	1983.4 [1200.9]
		Median[IQR]	1700.0 [500.0, 2500.0]	2100.0 [1600.0, 3000.0]	2000.0 [1250.0, 2700.0]
		Min, Max	1.0, 4000.0	0.0, 4900.0	0.0, 4900.0
	Month-5	**N**	34	47	81
		Mean[SD]	1937.2 [933.6]	1908.9 [1245.3]	1920.8 [1118.7]
		Median[IQR]	2050.0 [1500.0, 2600.0]	2000.0 [1000.0, 2900.0]	2000.0 [1100.0, 2600.0]
		Min, Max	3.0, 4000.0	0.0, 4000.0	0.0, 4000.0
	Month-6	**N**	34	46	80
		Mean[SD]	1826.4 [1126.6]	2023.5 [1306.9]	1939.7 [1229.9]
		Median[IQR]	2000.0 [1000.0, 2400.0]	2100.0 [1000.0, 3000.0]	2000.0 [1000.0, 2800.0]
		Min, Max	1.0, 4000.0	0.0, 4500.0	0.0, 4500.0
Urea reduction ratio (%):	**Baseline**	**N**	32	51	83
		Mean[SD]	70.2 [13.2]	71.4 [14.2]	70.9 [13.8]
		Median[IQR]	69.0 [66.0, 77.5]	75.0 [65.0, 80.0]	73.0 [65.0, 79.0]
		Min, Max	12.0, 86.0	4.0, 91.0	4.0, 91.0
	Month-1	**N**	34	48	82
		Mean[SD]	72.0 [8.0]	79.1 [10.1]	76.2 [9.9]
		Median[IQR]	73.5 [66.0, 76.0]	80.0 [75.0, 85.5]	76.5 [70.0, 83.0]
		Min, Max	54.0, 87.0	54.0, 100.0	54.0, 100.0
		N	34	50	84

	Month-2	**Mean[SD]**	72.0 [8.4]	79.0 [7.6]	76.1 [8.6]
		Median[IQR]	72.0 [68.0, 78.0]	79.0 [76.0, 84.0]	78.0 [70.5, 81.5]
		Min, Max	47.0, 87.0	56.0, 93.0	47.0, 93.0
	Month-3	**N**	31	47	78
		Mean[SD]	71.6 [8.2]	78.3 [9.0]	75.7 [9.2]
		Median[IQR]	71.0 [67.0, 79.0]	79.0 [74.0, 85.0]	77.5 [70.0, 83.0]
		Min, Max	56.0, 86.0	50.0, 91.0	50.0, 91.0
	Month-4	**N**	34	48	82
		Mean[SD]	70.1 [9.7]	78.1 [8.5]	74.8 [9.8]
		Median[IQR]	70.5 [65.0, 77.0]	79.0 [74.0, 85.5]	76.5 [68.0, 81.0]
		Min, Max	52.0, 87.0	59.0, 93.0	52.0, 93.0
	Month-5	**N**	33	48	81
		Mean[SD]	70.2 [10.0]	76.9 [14.8]	74.2 [13.4]
		Median[IQR]	69.0 [65.0, 76.0]	80.0 [75.5, 84.0]	76.0 [68.0, 83.0]
		Min, Max	45.0, 87.0	0.0, 92.0	0.0, 92.0
	Month-6	**N**	32	44	76
		Mean[SD]	71.3 [8.1]	79.1 [7.2]	75.8 [8.5]
		Median[IQR]	72.0 [64.5, 78.5]	79.0 [75.0, 84.5]	76.5 [69.0, 82.0]
		Min, Max	50.0, 87.0	62.0, 92.0	50.0, 92.0
Kt/V calculation:	**Baseline**	**N**	32	49	81
		Mean[SD]	1.5 [0.4]	1.5 [0.5]	1.5 [0.5]
		Median[IQR]	1.3 [1.2, 1.8]	1.5 [1.2, 1.8]	1.4 [1.2, 1.8]
		Min, Max	0.2, 2.3	0.1, 2.8	0.1, 2.8
	Month-1	**N**	34	46	80
		Mean[SD]	1.5 [0.4]	1.9 [0.6]	1.7 [0.5]
		Median[IQR]	1.5 [1.2, 1.7]	1.9 [1.6, 2.2]	1.7 [1.3, 2.0]
		Min, Max	0.9, 2.5	0.9, 3.3	0.9, 3.3
	Month-2	**N**	34	50	84
		Mean[SD]	1.5 [0.3]	1.9 [0.4]	1.7 [0.4]
		Median[IQR]	1.5 [1.3, 1.8]	1.8 [1.7, 2.2]	1.7 [1.4, 2.0]
		Min, Max	0.8, 2.4	1.0, 3.3	0.8, 3.3
	Month-3	**N**	30	46	76
		Mean[SD]	1.5 [0.4]	1.9 [0.5]	1.7 [0.5]
		Median[IQR]	1.4 [1.3, 1.8]	1.8 [1.5, 2.2]	1.8 [1.4, 2.0]
		Min, Max	0.9, 2.5	0.8, 2.9	0.8, 2.9
	Month-4	**N**	33	45	78
		Mean[SD]	1.5 [0.4]	1.9 [0.5]	1.7 [0.5]
		Median[IQR]	1.4 [1.2, 1.7]	1.8 [1.6, 2.3]	1.7 [1.3, 1.9]
		Min, Max	0.8, 2.6	1.0, 3.2	0.8, 3.2
	Month-5	**N**	32	45	77
		Mean[SD]	1.5 [0.4]	1.9 [0.6]	1.7 [0.5]
		Median[IQR]	1.4 [1.2, 1.6]	1.9 [1.7, 2.1]	1.7 [1.3, 2.1]
		Min, Max	0.9, 2.5	0.0, 3.1	0.0, 3.1
	Month-6	**N**	32	41	73
		Mean[SD]	1.5 [0.4]	1.9 [0.5]	1.7 [0.5]
		Median[IQR]	1.5 [1.2, 1.7]	1.8 [1.6, 2.1]	1.7 [1.4, 1.9]
		Min, Max	0.9, 2.5	1.2, 3.2	0.9, 3.2
Pre dialysis systolic blood pressure (mm Hg):	**Baseline**	**N**	40	56	96
		Mean[SD]	146.2 [25.5]	146.4 [28.9]	146.3 [27.4]
		Median[IQR]	146.5 [128.5, 166.5]	144.5 [126.5, 168.0]	145.5 [127.5, 168.0]
		Min, Max	85.0, 187.0	77.0, 196.0	77.0, 196.0
		N	36	50	86

	Month-1	**Mean[SD]**	147.1 [32.9]	147.8 [31.4]	147.5 [31.9]
		Median[IQR]	138.5 [124.0, 168.5]	148.0 [122.0, 169.0]	143.0 [123.0, 169.0]
		Min, Max	84.0, 232.0	68.0, 221.0	68.0, 232.0
	Month-2	**N**	36	50	86
		Mean[SD]	142.8 [23.0]	145.7 [32.2]	144.5 [28.6]
		Median[IQR]	142.0 [129.0, 158.5]	148.5 [117.0, 166.0]	145.5 [124.0, 163.0]
		Min, Max	94.0, 199.0	67.0, 214.0	67.0, 214.0
	Month-3	**N**	35	50	85
		Mean[SD]	142.7 [26.0]	140.4 [27.7]	141.3 [26.9]
		Median[IQR]	145.0 [119.0, 167.0]	140.0 [122.0, 159.0]	141.0 [120.0, 161.0]
		Min, Max	87.0, 187.0	81.0, 204.0	81.0, 204.0
	Month-4	**N**	33	48	81
		Mean[SD]	140.6 [29.2]	143.4 [26.1]	142.3 [27.2]
		Median[IQR]	135.0 [122.0, 156.0]	139.5 [122.5, 161.0]	139.0 [122.0, 160.0]
		Min, Max	86.0, 204.0	83.0, 201.0	83.0, 204.0
	Month-5	**N**	35	48	83
		Mean[SD]	140.9 [25.6]	140.0 [23.8]	140.4 [24.5]
		Median[IQR]	133.0 [119.0, 163.0]	134.0 [125.0, 157.0]	134.0 [123.0, 161.0]
		Min, Max	104.0, 191.0	90.0, 196.0	90.0, 196.0
	Month-6	**N**	34	46	80
		Mean[SD]	139.2 [28.6]	138.5 [28.3]	138.8 [28.3]
		Median[IQR]	140.5 [119.0, 152.0]	142.5 [117.0, 160.0]	141.0 [118.5, 157.5]
		Min, Max	92.0, 221.0	76.0, 194.0	76.0, 221.0
Pre dialysis diastolic blood pressure (mm Hg):	**Baseline**	**N**	40	56	96
		Mean[SD]	77.6 [17.9]	77.8 [16.7]	77.7 [17.1]
		Median[IQR]	78.5 [65.0, 87.0]	79.0 [65.5, 87.5]	79.0 [65.0, 87.0]
		Min, Max	44.0, 116.0	48.0, 125.0	44.0, 125.0
	Month-1	**N**	36	50	86
		Mean[SD]	75.1 [17.0]	80.3 [19.0]	78.1 [18.3]
		Median[IQR]	76.5 [65.5, 83.0]	83.0 [65.0, 95.0]	79.5 [65.0, 91.0]
		Min, Max	44.0, 130.0	41.0, 124.0	41.0, 130.0
	Month-2	**N**	36	50	86
		Mean[SD]	75.4 [15.2]	80.9 [19.2]	78.6 [17.7]
		Median[IQR]	74.5 [65.0, 84.0]	78.0 [68.0, 94.0]	76.0 [68.0, 89.0]
		Min, Max	49.0, 129.0	40.0, 130.0	40.0, 130.0
	Month-3	**N**	35	50	85
		Mean[SD]	76.0 [17.8]	73.8 [17.5]	74.7 [17.6]
		Median[IQR]	77.0 [62.0, 89.0]	72.0 [61.0, 84.0]	75.0 [61.0, 85.0]
		Min, Max	40.0, 113.0	28.0, 114.0	28.0, 114.0
	Month-4	**N**	33	48	81
		Mean[SD]	72.3 [17.7]	75.3 [15.2]	74.1 [16.2]
		Median[IQR]	70.0 [62.0, 83.0]	73.0 [65.0, 85.5]	73.0 [63.0, 85.0]
		Min, Max	40.0, 114.0	46.0, 114.0	40.0, 114.0
	Month-5	**N**	35	48	83
		Mean[SD]	72.2 [14.3]	75.2 [14.7]	74.0 [14.6]
		Median[IQR]	72.0 [62.0, 84.0]	76.0 [64.0, 86.0]	73.0 [64.0, 84.0]
		Min, Max	43.0, 102.0	43.0, 111.0	43.0, 111.0
	Month-6	**N**	34	46	80
		Mean[SD]	73.4 [16.8]	71.9 [17.3]	72.5 [17.0]
		Median[IQR]	74.0 [63.0, 84.0]	73.0 [56.0, 83.0]	73.0 [60.0, 83.5]
		Min, Max	39.0, 108.0	20.0, 106.0	20.0, 108.0

Abbreviations: SD= Standard deviation; IQR= Inter-quartile range
NB: *N represents the number of participants with available data for the variable.*

13 Medication information

Table 20: Medication information by treatment group at baseline and 6-month

Medication	Type of medication	Daytime dialysis N=43	Nocturnal dialysis N=57	Overall N=100
Anti-hypertensive medication:				
Baseline	**No medication**	12 (27.9%)	12 (21.1%)	24 (24.0%)
	1	10 (23.3%)	18 (31.6%)	28 (28.0%)
	2	12 (27.9%)	13 (22.8%)	25 (25.0%)
	3	7 (16.3%)	8 (14.0%)	15 (15.0%)
	4	2 (4.65%)	3 (5.26%)	5 (5.00%)
	5	0 (0.0%)	3 (5.26%)	3 (3.00%)
Month-6	**No medication**	16 (37.2%)	20 (35.1%)	36 (36.0%)
	1	8 (18.6%)	16 (28.1%)	24 (24.0%)
	2	12 (27.9%)	8 (14.0%)	20 (20.0%)
	3	5 (11.6%)	8 (14.0%)	13 (13.0%)
	4	2 (4.65%)	4 (7.02%)	6 (6.00%)
	5	0 (0.0%)	1 (1.75%)	1 (1.00%)
Phosphate binders:				
Baseline	**No medication**	19 (44.2%)	19 (33.3%)	38 (38.0%)
	1	21 (48.8%)	35 (61.4%)	56 (56.0%)
	2	3 (6.98%)	3 (5.26%)	6 (6.00%)
Month-6	**No medication**	18 (41.9%)	27 (47.4%)	45 (45.0%)
	1	21 (48.8%)	28 (49.1%)	49 (49.0%)
	2	4 (9.30%)	2 (3.51%)	6 (6.00%)
Potassium binders:				
Baseline	**No medication**	41 (95.4%)	49 (86.0%)	90 (90.0%)
	1	2 (4.65%)	8 (14.0%)	10 (10.0%)
Month-6	**No medication**	41 (95.4%)	55 (96.5%)	96 (96.0%)
	1	2 (4.65%)	2 (3.51%)	4 (4.00%)

Note: *Where yes was not indicated for each medication type it is assumed that the participant was not receiving that medication.*

Table 21: Baseline Medication Information by Treatment Arm and Overall: Descriptive Statistics

Characteristics	Categories	Daytime N=43	Nocturnal N=57	Total N=100
Anti-hypertensive medication	No	12 (27.9%)	12 (21.1%)	24 (24.0%)
	Yes	31 (72.1%)	45 (78.9%)	76 (76.0%)
Ramipril	No	24 (77.4%)	38 (84.4%)	62 (81.6%)
	Yes	7 (22.6%)	7 (15.6%)	14 (18.4%)
Total daily dose (mg)				
	Mean[SD]	3.6 [3.1]	6.1 [4.2]	4.8 [3.8]
	Median[IQR]	2.5 [1.2, 5.0]	7.5 [1.2, 10.0]	2.5 [1.2, 10.0]
	Min, Max	1.2, 10.0	1.2, 10.0	1.2, 10.0

Captopril	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Enalapril	No	30 (96.8%)	45 (100.0%)	75 (98.7%)
	Yes	1 (3.2%)	0 (0.0%)	1 (1.3%)
Total daily dose (mg)				
	Mean[SD]	20.0 [.]	. [.]	20.0 [.]
	Median[IQR]	20.0 [20.0, 20.0]	. [., .]	20.0 [20.0, 20.0]
	Min, Max	20.0, 20.0	., .	20.0, 20.0
Fosinopril	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Imidapril	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Lisinopril	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Perindopril Arginine	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Perindopril Erbumine	No	31 (100.0%)	44 (97.8%)	75 (98.7%)
	Yes	0 (0.0%)	1 (2.2%)	1 (1.3%)
Total daily dose (mg)				
	Mean[SD]	. [.]	4.0 [.]	4.0 [.]
	Median[IQR]	. [., .]	4.0 [4.0, 4.0]	4.0 [4.0, 4.0]
	Min, Max	., .	4.0, 4.0	4.0, 4.0
Quinapril	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Trandolapril	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Candesartan	No	30 (96.8%)	44 (97.8%)	74 (97.4%)
	Yes	1 (3.2%)	1 (2.2%)	2 (2.6%)
Total daily dose (mg)				
	Mean[SD]	16.0 [.]	16.0 [.]	16.0 [0.0]
	Median[IQR]	16.0 [16.0, 16.0]	16.0 [16.0, 16.0]	16.0 [16.0, 16.0]
	Min, Max	16.0, 16.0	16.0, 16.0	16.0, 16.0
Losartan	No	31 (100.0%)	43 (95.6%)	74 (97.4%)
	Yes	0 (0.0%)	2 (4.4%)	2 (2.6%)
Total daily dose (mg)				
	Mean[SD]	. [.]	100.0 [0.0]	100.0 [0.0]
	Median[IQR]	. [., .]	100.0 [100.0, 100.0]	100.0 [100.0, 100.0]
	Min, Max	., .	100.0, 100.0	100.0, 100.0
Irbesartan	No	28 (90.3%)	42 (93.3%)	70 (92.1%)
	Yes	3 (9.7%)	3 (6.7%)	6 (7.9%)
Total daily dose (mg)				
	Mean[SD]	200.0 [86.6]	300.0 [0.0]	250.0 [77.5]
	Median[IQR]	150.0 [150.0, 300.0]	300.0 [300.0, 300.0]	300.0 [150.0, 300.0]
	Min, Max	150.0, 300.0	300.0, 300.0	150.0, 300.0
Telmisartan	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Valsartan	No	31 (100.0%)	44 (97.8%)	75 (98.7%)
	Yes	0 (0.0%)	1 (2.2%)	1 (1.3%)
Total daily dose (mg)				
	Mean[SD]	. [.]	103.0 [.]	103.0 [.]

	Median[IQR]	. [., .]	103.0 [103.0, 103.0]	103.0 [103.0, 103.0]
	Min, Max	., .	103.0, 103.0	103.0, 103.0
Amlodipine	No	13 (41.9%)	23 (51.1%)	36 (47.4%)
	Yes	18 (58.1%)	22 (48.9%)	40 (52.6%)
Total daily dose (mg)				
	Mean[SD]	9.2 [1.9]	9.8 [1.1]	9.5 [1.5]
	Median[IQR]	10.0 [10.0, 10.0]	10.0 [10.0, 10.0]	10.0 [10.0, 10.0]
	Min, Max	5.0, 10.0	5.0, 10.0	5.0, 10.0
Nifedipine	No	30 (96.8%)	43 (95.6%)	73 (96.1%)
	Yes	1 (3.2%)	2 (4.4%)	3 (3.9%)
Total daily dose (mg)				
	Mean[SD]	40.0 [.]	80.0 [0.0]	66.7 [23.1]
	Median[IQR]	40.0 [40.0, 40.0]	80.0 [80.0, 80.0]	80.0 [40.0, 80.0]
	Min, Max	40.0, 40.0	80.0, 80.0	40.0, 80.0
Felodipine	No	30 (96.8%)	45 (100.0%)	75 (98.7%)
	Yes	1 (3.2%)	0 (0.0%)	1 (1.3%)
Total daily dose (mg)				
	Mean[SD]	10.0 [.]	. [.]	10.0 [.]
	Median[IQR]	10.0 [10.0, 10.0]	. [., .]	10.0 [10.0, 10.0]
	Min, Max	10.0, 10.0	., .	10.0, 10.0
Lacidipine	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Lercanidipine	No	31 (100.0%)	43 (95.6%)	74 (97.4%)
	Yes	0 (0.0%)	2 (4.4%)	2 (2.6%)
Total daily dose (mg)				
	Mean[SD]	. [.]	15.0 [7.1]	15.0 [7.1]
	Median[IQR]	. [., .]	15.0 [10.0, 20.0]	15.0 [10.0, 20.0]
	Min, Max	., .	10.0, 20.0	10.0, 20.0
Nicardipine	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Bendroflumethiazide	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Indapamide	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Spironolactone	No	30 (96.8%)	43 (95.6%)	73 (96.1%)
	Yes	1 (3.2%)	2 (4.4%)	3 (3.9%)
Total daily dose (mg)				
	Mean[SD]	25.0 [.]	25.0 [0.0]	25.0 [0.0]
	Median[IQR]	25.0 [25.0, 25.0]	25.0 [25.0, 25.0]	25.0 [25.0, 25.0]
	Min, Max	25.0, 25.0	25.0, 25.0	25.0, 25.0
Doxazosin	No	18 (58.1%)	28 (62.2%)	46 (60.5%)
	Yes	13 (41.9%)	17 (37.8%)	30 (39.5%)
Total daily dose (mg)				
	Mean[SD]	8.5 [5.7]	8.0 [4.3]	8.2 [4.9]
	Median[IQR]	8.0 [4.0, 16.0]	8.0 [4.0, 8.0]	8.0 [4.0, 8.0]
	Min, Max	1.0, 16.0	2.0, 16.0	1.0, 16.0
Prazosin	No	30 (96.8%)	45 (100.0%)	75 (98.7%)
	Yes	1 (3.2%)	0 (0.0%)	1 (1.3%)
Total daily dose (mg)				

	Mean[SD]	2.5 [.]	. [.]	2.5 [.]
	Median[IQR]	2.5 [2.5, 2.5]	. [., .]	2.5 [2.5, 2.5]
	Min, Max	2.5, 2.5	., .	2.5, 2.5
Terazosin	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Bisoprolol	No	20 (64.5%)	21 (46.7%)	41 (53.9%)
	Yes	11 (35.5%)	24 (53.3%)	35 (46.1%)
Total daily dose (mg)				
	Mean[SD]	4.6 [3.3]	5.6 [3.6]	5.3 [3.5]
	Median[IQR]	2.5 [2.5, 7.5]	3.8 [2.5, 10.0]	3.8 [2.5, 10.0]
	Min, Max	1.3, 10.0	1.3, 10.0	1.3, 10.0
Atenolol	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Carvedilol	No	29 (93.5%)	39 (86.7%)	68 (89.5%)
	Yes	2 (6.5%)	6 (13.3%)	8 (10.5%)
Total daily dose (mg)				
	Mean[SD]	14.1 [15.5]	10.4 [8.3]	11.3 [9.3]
	Median[IQR]	14.1 [3.1, 25.0]	9.4 [3.1, 12.5]	9.4 [3.1, 18.8]
	Min, Max	3.1, 25.0	3.1, 25.0	3.1, 25.0
Labetalol	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Propranolol	No	30 (96.8%)	45 (100.0%)	75 (98.7%)
	Yes	1 (3.2%)	0 (0.0%)	1 (1.3%)
Total daily dose (mg)				
	Mean[SD]	80.0 [.]	. [.]	80.0 [.]
	Median[IQR]	80.0 [80.0, 80.0]	. [., .]	80.0 [80.0, 80.0]
	Min, Max	80.0, 80.0	., .	80.0, 80.0
Methyldopa	No	31 (100.0%)	45 (100.0%)	76 (100.0%)
Clonidine	No	30 (96.8%)	45 (100.0%)	75 (98.7%)
	Yes	1 (3.2%)	0 (0.0%)	1 (1.3%)
Total daily dose (mg)				
	Mean[SD]	0.2 [.]	. [.]	0.2 [.]
	Median[IQR]	0.2 [0.2, 0.2]	. [., .]	0.2 [0.2, 0.2]
	Min, Max	0.2, 0.2	., .	0.2, 0.2
Moxonidine	No	31 (100.0%)	43 (95.6%)	74 (97.4%)
	Yes	0 (0.0%)	2 (4.4%)	2 (2.6%)
Total daily dose (mg)				
	Mean[SD]	. [.]	300.0 [141.4]	300.0 [141.4]
	Median[IQR]	. [., .]	300.0 [200.0, 400.0]	300.0 [200.0, 400.0]
	Min, Max	., .	200.0, 400.0	200.0, 400.0
Hydralazine	No	30 (96.8%)	42 (93.3%)	72 (94.7%)
	Yes	1 (3.2%)	3 (6.7%)	4 (5.3%)
Total daily dose (mg)				
	Mean[SD]	25.0 [.]	33.3 [14.4]	31.2 [12.5]
	Median[IQR]	25.0 [25.0, 25.0]	25.0 [25.0, 50.0]	25.0 [25.0, 37.5]
	Min, Max	25.0, 25.0	25.0, 50.0	25.0, 50.0
2. Phosphate binders	No	19 (44.2%)	19 (33.3%)	38 (38.0%)
	Yes	24 (55.8%)	38 (66.7%)	62 (62.0%)

Phosex 1000 mg tablets	No	20 (83.3%)	33 (86.8%)	53 (85.5%)
	Yes	4 (16.7%)	5 (13.2%)	9 (14.5%)
Total daily tablets/sachets				
	Mean[SD]	2.8 [0.5]	4.4 [2.3]	3.7 [1.9]
	Median[IQR]	3.0 [2.5, 3.0]	6.0 [3.0, 6.0]	3.0 [3.0, 6.0]
	Min, Max	2.0, 3.0	1.0, 6.0	1.0, 6.0
Total daily dose (mg)				
	Mean[SD]	2750.0 [500.0]	3600.0 [2302.2]	3222.2 [1715.9]
	Median[IQR]	3000.0 [2500.0, 3000.0]	3000.0 [2000.0, 6000.0]	3000.0 [2000.0, 3000.0]
	Min, Max	2000.0, 3000.0	1000.0, 6000.0	1000.0, 6000.0
Renacet 475 mg tablets	No	23 (95.8%)	35 (92.1%)	58 (93.5%)
	Yes	1 (4.2%)	3 (7.9%)	4 (6.5%)
Total daily tablets/sachets				
	Mean[SD]	3.0 [.]	3.0 [0.0]	3.0 [0.0]
	Median[IQR]	3.0 [3.0, 3.0]	3.0 [3.0, 3.0]	3.0 [3.0, 3.0]
	Min, Max	3.0, 3.0	3.0, 3.0	3.0, 3.0
Total daily dose (mg)				
	Mean[SD]	1425.0 [.]	1425.3 [0.6]	1425.2 [0.5]
	Median[IQR]	1425.0 [1425.0, 1425.0]	1425.0 [1425.0, 1426.0]	1425.0 [1425.0, 1425.5]
	Min, Max	1425.0, 1425.0	1425.0, 1426.0	1425.0, 1426.0
Renacet 950 mg tablets	No	18 (75.0%)	30 (78.9%)	48 (77.4%)
	Yes	6 (25.0%)	8 (21.1%)	14 (22.6%)
Total daily tablets/sachets				
	Mean[SD]	4.0 [1.5]	3.9 [2.0]	3.9 [1.8]
	Median[IQR]	3.0 [3.0, 6.0]	3.0 [3.0, 4.5]	3.0 [3.0, 6.0]
	Min, Max	3.0, 6.0	2.0, 8.0	2.0, 8.0
Total daily dose (mg)				
	Mean[SD]	3800.0 [1471.7]	3681.2 [1929.5]	3732.1 [1685.6]
	Median[IQR]	2850.0 [2850.0, 5700.0]	2850.0 [2850.0, 4275.0]	2850.0 [2850.0, 5700.0]
	Min, Max	2850.0, 5700.0	1900.0, 7600.0	1900.0, 7600.0
Osvaren 435 mg tablets	No	24 (100.0%)	38 (100.0%)	62 (100.0%)
Calcium carbonate 500mg	No	22 (91.7%)	35 (92.1%)	57 (91.9%)
	Yes	2 (8.3%)	3 (7.9%)	5 (8.1%)
Total daily tablets/sachets				
	Mean[SD]	2.0 [0.0]	5.0 [2.6]	3.8 [2.5]
	Median[IQR]	2.0 [2.0, 2.0]	4.0 [3.0, 8.0]	3.0 [2.0, 4.0]
	Min, Max	2.0, 2.0	3.0, 8.0	2.0, 8.0
Total daily dose (mg)				
	Mean[SD]	501.5 [705.0]	3033.3 [2569.7]	2020.6 [2312.8]
	Median[IQR]	501.5 [3.0, 1000.0]	1600.0 [1500.0, 6000.0]	1500.0 [1000.0, 1600.0]
	Min, Max	3.0, 1000.0	1500.0, 6000.0	3.0, 6000.0
Fosrenol 500 mg tablets	No	24 (100.0%)	38 (100.0%)	62 (100.0%)
Fosrenol 750 mg tablets/sachets	No	23 (95.8%)	38 (100.0%)	61 (98.4%)
	Yes	1 (4.2%)	0 (0.0%)	1 (1.6%)

Total daily tablets/sachets				
	Mean[SD]	3.0 [.]	. [.]	3.0 [.]
	Median[IQR]	3.0 [3.0, 3.0]	. [., .]	3.0 [3.0, 3.0]
	Min, Max	3.0, 3.0	., .	3.0, 3.0
Total daily dose (mg)				
	Mean[SD]	2250.0 [.]	. [.]	2250.0 [.]
	Median[IQR]	2250.0 [2250.0, 2250.0]	. [., .]	2250.0 [2250.0, 2250.0]
	Min, Max	2250.0, 2250.0	., .	2250.0, 2250.0
Fosrenol 1000 mg tablets/sachets	No	23 (95.8%)	35 (92.1%)	58 (93.5%)
	Yes	1 (4.2%)	3 (7.9%)	4 (6.5%)
Total daily tablets/sachets				
	Mean[SD]	1.0 [.]	3.0 [0.0]	2.5 [1.0]
	Median[IQR]	1.0 [1.0, 1.0]	3.0 [3.0, 3.0]	3.0 [2.0, 3.0]
	Min, Max	1.0, 1.0	3.0, 3.0	1.0, 3.0
Total daily dose (mg)				
	Mean[SD]	1000.0 [.]	3000.0 [0.0]	2500.0 [1000.0]
	Median[IQR]	1000.0 [1000.0, 1000.0]	3000.0 [3000.0, 3000.0]	3000.0 [2000.0, 3000.0]
	Min, Max	1000.0, 1000.0	3000.0, 3000.0	1000.0, 3000.0
Velphoro 500 mg tablet	No	24 (100.0%)	37 (97.4%)	61 (98.4%)
	Yes	0 (0.0%)	1 (2.6%)	1 (1.6%)
Total daily tablets/sachets				
	Mean[SD]	. [.]	2.0 [.]	2.0 [.]
	Median[IQR]	. [., .]	2.0 [2.0, 2.0]	2.0 [2.0, 2.0]
	Min, Max	., .	2.0, 2.0	2.0, 2.0
Total daily dose (mg)				
	Mean[SD]	. [.]	2000.0 [.]	2000.0 [.]
	Median[IQR]	. [., .]	2000.0 [2000.0, 2000.0]	2000.0 [2000.0, 2000.0]
	Min, Max	., .	2000.0, 2000.0	2000.0, 2000.0
Renvela 800 mg tablets	No	12 (50.0%)	21 (55.3%)	33 (53.2%)
	Yes	12 (50.0%)	17 (44.7%)	29 (46.8%)
Total daily tablets/sachets				
	Mean[SD]	5.0 [3.7]	5.1 [2.8]	5.0 [3.2]
	Median[IQR]	3.0 [3.0, 6.0]	6.0 [3.0, 6.0]	3.0 [3.0, 6.0]
	Min, Max	2.0, 15.0	2.0, 14.0	2.0, 15.0
Total daily dose (mg)				
	Mean[SD]	4266.7 [2881.1]	4141.2 [2370.4]	4193.1 [2544.7]
	Median[IQR]	2800.0 [2400.0, 4800.0]	4800.0 [2400.0, 4800.0]	3200.0 [2400.0, 4800.0]
	Min, Max	2400.0, 12000.0	1600.0, 11200.0	1600.0, 12000.0
Renvela 2.4 gram oral powder sachets	No	24 (100.0%)	37 (97.4%)	61 (98.4%)
	Yes	0 (0.0%)	1 (2.6%)	1 (1.6%)
Total daily tablets/sachets				
	Mean[SD]	. [.]	2.0 [.]	2.0 [.]
	Median[IQR]	. [., .]	2.0 [2.0, 2.0]	2.0 [2.0, 2.0]
	Min, Max	., .	2.0, 2.0	2.0, 2.0
Total daily dose (mg)				
	Mean[SD]	. [.]	4.8 [.]	4.8 [.]

	Median[IQR]	. [., .]	4.8 [4.8, 4.8]	4.8 [4.8, 4.8]
	Min, Max	., .	4.8, 4.8	4.8, 4.8
3. Potassium binders	No	41 (95.3%)	49 (86.0%)	90 (90.0%)
	Yes	2 (4.7%)	8 (14.0%)	10 (10.0%)
Sodium Zirconium Cyclosilicate (Lokelma)	No	0 (0.0%)	2 (25.0%)	2 (20.0%)
	Yes	2 (100.0%)	6 (75.0%)	8 (80.0%)
10g daily dose		2	6	8
	Mean[SD]	0.0 [0.0]	0.7 [0.5]	0.5 [0.5]
	Median[IQR]	0.0 [0.0, 0.0]	1.0 [0.0, 1.0]	0.5 [0.0, 1.0]
	Min, Max	0.0, 0.0	0.0, 1.0	0.0, 1.0
10g four times a week (non-dialysis days)	N	2	5	7
	Mean[SD]	1.0 [0.0]	0.2 [0.4]	0.4 [0.5]
	Median[IQR]	1.0 [1.0, 1.0]	0.0 [0.0, 0.0]	0.0 [0.0, 1.0]
	Min, Max	1.0, 1.0	0.0, 1.0	0.0, 1.0
5g daily dose	N	2	2	4
	Mean[SD]	0.0 [0.0]	0.0 [0.0]	0.0 [0.0]
	Median[IQR]	0.0 [0.0, 0.0]	0.0 [0.0, 0.0]	0.0 [0.0, 0.0]
	Min, Max	0.0, 0.0	0.0, 0.0	0.0, 0.0
5g four times a week (non-dialysis days)	N	0	5	5
	Mean[SD]	. [.]	0.2 [0.4]	0.2 [0.4]
	Median[IQR]	. [., .]	0.0 [0.0, 0.0]	0.0 [0.0, 0.0]
	Min, Max	., .	0.0, 1.0	0.0, 1.0
Patiromer Calcium	No	2 (100.0%)	6 (75.0%)	8 (80.0%)
	Yes	0 (0.0%)	2 (25.0%)	2 (20.0%)
8.4g daily	N	0	2	2
	Mean[SD]	. [.]	0.0 [0.0]	0.0 [0.0]
	Median[IQR]	. [., .]	0.0 [0.0, 0.0]	0.0 [0.0, 0.0]
	Min, Max	., .	0.0, 0.0	0.0, 0.0
8.4g four times a week (non-dialysis days)	N	0	1	1
	Mean[SD]	. [.]	1.0 [.]	1.0 [.]
	Median[IQR]	. [., .]	1.0 [1.0, 1.0]	1.0 [1.0, 1.0]
	Min, Max	., .	1.0, 1.0	1.0, 1.0
16.8g daily	N	0	2	2
	Mean[SD]	. [.]	0.0 [0.0]	0.0 [0.0]
	Median[IQR]	. [., .]	0.0 [0.0, 0.0]	0.0 [0.0, 0.0]
	Min, Max	., .	0.0, 0.0	0.0, 0.0
16.8g four times a week (non-dialysis days)	N	0	1	1
	Mean[SD]	. [.]	1.0 [.]	1.0 [.]
	Median[IQR]	. [., .]	1.0 [1.0, 1.0]	1.0 [1.0, 1.0]
	Min, Max	., .	1.0, 1.0	1.0, 1.0
25.2g daily	N	0	2	2
	Mean[SD]	. [.]	0.0 [0.0]	0.0 [0.0]
	Median[IQR]	. [., .]	0.0 [0.0, 0.0]	0.0 [0.0, 0.0]
	Min, Max	., .	0.0, 0.0	0.0, 0.0
25.2g four times a week (non-dialysis days)	N	0	0	0
	Mean[SD]	. [.]	. [.]	. [.]

	Median[IQR]	. [., .]	. [., .]	. [., .]
	Min, Max	., .	., .	., .
4. Erythropoietin (EPO) and iron	No	5 (11.6%)	5 (8.8%)	10 (10.0%)
	Yes	38 (88.4%)	52 (91.2%)	90 (90.0%)
Eprex – Epoetin Alfa	No	28 (73.7%)	34 (66.7%)	62 (69.7%)
	Yes	10 (26.3%)	17 (33.3%)	27 (30.3%)
Dose mcg/week		10	17	27
	Mean [SD]	57.0 [30.2]	50.3 [27.3]	52.8 [28.0]
	Median[IQR]	45.0 [30.0, 90.0]	45.0 [30.0, 60.0]	45.0 [30.0, 75.0]
	Min, Max	20.0, 105.0	10.0, 120.0	10.0, 120.0
Aranesp - Darbepoetin Alfa	No	17 (44.7%)	23 (44.2%)	40 (44.4%)
	Yes	21 (55.3%)	29 (55.8%)	50 (55.6%)
Dose mcg/week				
	Mean[SD]	44.9 [32.8]	38.0 [22.9]	40.9 [27.4]
	Median[IQR]	40.0 [20.0, 60.0]	40.0 [20.0, 40.0]	40.0 [20.0, 50.0]
	Min, Max	3.0, 120.0	3.0, 120.0	3.0, 120.0
Erythropoietin (EPO) Alfa Total	No	7 (18.4%)	5 (9.8%)	12 (13.5%)
	Yes	31 (81.6%)	46 (90.2%)	77 (86.5%)
EPO Alfa Total Dose mcg/week		31	46	77
	Mean[SD]	48.8 [32.0]	42.6 [25.0]	45.1 [28.0]
	Median[IQR]	40.0 [20.0, 75.0]	40.0 [20.0, 50.0]	40.0 [20.0, 60.0]
	Min, Max	3.0, 120.0	3.0, 120.0	3.0, 120.0
Iron Isomaltoside 1000 (Monofer)	No	38 (100.0%)	52 (100.0%)	90 (100.0%)
Iron Hydroxide Sucrose (Venofer)	No	22 (57.9%)	28 (53.8%)	50 (55.6%)
	Yes	16 (42.1%)	24 (46.2%)	40 (44.4%)
Dose mg/week:				
	Mean[SD]	106.7 [41.7]	103.8 [47.5]	105.0 [44.5]
	Median[IQR]	100.0 [100.0, 100.0]	100.0 [100.0, 100.0]	100.0 [100.0, 100.0]
	Min, Max	50.0, 200.0	25.0, 200.0	25.0, 200.0

Table 22: 6-Month Medication Information by Treatment Arm and Overall: Descriptive Statistics

Characteristics	Categories	Daytime N=43	Nocturnal N=57	Total N=100
Anti-hypertensive medication	No	7 (20.6%)	10 (21.3%)	17 (21.0%)
	Yes	27 (79.4%)	37 (78.7%)	64 (79.0%)
Ramipril	No	21 (77.8%)	31 (83.8%)	52 (81.2%)
	Yes	6 (22.2%)	6 (16.2%)	12 (18.8%)
Total daily dose (mg)		6	6	12
	Mean[SD]	5.8 [3.4]	7.5 [3.2]	6.7 [3.3]

	Median[IQR]	5.0 [2.5, 10.0]	8.8 [5.0, 10.0]	6.2 [3.8, 10.0]
	Min, Max	2.5, 10.0	2.5, 10.0	2.5, 10.0
Captopril	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Enalapril	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Fosinopril	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Imidapril	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Lisinopril	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Perindopril Arginine	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Perindopril Erbumine	No	27 (100.0%)	36 (97.3%)	63 (98.4%)
	Yes	0 (0.0%)	1 (2.7%)	1 (1.6%)
Total daily dose (mg)		0	1	1
	Mean[SD]	. [.]	4.0 [.]	4.0 [.]
	Median[IQR]	. [., .]	4.0 [4.0, 4.0]	4.0 [4.0, 4.0]
	Min, Max	., .	4.0, 4.0	4.0, 4.0
Quinapril	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Trandolapril	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Candesartan	No	26 (96.3%)	36 (100.0%)	62 (98.4%)
	Yes	1 (3.7%)	0 (0.0%)	1 (1.6%)
Total daily dose (mg)		1	0	1
	Mean[SD]	16.0 [.]	. [.]	16.0 [.]
	Median[IQR]	16.0 [16.0, 16.0]	. [., .]	16.0 [16.0, 16.0]
	Min, Max	16.0, 16.0	., .	16.0, 16.0
Losartan	No	27 (100.0%)	34 (91.9%)	61 (95.3%)
	Yes	0 (0.0%)	3 (8.1%)	3 (4.7%)
Total daily dose (mg)		0	3	3
	Mean[SD]	. [.]	100.0 [0.0]	100.0 [0.0]
	Median[IQR]	. [., .]	100.0 [100.0, 100.0]	100.0 [100.0, 100.0]
	Min, Max	., .	100.0, 100.0	100.0, 100.0
Irbesartan	No	25 (92.6%)	35 (94.6%)	60 (93.8%)
	Yes	2 (7.4%)	2 (5.4%)	4 (6.2%)
Total daily dose (mg)		2	2	4
	Mean[SD]	225.0 [106.1]	300.0 [0.0]	262.5 [75.0]
	Median[IQR]	225.0 [150.0, 300.0]	300.0 [300.0, 300.0]	300.0 [225.0, 300.0]
	Min, Max	150.0, 300.0	300.0, 300.0	150.0, 300.0
Telmisartan	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Valsartan	No	27 (100.0%)	35 (94.6%)	62 (96.9%)
	Yes	0 (0.0%)	2 (5.4%)	2 (3.1%)
Total daily dose (mg)		0	2	2
	Mean[SD]	. [.]	77.0 [36.8]	77.0 [36.8]
	Median[IQR]	. [., .]	77.0 [51.0, 103.0]	77.0 [51.0, 103.0]
	Min, Max	., .	51.0, 103.0	51.0, 103.0

Amlodipine	No	11 (40.7%)	18 (48.6%)	29 (45.3%)
	Yes	16 (59.3%)	19 (51.4%)	35 (54.7%)
Total daily dose (mg)		16	19	35
	Mean[SD]	9.1 [2.0]	8.7 [2.3]	8.9 [2.1]
	Median[IQR]	10.0 [10.0, 10.0]	10.0 [5.0, 10.0]	10.0 [10.0, 10.0]
	Min, Max	5.0, 10.0	5.0, 10.0	5.0, 10.0
Nifedipine	No	26 (96.3%)	35 (94.6%)	61 (95.3%)
	Yes	1 (3.7%)	2 (5.4%)	3 (4.7%)
Total daily dose (mg)		1	2	3
	Mean[SD]	40.0 [.]	42.5 [53.0]	41.7 [37.5]
	Median[IQR]	40.0 [40.0, 40.0]	42.5 [5.0, 80.0]	40.0 [5.0, 80.0]
	Min, Max	40.0, 40.0	5.0, 80.0	5.0, 80.0
Felodipine	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Lacidipine	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Lercanidipine	No	26 (96.3%)	36 (97.3%)	62 (96.9%)
	Yes	1 (3.7%)	1 (2.7%)	2 (3.1%)
Total daily dose (mg)		1	1	2
	Mean[SD]	10.0 [.]	20.0 [.]	15.0 [7.1]
	Median[IQR]	10.0 [10.0, 10.0]	20.0 [20.0, 20.0]	15.0 [10.0, 20.0]
	Min, Max	10.0, 10.0	20.0, 20.0	10.0, 20.0
Nicardipine	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Bendroflumethiazide	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Indapamide	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Spironolactone	No	25 (92.6%)	37 (100.0%)	62 (96.9%)
	Yes	2 (7.4%)	0 (0.0%)	2 (3.1%)
Total daily dose (mg)		2	0	2
	Mean[SD]	75.0 [35.4]	. [.]	75.0 [35.4]
	Median[IQR]	75.0 [50.0, 100.0]	. [., .]	75.0 [50.0, 100.0]
	Min, Max	50.0, 100.0	., .	50.0, 100.0
Doxazosin	No	16 (59.3%)	23 (62.2%)	39 (60.9%)
	Yes	11 (40.7%)	14 (37.8%)	25 (39.1%)
Total daily dose (mg)		11	14	25
	Mean[SD]	9.5 [5.4]	8.7 [4.9]	9.0 [5.0]
	Median[IQR]	8.0 [4.0, 16.0]	8.0 [4.0, 12.0]	8.0 [4.0, 16.0]
	Min, Max	4.0, 16.0	2.0, 16.0	2.0, 16.0
Prazosin	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Terazosin	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Bisoprolol	No	18 (66.7%)	20 (54.1%)	38 (59.4%)
	Yes	9 (33.3%)	17 (45.9%)	26 (40.6%)
Total daily dose (mg)		9	17	26
	Mean[SD]	5.1 [3.3]	5.9 [3.8]	5.6 [3.6]
	Median[IQR]	5.0 [2.5, 7.5]	3.8 [2.5, 10.0]	4.4 [2.5, 10.0]
	Min, Max	1.3, 10.0	1.3, 10.0	1.3, 10.0

Atenolol	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Carvedilol	No	25 (92.6%)	31 (83.8%)	56 (87.5%)
	Yes	2 (7.4%)	6 (16.2%)	8 (12.5%)
Total daily dose (mg)		2	6	8
	Mean[SD]	4.7 [2.2]	25.5 [37.3]	20.3 [33.0]
	Median[IQR]	4.7 [3.1, 6.2]	9.4 [6.2, 25.0]	6.2 [4.7, 18.8]
	Min, Max	3.1, 6.2	3.1, 100.0	3.1, 100.0
Labetalol	No	27 (100.0%)	35 (94.6%)	62 (96.9%)
	Yes	0 (0.0%)	2 (5.4%)	2 (3.1%)
Total daily dose (mg)		0	2	2
	Mean[SD]	. [.]	1000.0 [282.8]	1000.0 [282.8]
	Median[IQR]	. [., .]	1000.0 [800.0, 1200.0]	1000.0 [800.0, 1200.0]
	Min, Max	., .	800.0, 1200.0	800.0, 1200.0
Propranolol	No	26 (96.3%)	37 (100.0%)	63 (98.4%)
	Yes	1 (3.7%)	0 (0.0%)	1 (1.6%)
Total daily dose (mg)		1	0	1
	Mean[SD]	80.0 [.]	. [.]	80.0 [.]
	Median[IQR]	80.0 [80.0, 80.0]	. [., .]	80.0 [80.0, 80.0]
	Min, Max	80.0, 80.0	., .	80.0, 80.0
Methyldopa	No	27 (100.0%)	37 (100.0%)	64 (100.0%)
Clonidine	No	26 (96.3%)	37 (100.0%)	63 (98.4%)
	Yes	1 (3.7%)	0 (0.0%)	1 (1.6%)
Total daily dose (mg)		1	0	1
	Mean[SD]	0.2 [.]	. [.]	0.2 [.]
	Median[IQR]	0.2 [0.2, 0.2]	. [., .]	0.2 [0.2, 0.2]
	Min, Max	0.2, 0.2	., .	0.2, 0.2
Moxonidine	No	26 (96.3%)	35 (94.6%)	61 (95.3%)
	Yes	1 (3.7%)	2 (5.4%)	3 (4.7%)
Total daily dose (mg)		1	2	3
	Mean[SD]	300.0 [.]	200.0 [0.0]	233.3 [57.7]
	Median[IQR]	300.0 [300.0, 300.0]	200.0 [200.0, 200.0]	200.0 [200.0, 300.0]
	Min, Max	300.0, 300.0	200.0, 200.0	200.0, 300.0
Hydralazine	No	26 (96.3%)	37 (100.0%)	63 (98.4%)
	Yes	1 (3.7%)	0 (0.0%)	1 (1.6%)
Total daily dose (mg)		1	0	1
	Mean[SD]	25.0 [.]	. [.]	25.0 [.]
	Median[IQR]	25.0 [25.0, 25.0]	. [., .]	25.0 [25.0, 25.0]
	Min, Max	25.0, 25.0	., .	25.0, 25.0
2. Phosphate binders	No	9 (26.5%)	17 (36.2%)	26 (32.1%)
	Yes	25 (73.5%)	30 (63.8%)	55 (67.9%)
Phosex 1000 mg tablets	No	22 (88.0%)	25 (83.3%)	47 (85.5%)
	Yes	3 (12.0%)	5 (16.7%)	8 (14.5%)
Total daily tablets/sachets				
	Mean[SD]	3.0 [0.0]	4.2 [1.6]	3.8 [1.4]
	Median[IQR]	3.0 [3.0, 3.0]	3.0 [3.0, 6.0]	3.0 [3.0, 4.5]

	Min, Max	3.0, 3.0	3.0, 6.0	3.0, 6.0
Total daily dose (mg)				
	Mean[SD]	3000.0 [0.0]	4170.0 [1671.7]	3731.2 [1401.3]
	Median[IQR]	3000.0 [3000.0, 3000.0]	3000.0 [3000.0, 6000.0]	3000.0 [3000.0, 4500.0]
	Min, Max	3000.0, 3000.0	2850.0, 6000.0	2850.0, 6000.0
Renacet 475 mg tablets	No	22 (88.0%)	27 (90.0%)	49 (89.1%)
	Yes	3 (12.0%)	3 (10.0%)	6 (10.9%)
Total daily tablets/sachets				
	Mean[SD]	4.0 [1.7]	2.3 [1.2]	3.2 [1.6]
	Median[IQR]	3.0 [3.0, 6.0]	3.0 [1.0, 3.0]	3.0 [3.0, 3.0]
	Min, Max	3.0, 6.0	1.0, 3.0	1.0, 6.0
Total daily dose (mg)				
	Mean[SD]	1900.0 [822.7]	1108.3 [548.5]	1504.2 [761.0]
	Median[IQR]	1425.0 [1425.0, 2850.0]	1425.0 [475.0, 1425.0]	1425.0 [1425.0, 1425.0]
	Min, Max	1425.0, 2850.0	475.0, 1425.0	475.0, 2850.0
Renacet 950 mg tablets	No	18 (72.0%)	25 (83.3%)	43 (78.2%)
	Yes	7 (28.0%)	5 (16.7%)	12 (21.8%)
Total daily tablets/sachets				
	Mean[SD]	3.3 [1.3]	3.6 [2.2]	3.4 [1.6]
	Median[IQR]	3.0 [3.0, 3.0]	2.0 [2.0, 6.0]	3.0 [2.0, 4.5]
	Min, Max	2.0, 6.0	2.0, 6.0	2.0, 6.0
Total daily dose (mg)				
	Mean[SD]	3121.4 [1190.9]	3420.0 [2081.3]	3245.8 [1540.3]
	Median[IQR]	2850.0 [2850.0, 2850.0]	1900.0 [1900.0, 5700.0]	2850.0 [1900.0, 4275.0]
	Min, Max	1900.0, 5700.0	1900.0, 5700.0	1900.0, 5700.0
Osvaren 435 mg tablets	No	23 (92.0%)	29 (96.7%)	52 (94.5%)
	Yes	2 (8.0%)	1 (3.3%)	3 (5.5%)
Total daily tablets/sachets				
	Mean[SD]	4.5 [2.1]	6.0 [.]	5.0 [1.7]
	Median[IQR]	4.5 [3.0, 6.0]	6.0 [6.0, 6.0]	6.0 [3.0, 6.0]
	Min, Max	3.0, 6.0	6.0, 6.0	3.0, 6.0
Total daily dose (mg)				
	Mean[SD]	1957.5 [922.8]	2610.0 [.]	2175.0 [753.4]
	Median[IQR]	1957.5 [1305.0, 2610.0]	2610.0 [2610.0, 2610.0]	2610.0 [1305.0, 2610.0]
	Min, Max	1305.0, 2610.0	2610.0, 2610.0	1305.0, 2610.0
Calcium carbonate 500mg	No	24 (96.0%)	29 (96.7%)	53 (96.4%)
	Yes	1 (4.0%)	1 (3.3%)	2 (3.6%)
Total daily tablets/sachets				
	Mean[SD]	1.0 [.]	6.0 [.]	3.5 [3.5]
	Median[IQR]	1.0 [1.0, 1.0]	6.0 [6.0, 6.0]	3.5 [1.0, 6.0]
	Min, Max	1.0, 1.0	6.0, 6.0	1.0, 6.0

Total daily dose (mg)				
	Mean[SD]	1250.0 [.]	3000.0 [.]	2125.0 [1237.4]
	Median[IQR]	1250.0 [1250.0, 1250.0]	3000.0 [3000.0, 3000.0]	2125.0 [1250.0, 3000.0]
	Min, Max	1250.0, 1250.0	3000.0, 3000.0	1250.0, 3000.0
Fosrenol 500 mg tablets	No	25 (100.0%)	30 (100.0%)	55 (100.0%)
Fosrenol 750 mg tablets/sachets	No	25 (100.0%)	30 (100.0%)	55 (100.0%)
Fosrenol 1000 mg tablets/sachets	No	23 (92.0%)	27 (90.0%)	50 (90.9%)
	Yes	2 (8.0%)	3 (10.0%)	5 (9.1%)
Total daily tablets/sachets				
	Mean[SD]	3.0 [0.0]	3.0 [0.0]	3.0 [0.0]
	Median[IQR]	3.0 [3.0, 3.0]	3.0 [3.0, 3.0]	3.0 [3.0, 3.0]
	Min, Max	3.0, 3.0	3.0, 3.0	3.0, 3.0
Total daily dose (mg)				
	Mean[SD]	3000.0 [0.0]	3000.0 [0.0]	3000.0 [0.0]
	Median[IQR]	3000.0 [3000.0, 3000.0]	3000.0 [3000.0, 3000.0]	3000.0 [3000.0, 3000.0]
	Min, Max	3000.0, 3000.0	3000.0, 3000.0	3000.0, 3000.0
Velphoro 500 mg tablet	No	24 (100.0%)	29 (96.7%)	53 (98.1%)
	Yes	0 (0.0%)	1 (3.3%)	1 (1.9%)
Total daily tablets/sachets				
	Mean[SD]	. [.]	4.0 [.]	4.0 [.]
	Median[IQR]	. [., .]	4.0 [4.0, 4.0]	4.0 [4.0, 4.0]
	Min, Max	., .	4.0, 4.0	4.0, 4.0
Total daily dose (mg)				
	Mean[SD]	. [.]	2000.0 [.]	2000.0 [.]
	Median[IQR]	. [., .]	2000.0 [2000.0, 2000.0]	2000.0 [2000.0, 2000.0]
	Min, Max	., .	2000.0, 2000.0	2000.0, 2000.0
Renvela 800 mg tablets	No	14 (56.0%)	17 (56.7%)	31 (56.4%)
	Yes	11 (44.0%)	13 (43.3%)	24 (43.6%)
Total daily tablets/sachets				
	Mean[SD]	3.6 [1.2]	4.2 [1.8]	4.0 [1.5]
	Median[IQR]	3.0 [3.0, 4.0]	3.0 [3.0, 6.0]	3.0 [3.0, 6.0]
	Min, Max	3.0, 6.0	1.0, 6.0	1.0, 6.0
Total daily dose (mg)				
	Mean[SD]	2909.1 [964.8]	3384.6 [1429.4]	3166.7 [1236.6]
	Median[IQR]	2400.0 [2400.0, 3200.0]	2400.0 [2400.0, 4800.0]	2400.0 [2400.0, 4800.0]
	Min, Max	2400.0, 4800.0	800.0, 4800.0	800.0, 4800.0
Renvela 2.4 gram oral powder sachets	No	25 (100.0%)	30 (100.0%)	55 (100.0%)

3. Potassium binders	No	32 (94.1%)	45 (95.7%)	77 (95.1%)
	Yes	2 (5.9%)	2 (4.3%)	4 (4.9%)
Sodium Zirconium Cyclosilicate (Lokelma)	No	2 (100.0%)	0 (0.0%)	2 (50.0%)
	Yes	0 (0.0%)	2 (100.0%)	2 (50.0%)
10g daily dose	N	0	1	1
	Mean[SD]	. [.]	1.0 [.]	1.0 [.]
	Median[IQR]	. [., .]	1.0 [1.0, 1.0]	1.0 [1.0, 1.0]
	Min, Max	., .	1.0, 1.0	1.0, 1.0
5g four times a week (non-dialysis days)	N	0	1	1
	Mean[SD]	. [.]	1.0 [.]	1.0 [.]
	Median[IQR]	. [., .]	1.0 [1.0, 1.0]	1.0 [1.0, 1.0]
	Min, Max	., .	1.0, 1.0	1.0, 1.0
Patiromer Calcium	No	0 (0.0%)	2 (100.0%)	2 (50.0%)
	Yes	2 (100.0%)	0 (0.0%)	2 (50.0%)
8.4g daily	N	2	0	2
	Mean[SD]	1.0 [0.0]	. [.]	1.0 [0.0]
	Median[IQR]	1.0 [1.0, 1.0]	. [., .]	1.0 [1.0, 1.0]
	Min, Max	1.0, 1.0	., .	1.0, 1.0
4. Erythropoietin (EPO) and iron	No	6 (17.6%)	4 (8.5%)	10 (12.3%)
	Yes	28 (82.4%)	43 (91.5%)	71 (87.7%)
Eprex – Epoetin Alfa	No	18 (64.3%)	30 (69.8%)	48 (67.6%)
	Yes	10 (35.7%)	13 (30.2%)	23 (32.4%)
Dose mcg/week				
	Mean[SD]	60.5 [49.1]	95.0 [97.3]	80.0 [80.3]
	Median[IQR]	37.5 [20.0, 105.0]	60.0 [50.0, 75.0]	60.0 [30.0, 105.0]
	Min, Max	10.0, 150.0	4.5, 300.0	4.5, 300.0
Aranesp - Darbepoetin Alfa	No	13 (46.4%)	21 (48.8%)	34 (47.9%)
	Yes	15 (53.6%)	22 (51.2%)	37 (52.1%)
Dose mcg/week				
	Mean[SD]	49.3 [31.0]	41.8 [31.3]	44.9 [31.0]
	Median[IQR]	40.0 [20.0, 60.0]	40.0 [20.0, 60.0]	40.0 [20.0, 60.0]
	Min, Max	10.0, 100.0	10.0, 150.0	10.0, 150.0
Erythropoietin (EPO) Alfa Total	No	3 (10.7%)	8 (18.6%)	11 (15.5%)
	Yes	25 (89.3%)	35 (81.4%)	60 (84.5%)
EPO Alfa Total Dose mcg/week				
	Mean[SD]	53.8 [38.7]	61.6 [68.0]	58.3 [57.3]
	Median[IQR]	40.0 [20.0, 75.0]	50.0 [20.0, 60.0]	45.0 [20.0, 60.0]
	Min, Max	10.0, 150.0	4.5, 300.0	4.5, 300.0
Iron Isomaltoside 1000 (Monofer)	No	27 (96.4%)	43 (100.0%)	70 (98.6%)
	Yes	1 (3.6%)	0 (0.0%)	1 (1.4%)
Dose mg/week:		1	0	1
	Mean[SD]	100.0 [.]	. [.]	100.0 [.]

	Median[IQR]	100.0 [100.0, 100.0]	. [., .]	100.0 [100.0, 100.0]
	Min, Max	100.0, 100.0	., .	100.0, 100.0
Iron Hydroxide Sucrose (Venofer)	No	16 (57.1%)	25 (58.1%)	41 (57.7%)
	Yes	12 (42.9%)	18 (41.9%)	30 (42.3%)
Dose mg/week:		12	18	30
	Mean[SD]	116.7 [53.7]	94.4 [47.4]	103.3 [50.3]
	Median[IQR]	100.0 [100.0, 150.0]	100.0 [50.0, 100.0]	100.0 [100.0, 100.0]
	Min, Max	50.0, 200.0	25.0, 200.0	25.0, 200.0

14 Safety population

The safety population excluded 11 participants who were randomised but subsequently withdrew prior to commencing any study activities (six from the daytime dialysis group and five from the nocturnal dialysis group). As these participants did not undergo any study activities, the safety population comprised 89 participants. Participants were classified according to the treatment received for the majority of the study period; specifically, if a participant switched treatment for less than half of their time in the study post-randomisation, they were assigned to the group representing the majority of their treatment, regardless of original allocation. Four participants crossed over from nocturnal to daytime dialysis and were therefore reclassified into the daytime group.

14.1 Serious Adverse Events

A total of 52 Serious Adverse Events were reported among the 24 participants randomised to the NightLife study.

14.2 Frequency of Serious Adverse Events

Table 23: Number of participants with Serious Adverse Events

	Daytime dialysis	Nocturnal dialysis	Total
Randomised participants*	41	48	89
Randomised participants with Serious Adverse	10 (24.4%)	14 (29.2%)	24 (25.8%)
Participants with:			
No Serious Adverse Events	31 (75.6%)	34 (70.8%)	65 (73.0%)
1 Serious Adverse Event	6 (14.6%)	8 (16.7%)	14 (15.7%)
2 Serious Adverse Events	0 (0.0%)	2 (4.17%)	2 (2.25%)
3 Serious Adverse Events	1 (2.44%)	2 (4.17%)	3 (3.37%)
4 Serious Adverse Events	2 (4.88%)	1 (2.08%)	3 (3.37%)
6 Serious Adverse Events	0 (0.00%)	1 (2.08%)	1 (1.12%)
7 Serious Adverse Events	1 (2.44%)	0 (0.0%)	1 (1.12%)

**Safety population excludes 11 participants who were randomised but subsequently withdrew prior to commencing any study activities. 4 were reclassified from the nocturnal to the daytime group due to crossed over from nocturnal to daytime dialysis and spent more than 50% of the time in daytime group.*

14.3 Characteristics of Adverse Events

Table 24: Characteristics of Serious Adverse Events

	Daytime dialysis	Nocturnal dialysis	Overall
Number of Serious Adverse Events	24 (100%)	28 (100%)	52 (100%)
Severity			
Mild	0 (0.0%)	7 (25.0%)	7 (13.5%)
Moderate	9 (37.5%)	12 (42.9%)	21 (40.4%)
Severe	13 (54.2%)	9 (32.1%)	22 (42.3%)

	Daytime dialysis	Nocturnal dialysis	Overall
Fatal	2 (8.33%)	0 (0.00%)	2 (3.85%)
Outcome			
Resolved	22 (91.7%)	22 (78.6%)	44 (84.6%)
Resolved with Sequelae	0 (4.17%)	6 (21.4%)	6 (11.5%)
Fatal	2 (8.33%)	0 (0.0%)	2 (3.85%)
Unknown	0 (0.0%)	0 (0.0%)	0 (0.0%)
Treatment			
None	4 (16.7%)	2 (7.14%)	6 (11.5%)
Concomitant Medication	11 (45.8%)	11 (39.3%)	22 (42.3%)
Non-drug therapy	3 (12.5%)	7 (25.0%)	10 (19.2%)
Both (Concomitant Medication and Non-drug	6 (25.0%)	8 (28.6%)	14 (26.9%)
Action taken for Adverse Event			
None	15 (62.5%)	11 (39.3%)	26 (50.0%)
Study interrupted	7 (29.2%)	17 (60.7%)	24 (46.1%)
Study discontinued	2 (8.33%)	0 (0.0%)	2 (3.85%)
Relatedness			
Not related	24 (100%)	26 (92.9%)	50 (96.1%)
Unlikely	0 (0.0%)	0 (0.0%)	0 (0.0%)
Possible	0 (0.0%)	2 (7.14%)	2 (3.85%)
Probable	0 (0.0%)	0 (0.0%)	0 (0.0%)
Definite	0 (0.0%)	0 (0.0%)	0 (0.0%)
Serious Adverse Event?			
Yes	0 (0.0%)	1 (3.57%)	1 (1.92%)
No	24 (100%)	27 (96.4%)	51 (98.1%)
Expectedness			
Yes	9 (37.5%)	22 (78.6%)	31 (59.6%)
No	15 (62.5%)	6 (21.4%)	21 (40.4%)

14.4 Detailed description of Serious Adverse Events

Table 25: Detailed description of Serious Adverse Events: Daytime dialysis

Participant ID	Event Date	SAE Description	Severity	Expected	Outcome	Related
BCU-008	16/10/2023	Participant deceased	Fatal	No	Fatal	Not related
GGC-002	06/04/2023	Hyperkalaemia	Moderate	Yes	Resolved	Not related
GGC-002	09/02/2023	Hypocalcaemia	Moderate	Yes	Resolved	Not related
GGC-002	05/01/2023	Hyperkalaemia	Moderate	Yes	Resolved	Not related

Participant ID	Event Date	SAE Description	Severity	Expected	Outcome	Related
MFT-002	01/03/2024	Attended A&E with abdominal pain	Moderate	No	Resolved	Not related
MFT-002	31/10/2023	Breathlessness	Moderate	Yes	Resolved	Not related
MFT-002	31/10/2023	Unproductive cough	Moderate	Yes	Resolved	Not related
MFT-002	22/12/2023	Unresponsive episode on dialysis	Moderate	Yes	Resolved	Not related
MFT-017	01/05/2024	Admitted with anaemia	Moderate	Yes	Resolved	Not related
MFT-029	25/03/2025	Collapse on dialysis - admitted for review	Moderate	Yes	Resolved	Not related
UHL-004	04/06/2022	Admission to hospital for deranged live function tests (LFTs) and jaundice	Severe	No	Resolved	Not related
UHL-012	07/02/2023	Permcath infection	Severe	No	Resolved	Not related
UHL-012	05/06/2023	Line sepsis	Severe	No	Resolved	Not related
UHL-012	22/05/2023	Occlusive thrombus in permcath	Severe	No	Resolved	Not related
UHL-012	01/08/2023	Reactive arthritis	Severe	No	Resolved	Not related
UHL-012	20/04/2023	Infection post elective arteriovenous fistula (AVF) formation	Severe	No	Resolved	Not related
UHL-012	15/06/2023	Pericarditis and pericardial effusion	Severe	No	Resolved	Not related
UHL-012	24/01/2023	AVF Thrombus- Ligation brachiocephalic (BB) AVF	Severe	No	Resolved	Not related
UHL-013	28/02/2023	Permcath infection, given antibiotics and line removal. New line prior to	Severe	Yes	Resolved	Not related
UHL-016	12/08/2023	Admission due to fluid overload	Severe	No	Resolved	Not related
UHL-016	06/07/2023	Admission due to shortness of breath due to pulmonary oedema.	Severe	No	Resolved	Not related

Participant ID	Event Date	SAE Description	Severity	Expected	Outcome	Related
UHL-016	20/06/2023	Admission due to colchicine induced diarrhoea	Severe	No	Resolved	Not related
UHL-016	10/06/2023	Admission to hospital due to pericarditis	Severe	No	Resolved	Not related
UHL-020	20/04/2024	Admitted with suspected line sepsis. COVID-19 positive and had a gastrointestinal (GI) bleed.	Fatal	No	Fatal	Not related

Table 26: Detailed description of Serious Adverse Events: Nocturnal dialysis

Participant ID	Event Date	SAE Description	Severity	Expected	Outcome	Related
BCU-010	19/01/2024	Participant admitted to hospital, acutely unwell	Severe	No	Resolved	Not related
GGC-001	30/01/2023	Arterial Venous Graft clotted	Moderate	Yes	Resolved	Possible
GGC-001	31/10/2022	Arterial Venous Graft clotted	Moderate	Yes	Resolved	Possible
KCH-010	21/04/2022	Right foot 5th toe amputation	Moderate	Yes	Resolves-sequelae	Not related
MFT-001	30/04/2024	Admitted with low haemoglobin (HB)	Moderate	No	Resolves-sequelae	Not related
MFT-004	24/01/2024	Transmetatorsal amputation of toe	Severe	Yes	Resolved	Not related
MFT-004	14/11/2023	Aadmitted with critical lower limb ischaemia	Severe	Yes	Resolves-sequelae	Not related
MFT-004	29/12/2023	Admitted with critical lower limb ischaemia - for amputation of big toe	Severe	Yes	Resolves-sequelae	Not related
MFT-004	02/01/2024	Amputation of big toe	Severe	Yes	Resolved	Not related
MFT-010	09/02/2024	Admitted with respiratory tract infection	Moderate	Yes	Resolved	Not related
MFT-010	09/02/2024	Admitted with permcath infection	Moderate	Yes	Resolved	Not related
MFT-010	27/04/2024	Admitted with low blood pressure	Moderate	Yes	Resolved	Not related
MFT-010	11/04/2024	Admitted with low blood pressure	Moderate	Yes	Resolved	Not related
MFT-010	27/11/2023	Small volume bilateral pleural effusion	Mild	Yes	Resolved	Not related

Participant ID	Event Date	SAE Description	Severity	Expected	Outcome	Related
MFT-010	01/12/2023	Admitted with exacerbation of asthma	Moderate	Yes	Resolved	Not related
MFT-018	04/12/2024	Hospital admission, not study related, generally unwell / vomiting	Mild	No	Resolved	Not related
MFT-020	08/12/2024	Hospitalisation	Mild	No	Resolved	Not related
MFT-021	14/11/2024	Hospitalisation	Mild	Yes	Resolved	Not related
MFT-021	30/11/2024	Hospitalisation	Mild	Yes	Resolved	Not related
MFT-021	29/10/2024	Hospitalisation - not study related - generally unwell/ vomiting/ asthma	Mild	Yes	Resolved	Not related
MFT-027	26/01/2025	Admitted for rotator cuff repair & subacromial decompression	Moderate	Yes	Resolves-sequelae	Not related
NEW-007	24/05/2023	Admitted with slurred speech, leg weakness and chest pain though not crushing. Diagnosed with hypoglycaemia, treated with phosphate replacement and discharged the following day. Has history of gastric bypass within the last 12 months.	Mild	No	Resolved	Not related
NEW-013	21/03/2023	Admitted with osteomyelitis treated with IV antibiotics	Severe	Yes	Resolves-sequelae	Not related
NEW-013	10/07/2023	Admission to hospital	Moderate	Yes	Resolved	Not related
NEW-013	17/07/2023	Admission to hospital	Moderate	Yes	Resolved	Not related
UHL-002	28/07/2022	Clotted AVF	Severe	Yes	Resolved	Not related
UHL-011	17/11/2022	Clotted AVF	Severe	Yes	Resolved	Not related
UHL-011	17/11/2022	Chronic limb threatening ischaemia	Severe	No	Resolved	Not related

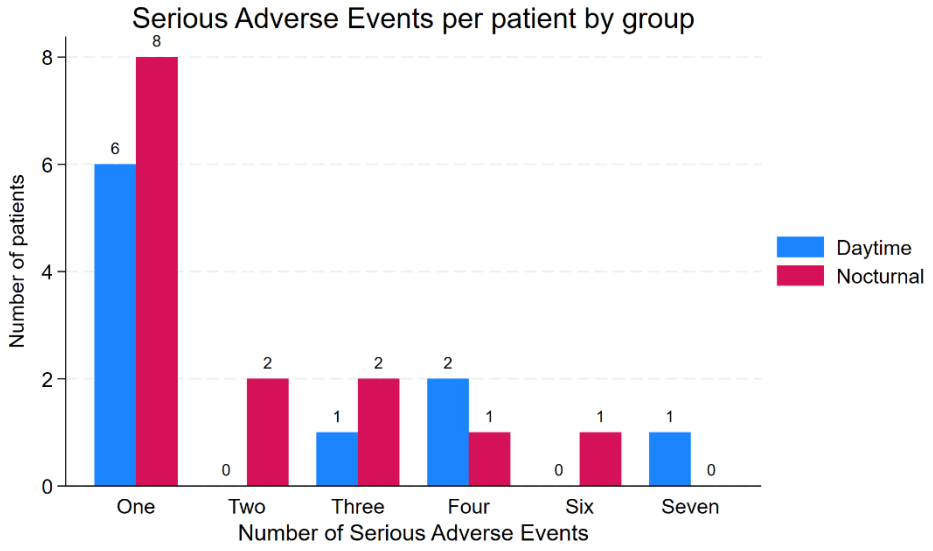
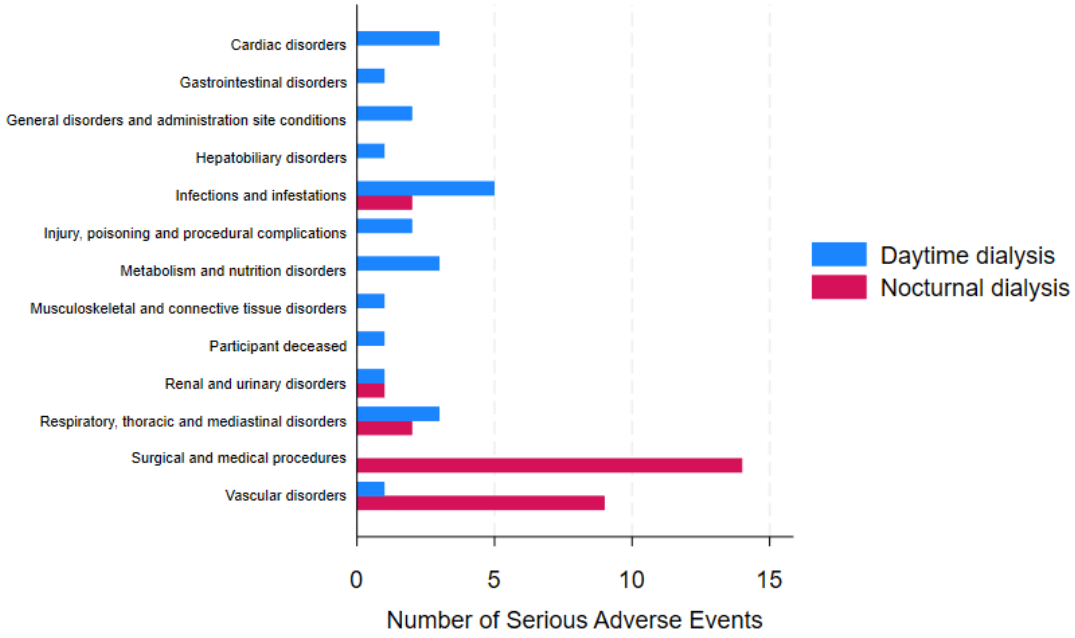


Figure 16: Number of adverse events by treatment group displayed using System Organ Class

Number of Adverse Events by System Organ Class using MedDRA Coding



Note: *Prior to data extraction, Adverse Events were clinically coded by a clinical member of the Renal Research team using the Medical Dictionary for Regulatory Activities (MedDRA) version 20.*

14.5 Serious adverse events (SAEs) Rates per years

Incidence rates per person-year were reported for total SAEs (Table 25). Rates for vascular access-related and dialysis prescription-related SAEs were not calculated due to limited data: 7 participants experienced vascular access complications leading to SAEs (see Table 26), and no SAEs were associated with dialysis prescription changes.

Table 27: Overall Serious Adverse Events (SAEs) Rates— Incidence per Patient-Year

		Nocturnal versus Daytime	
Treatment Group	**Events (n)***	**IRR** (95% CI)**	**p-value^**
SAEs in totality (rate/years)			
Daytime dialysis	23	-	
Nocturnal Dialysis	27	1.33 (0.47 to 3.75)	0.593

Abbreviations: IRR= Incidence Rate Ratio; CI=Confidence interval
**Two SAEs were excluded from the analysis as they occurred outside the 28-week time window (i.e., 6-month follow-up time + 2 weeks window).*
**Calculated using generalised linear model (assuming negative binomial distribution) adjusting for treatment, age (≤65, >65) and number of haemodialysis units (stratification variables) and log-time on treatment (in weeks) as an offset.*
^A two-sided p-value ≤ 0.05 was considered significant.

*Table 28: Participants with Serious Adverse Events (SAEs) Associated with Vascular Access Complications and Dialysis Prescription Change**

Participant ID	SAE Date	Treatment arm	Vascular access complications that lead to SAEs
GGC-001	30/01/2023	Nocturnal dialysis	Arterial Venous Graft clotted
GGC-001	31/10/2022	Nocturnal dialysis	Arterial Venous Graft clotted
MFT-010	09/02/2024	Nocturnal dialysis	Admitted with permcath infection
UHL-002	28/07/2022	Nocturnal dialysis	Clotted AVF
UHL-011	17/11/2022	Nocturnal dialysis	Clotted AVF
UHL-012	24/01/2023	Daytime dialysis	AVF Thrombus- Ligation BB AVF
UHL-012	07/02/2023	Daytime dialysis	Permcath infection

UHL-012	20/04/2023	Daytime dialysis	Infection post elective AVF formation
UHL-012	22/05/2023	Daytime dialysis	Occlusive thrombus in permcath
UHL-012	05/06/2023	Daytime dialysis	Line sepsis
UHL-013	28/02/2023	Daytime dialysis	Permcath infection, given antibiotics and line removal. New line prior to discharge.
UHL-020	20/04/2024	Daytime dialysis	Admitted with suspected line sepsis. COVID-19 positive and had a GI bleed.

*There were no SAEs requiring dialysis prescription change

15 Protocol Deviations

A total of 317 protocol deviations were reported in 71 participants randomised to the NightLife study, based on the Protocol Deviation CRF. The overall number of deviations was calculated by combining those recorded on the Protocol Deviation Case Report Form (CRF) (n=317) with additional deviations (n=48) identified from other data sources captured in MACRO. The total number of participants affected per deviation type may not equal the sum across types, as some participants experienced more than one major, minor, or additional deviation.

Table 29: Protocol deviations as recorded in protocol deviation CRF

	Daytime	Nocturnal	Total
Randomised participants	43 (100%)	57 (100%)	100 (100%)
Randomised participants **with Protocol Deviations**	22 (51.2%)	49 (85.9%)	71 (71.0%)
No Protocol Deviations	21 (48.8%)	8 (14.0%)	29 (29.0%)
1-4 Protocol Deviation	13 (30.2%)	33 (57.9%)	46 (46.0%)
>= 5 Protocol Deviation	9 (20.9%)	16 (28.1%)	25 (25.0%)

15.1 Major Protocol Deviations

Table 30. Breakdown of Major Protocol Deviation reasons by deviation type and Number of Participants affected by deviation type

Major Protocol Deviation Reason	Daytime dialysis		Nocturnal dialysis		Overall	
	P	N	P	N	P	N
Non-adherence: <80% of planned sessions completed, n (%)	10 (100%)	10 (23.3%)	13 (65.0%)	13 (22.8%)	23 (76.7%)	23 (23.0%)
Permanent crossover before <80% of sessions administered correctly, n (%)	0 (0.0%)	0 (0.0%)	7 (35.0%)	7 (12.3%)	7 (23.3%)	7 (7.0%)
Overall, n(%)	10 (100%)	10 (23.3%)	20 (100%)	13 (22.8%)	30 (100%)	23 (23.0%)

P: number of protocol deviations by deviation type, **N:** number participants affected per deviation type. Please note the percentage corresponding to the proportion of participants affected per major deviation type (including the total for each treatment arm and overall) was calculated out of the total number of participants randomised.

15.2 Minor Protocol Deviations

Table 31. Breakdown of Minor Protocol Deviation reasons by deviation type and Number of Participants affected by deviation type

Minor Protocol Deviation Reason	Daytime dialysis		Nocturnal dialysis		Overall	
	P	N	P	N	P	N
Participant's dialysis session length was less than prescribed, n (%)	37 (61.7%%)	12 (27.9%)	97 (54.8%)	28 (49.1%)	134 (56.5%)	40 (40.0%)
Participant's dialysis session length was greater than prescribed, n (%)	0 (0.0%)	0 (0.0%)	2 (1.13%)	1 (1.75%)	2 (0.84%)	1 (1.00%)
Visit occurring outside protocol specified time window						
Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	6 (10.0%)	5 (11.6%)	4 (2.26%)	4 (7.02%)	10 (4.22%)	9 (9.00%)
Participant missed their follow-up visit	0 (0.0%)	0 (0.0%)	2 (1.13%)	2 (3.51%)	2 (0.84%)	2 (2.00%)
≤20% sessions missed or not as randomised (≤15 sessions)	4 (6.67%)	4 (9.30%)	21 (11.9%)	21 (36.8%)	25 (10.6%)	25 (25.0%)
Timeframe from randomisation to commencing intervention >2 weeks	0 (0.0%)	0 (0.0%)	4 (2.26%)	4 (7.02%)	4 (1.69%)	4 (4.00%)
Permanent crossover after ≥80% of sessions administered correctly	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)
Participant underwent different treatment from the treatment to which they were allocated, n (%)	3 (5.00%)	3 (6.98%)	43 (24.3%)	30 (52.6%)	46 (19.4%)	33 (33.0%)
Participant did not attend haemodialysis appointment(s) during the monthly follow-up period, n (%)	10 (16.7%)	5 (11.6%)	4 (2.26%)	4 (7.02%)	14 (5.91%)	9 (9.00%)
Overall, n(%)	60 (100%)	22 (51.2%)	177 (100%)	49 (86.0%)	237 (100%)	71 (71.0%)

P: number of protocol deviations by deviation type, **N:** number participants affected per deviation type. Please note the percentage corresponding to the proportion of participants affected per major deviation type (including the total for each treatment arm and overall) was calculated out of the total number of participants randomised.

15.3 Additional Protocol Deviations

A summary of protocol deviations that were not classed as either major or minor is presented in the table below:

Table 32. Breakdown of Additional Protocol Deviation reasons by deviation type and Number of Participants affected by deviation type

Additional Protocol Deviation Reason	Daytime dialysis		Nocturnal dialysis		Overall	
	P	N	P	N	P	N
Other protocol deviation not listed, n (%)	30 (76.9%)	14 (32.6%)	47 (79.7%)	22 (38.6%)	77 (78.6%)	36 (36.0%)
Difficulty obtaining samples at specified time point, n (%)	9 (23.1%)	5 (11.6%)	12 (20.3%)	5 (8.77%)	21 (21.4%)	10 (10.0%)
Overall, n(%)	39 (100%)	14 (32.6%)	59 (100%)	23 (40.4%)	98 (100%)	37 (37.0%)

P: number of protocol deviations by deviation type, **N:** number participants affected per deviation type. Please note the percentage corresponding to the proportion of participants affected per major deviation type (including the total for each treatment arm and overall) was calculated out of the total number of participants randomised.

16 Appendix

16.1 Lising of Protocol Deviations

Text taken directly from MACRO as entered by site research staff.

Table 33. Participant's dialysis session length was less than prescribed

Participant ID	Treatment	Deviation date	Dialysis session length was less than prescribed	Reason for change
BCU-001	Extended hours nocturnal haemodialysis	19jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Clinically unwell
BCU-002	Extended hours nocturnal haemodialysis	09feb2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
BCU-009	Extended hours nocturnal haemodialysis	11jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Clinically unwell
BCU-009	Extended hours nocturnal haemodialysis	31jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Clinically unwell
BCU-010	Extended hours nocturnal haemodialysis	11jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Clinically unwell
GGC-001	Extended hours nocturnal haemodialysis	30jan2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	inpatient due to clotted graft
GGC-001	Extended hours nocturnal haemodialysis	04nov2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	not reported and participant cannot recall. Session was 4 minutes short
GGC-002	Extended hours nocturnal haemodialysis	07nov2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant arrived late/transport delays
GGC-002	Extended hours nocturnal haemodialysis	09nov2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
KCH-003	Extended hours nocturnal haemodialysis	07mar2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Clinically unwell
KCH-003	Extended hours nocturnal haemodialysis	14may2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant arrived late/transport delays
KCH-003	Extended hours nocturnal haemodialysis	07jun2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
KCH-003	Extended hours nocturnal haemodialysis	27apr2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request

KCH-010	Extended hours nocturnal haemodialysis	16jun2022	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant arrived late/transport delays
KCH-012	Daytime haemodialysis	10may2022	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
KCH-012	Daytime haemodialysis	23mar2022	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
KCH-015	Daytime haemodialysis	29jun2022	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
KCH-015	Daytime haemodialysis	11apr2022	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
KCH-016	Extended hours nocturnal haemodialysis	04may2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Not specified
KCH-017	Daytime haemodialysis	26may2022	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Dislodged needle
MFT-001	Extended hours nocturnal haemodialysis	10feb2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-002	Daytime haemodialysis	15mar2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
MFT-002	Daytime haemodialysis	22dec2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
MFT-002	Daytime haemodialysis	21feb2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Vascular access issues
MFT-002	Daytime haemodialysis	15apr2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
MFT-002	Daytime haemodialysis	13dec2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
MFT-002	Daytime haemodialysis	29nov2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
MFT-002	Daytime haemodialysis	15jan2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Vascular access issues
MFT-005	Extended hours nocturnal haemodialysis	19dec2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	09mar2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	14mar2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	10feb2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	14nov2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request

MFT-008	Extended hours nocturnal haemodialysis	29mar2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	07dec2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	09nov2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	05apr2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	02dec2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	23jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	27jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	22mar2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	20feb2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	25jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	02apr2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	21dec2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	09jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	06feb2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	19mar2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	15feb2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-008	Extended hours nocturnal haemodialysis	29feb2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-014	Daytime haemodialysis	23jan2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
MFT-015	Daytime haemodialysis	14feb2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
MFT-015	Daytime haemodialysis	16mar2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request

MFT-015	Daytime haemodialysis	22apr2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Vascular access issues
MFT-015	Daytime haemodialysis	18mar2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
MFT-015	Daytime haemodialysis	12feb2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
MFT-018	Extended hours nocturnal haemodialysis	29oct2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
MFT-018	Extended hours nocturnal haemodialysis	15nov2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-022	Daytime haemodialysis	30jan2025	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Other: circuit clotted as had to have heparin free dialysis
MFT-022	Daytime haemodialysis	25mar2025	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Vascular access issues
MFT-022	Daytime haemodialysis	01apr2025	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
MFT-024	Extended hours nocturnal haemodialysis	29oct2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
MFT-026	Extended hours nocturnal haemodialysis	29oct2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
MFT-027	Extended hours nocturnal haemodialysis	04dec2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Clinically unwell
MFT-027	Extended hours nocturnal haemodialysis	27jan2025	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: admitted for subscapularis repair - needed dialysis on ward. had 2 hours and then a further 4 hours later in day due to raised potassium
MFT-028	Extended hours nocturnal haemodialysis	30dec2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-028	Extended hours nocturnal haemodialysis	29oct2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
MFT-028	Extended hours nocturnal haemodialysis	13jan2025	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
MFT-029	Daytime haemodialysis	25mar2025	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
MFT-031	Extended hours nocturnal haemodialysis	29oct2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-001	Extended hours nocturnal haemodialysis	18jan2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit

UHL-001	Extended hours nocturnal haemodialysis	16jun2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
UHL-001	Extended hours nocturnal haemodialysis	17mar2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Unknown
UHL-002	Extended hours nocturnal haemodialysis	07mar2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Unknown reason
UHL-002	Extended hours nocturnal haemodialysis	07jul2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
UHL-002	Extended hours nocturnal haemodialysis	17aug2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
UHL-002	Extended hours nocturnal haemodialysis	17aug2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Vascular access issues
UHL-002	Extended hours nocturnal haemodialysis	07may2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Unknown
UHL-004	Daytime haemodialysis	04jun2022	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Other: Inpatient admission - 2 3 hours sessions as an inpatient
UHL-007	Extended hours nocturnal haemodialysis	10jun2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant arrived late/transport delays
UHL-007	Extended hours nocturnal haemodialysis	22jun2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant arrived late/transport delays
UHL-009	Extended hours nocturnal haemodialysis	16aug2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-009	Extended hours nocturnal haemodialysis	11sep2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Problems with haemodialysis machine
UHL-009	Extended hours nocturnal haemodialysis	16jul2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-009	Extended hours nocturnal haemodialysis	16sep2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-009	Extended hours nocturnal haemodialysis	16oct2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-009	Extended hours nocturnal haemodialysis	13dec2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-009	Extended hours nocturnal haemodialysis	16nov2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-010	Extended hours nocturnal haemodialysis	24oct2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-011	Extended hours nocturnal haemodialysis	01feb2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request

UHL-011	Extended hours nocturnal haemodialysis	03jan2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
UHL-011	Extended hours nocturnal haemodialysis	03dec2022	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Hospital admission
UHL-011	Extended hours nocturnal haemodialysis	03mar2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
UHL-011	Extended hours nocturnal haemodialysis	03may2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
UHL-011	Extended hours nocturnal haemodialysis	03apr2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Participant request
UHL-012	Daytime haemodialysis	20apr2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
UHL-012	Daytime haemodialysis	21aug2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
UHL-012	Daytime haemodialysis	24mar2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
UHL-012	Daytime haemodialysis	19jan2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
UHL-012	Daytime haemodialysis	21feb2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Other: Inpatient admission
UHL-012	Daytime haemodialysis	20may2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Vascular access issues
UHL-013	Daytime haemodialysis	22aug2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
UHL-013	Daytime haemodialysis	10jun2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
UHL-013	Daytime haemodialysis	22mar2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Clinically unwell
UHL-013	Daytime haemodialysis	21jul2023	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Participant request
UHL-014	Extended hours nocturnal haemodialysis	31aug2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-014	Extended hours nocturnal haemodialysis	30may2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-014	Extended hours nocturnal haemodialysis	30mar2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: First two extended treatments < 6 hours
UHL-014	Extended hours nocturnal haemodialysis	28jun2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-014	Extended hours nocturnal haemodialysis	30mar2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit

UHL-014	Extended hours nocturnal haemodialysis	28apr2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-014	Extended hours nocturnal haemodialysis	28jul2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-017	Extended hours nocturnal haemodialysis	31may2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-017	Extended hours nocturnal haemodialysis	18oct2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-017	Extended hours nocturnal haemodialysis	02aug2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-017	Extended hours nocturnal haemodialysis	27sep2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-017	Extended hours nocturnal haemodialysis	27aug2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-017	Extended hours nocturnal haemodialysis	27jun2023	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Water treatment in dialysis unit
UHL-021	Extended hours nocturnal haemodialysis	21jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented
UHL-021	Extended hours nocturnal haemodialysis	21apr2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented
UHL-021	Extended hours nocturnal haemodialysis	21mar2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented
UHL-021	Extended hours nocturnal haemodialysis	22feb2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented
UHL-021	Extended hours nocturnal haemodialysis	16may2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented
UHL-021	Extended hours nocturnal haemodialysis	04jan2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Vascular access issues
UHL-022	Daytime haemodialysis	22sep2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Other: Not documented in medical notes
UHL-022	Daytime haemodialysis	18nov2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Other: Not documented in medical notes
UHL-022	Daytime haemodialysis	14dec2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Other: Not documented in medical notes
UHL-022	Daytime haemodialysis	14oct2024	Participant allocated to daytime haemodialysis had a session length of <3.5 hours	Other: Not documented in medical notes
UHL-023	Extended hours nocturnal haemodialysis	18jan2025	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented in medical notes
UHL-023	Extended hours nocturnal haemodialysis	18dec2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented in medical notes

UHL-023	Extended hours nocturnal haemodialysis	16oct2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented in medical notes
UHL-023	Extended hours nocturnal haemodialysis	18nov2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented in medical notes
UHL-023	Extended hours nocturnal haemodialysis	17sep2024	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented in medical notes
UHL-023	Extended hours nocturnal haemodialysis	12feb2025	Participant allocated to extended hours nocturnal haemodialysis had a session length of <6 hours	Other: Not documented in medical notes

Table 34. Participant's dialysis session length was greater than prescribed

Participant ID	Treatment	Deviation date	Dialysis session length was greater than prescribed	Reason for change
GGC-002	Extended hours nocturnal haemodialysis	09mar2023	Participant allocated to daytime haemodialysis had a session length of >5 hours	Other: URR low
GGC-002	Extended hours nocturnal haemodialysis	30jan2023	Participant allocated to daytime haemodialysis had a session length of >5 hours	Other: received dialysis for 301 minutes. 1 minute over expected time. No reason documented

Table 35. Visit occurring outside protocol specified time window

Participant ID	Treatment	Deviation date	Visit not as per protocol	Reason
KCH-002	Extended hours nocturnal haemodialysis	04may2022	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	BLOOD TEST PERFORMED UNDER STANDARD CARE-EVERY FIRST WED+THU OF THE MONTH
KCH-003	Extended hours nocturnal haemodialysis	04may2022	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	BLOOD TEST PERFORMED UNDER STANDARD CARE-EVERY FIRST WED&THU OF THE MONTH
KCH-004	Daytime haemodialysis	04may2022	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	BLOOD TEST PROVIDED UNDER STANDARD CARE - HD PERFORMED STANDARD CARE BLOOD TEST ON 1ST WED-THU OF MONTH
KCH-005	Extended hours nocturnal haemodialysis	04may2022	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	BLOOD TEST PERFORMED UNDER STANDARD CARE- HD PERFORMED

				STANDARD CARE BLOOD TEST ON 1ST WED-THU OF MONTH
KCH-006	Extended hours nocturnal haemodialysis	04may2022	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	Blood test performs under standard care
KCH-009	Daytime haemodialysis	05may2022	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	BLOOD TEST PERFORMED UNDER STANDARED CARE- HD PERFORMED STANDARD CARE BLOOD TEST ON 1ST WED-THU OF MONTH
KCH-015	Daytime haemodialysis	06apr2022	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	BLOOD TEST PERFORMED UNDER STANDARD CARE- HD STANDARD CARE BLOOD TEST EVERY 1ST WE&THU OF THE MONTH
KCH-015	Daytime haemodialysis	01jun2022	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	BLOOD TEST PERFORMED UNDER STANDARD CARE-HD STANDARD CARE BLOOD TEST PERFORM EVERY 1ST WED&THU OF MONTH
UHL-007	Extended hours nocturnal haemodialysis	11mar2022	Participant missed their follow-up visit	Research team unaware that participant had started the intervention
UHL-011	Extended hours nocturnal haemodialysis	03dec2022	Participant missed their follow-up visit	Hospital admission from 17/11/2022 to 5/12/2022
UHL-012	Daytime haemodialysis	21aug2023	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	Hospital admission delayed follow-up
UHL-018	Daytime haemodialysis	04jan2024	Participant attended their follow-up outside of specified time frame (+/- 2 weeks)	Questionnaire completed 9 days over the 2 week timeframe

Table 36. Timeframe from randomisation to commencing intervention >2 weeks

Participant ID	Treatment	Deviation date	Deviation	Reason for delay
MFT-004	Extended hours nocturnal haemodialysis	06nov2023	Timeframe from randomisation to commencing intervention >2 weeks	Nocturnal dialysis shift did not start until 6th November at our site.
MFT-005	Extended hours nocturnal haemodialysis	06nov2023	Timeframe from randomisation to commencing intervention >2 weeks	Patient randomised on 18/10/23 but the night shift did not commence until 06/11/23. this was the planned start date for the night shift to start
MFT-008	Extended hours nocturnal haemodialysis	06nov2023	Timeframe from randomisation to commencing intervention >2 weeks	Night time sessions did not start until 6th November. Patients were consented and randomised before this date to allow for logistic planning ready to start the newly created shift

MFT-012	Extended hours nocturnal haemodialysis	13nov2023	Timeframe from randomisation to commencing intervention >2 weeks	Unit did not open night time shift until 6th November. This was the week of the patient's 60th birthday and he had events planned and he refused to start nights until 13th November.

Table 37. Participant underwent different treatment from the treatment to which they were allocated

Participant ID	Treatment	Deviation date	Deviation
BCU-001	Extended hours nocturnal haemodialysis	19jan2024	Participant underwent different treatment from the treatment to which they were allocated
BCU-002	Extended hours nocturnal haemodialysis	09feb2024	Participant underwent different treatment from the treatment to which they were allocated
BCU-007	Extended hours nocturnal haemodialysis	08jan2024	Participant underwent different treatment from the treatment to which they were allocated
BCU-009	Extended hours nocturnal haemodialysis	31jan2024	Participant underwent different treatment from the treatment to which they were allocated
BCU-010	Extended hours nocturnal haemodialysis	04jan2024	Participant underwent different treatment from the treatment to which they were allocated
GGC-001	Extended hours nocturnal haemodialysis	31oct2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-002	Extended hours nocturnal haemodialysis	17mar2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-005	Extended hours nocturnal haemodialysis	19jun2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-005	Extended hours nocturnal haemodialysis	21jul2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-005	Extended hours nocturnal haemodialysis	28jul2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-005	Extended hours nocturnal haemodialysis	08jul2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-006	Extended hours nocturnal haemodialysis	02apr2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-010	Extended hours nocturnal haemodialysis	18apr2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-017	Daytime haemodialysis	22jul2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-019	Extended hours nocturnal haemodialysis	09dec2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-019	Extended hours nocturnal haemodialysis	06aug2022	Participant underwent different treatment from the treatment to which they were allocated
KCH-019	Extended hours nocturnal haemodialysis	30sep2022	Participant underwent different treatment from the treatment to which they were allocated
MFT-002	Daytime haemodialysis	16mar2024	Participant underwent different treatment from the treatment to which they were allocated
MFT-004	Extended hours nocturnal haemodialysis	14nov2023	Participant underwent different treatment from the treatment to which they were allocated
MFT-004	Extended hours nocturnal haemodialysis	29dec2023	Participant underwent different treatment from the treatment to which they were allocated
MFT-010	Extended hours nocturnal haemodialysis	10feb2024	Participant underwent different treatment from the treatment to which they were allocated
MFT-010	Extended hours nocturnal haemodialysis	05dec2023	Participant underwent different treatment from the treatment to which they were allocated
MFT-013	Extended hours nocturnal haemodialysis	01jan2024	Participant underwent different treatment from the treatment to which they were allocated
MFT-015	Daytime haemodialysis	22nov2023	Participant underwent different treatment from the treatment to which they were allocated
MFT-018	Extended hours nocturnal haemodialysis	06dec2024	Participant underwent different treatment from the treatment to which they were allocated
MFT-020	Extended hours nocturnal haemodialysis	15nov2024	Participant underwent different treatment from the treatment to which they were allocated
MFT-024	Extended hours nocturnal haemodialysis	18dec2024	Participant underwent different treatment from the treatment to which they were allocated
MFT-028	Extended hours nocturnal haemodialysis	06jan2025	Participant underwent different treatment from the treatment to which they were allocated
NEW-004	Extended hours nocturnal haemodialysis	17apr2023	Participant underwent different treatment from the treatment to which they were allocated
NEW-006	Extended hours nocturnal haemodialysis	17jul2023	Participant underwent different treatment from the treatment to which they were allocated

NEW-007	Extended hours nocturnal haemodialysis	26may2023	Participant underwent different treatment from the treatment to which they were allocated
NEW-007	Extended hours nocturnal haemodialysis	12jul2023	Participant underwent different treatment from the treatment to which they were allocated
NEW-008	Extended hours nocturnal haemodialysis	06jul2023	Participant underwent different treatment from the treatment to which they were allocated
NEW-008	Extended hours nocturnal haemodialysis	23jun2023	Participant underwent different treatment from the treatment to which they were allocated
NEW-011	Extended hours nocturnal haemodialysis	30jun2023	Participant underwent different treatment from the treatment to which they were allocated
NEW-013	Extended hours nocturnal haemodialysis	10jul2023	Participant underwent different treatment from the treatment to which they were allocated
UHL-001	Extended hours nocturnal haemodialysis	16jun2022	Participant underwent different treatment from the treatment to which they were allocated
UHL-002	Extended hours nocturnal haemodialysis	07jul2022	Participant underwent different treatment from the treatment to which they were allocated
UHL-002	Extended hours nocturnal haemodialysis	17aug2022	Participant underwent different treatment from the treatment to which they were allocated
UHL-007	Extended hours nocturnal haemodialysis	30mar2022	Participant underwent different treatment from the treatment to which they were allocated
UHL-010	Extended hours nocturnal haemodialysis	12oct2022	Participant underwent different treatment from the treatment to which they were allocated
UHL-011	Extended hours nocturnal haemodialysis	05dec2022	Participant underwent different treatment from the treatment to which they were allocated
UHL-011	Extended hours nocturnal haemodialysis	12jan2023	Participant underwent different treatment from the treatment to which they were allocated
UHL-011	Extended hours nocturnal haemodialysis	03dec2022	Participant underwent different treatment from the treatment to which they were allocated
UHL-011	Extended hours nocturnal haemodialysis	03apr2023	Participant underwent different treatment from the treatment to which they were allocated
UHL-021	Extended hours nocturnal haemodialysis	04jan2024	Participant underwent different treatment from the treatment to which they were allocated

Table 38. Participant did not attend haemodialysis appointment(s) during the monthly follow-up

Participant ID	Treatment	Deviation date	Deviation	Missed sessions
BCU-005	Daytime haemodialysis	30jan2024	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	2
MFT-012	Extended hours nocturnal haemodialysis	13nov2023	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	1
MFT-015	Daytime haemodialysis	08mar2024	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	12
MFT-015	Daytime haemodialysis	05feb2024	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	12
MFT-015	Daytime haemodialysis	08may2024	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	14
MFT-021	Extended hours nocturnal haemodialysis	06nov2024	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	8
MFT-031	Extended hours nocturnal haemodialysis	24jan2025	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	12

NEW-004	Extended hours nocturnal haemodialysis	08may2023	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	3
UHL-012	Daytime haemodialysis	21aug2023	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	3
UHL-013	Daytime haemodialysis	22aug2023	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	4
UHL-013	Daytime haemodialysis	21jul2023	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	4
UHL-013	Daytime haemodialysis	30may2023	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	6
UHL-013	Daytime haemodialysis	21jun2023	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	3
UHL-015	Daytime haemodialysis	05jun2023	Participant did not attend haemodialysis appointment(s) during the monthly follow-up period	1

Table 39. Participant changed from the treatment to which they were allocated (i.e. crossover)

Participant ID	Treatment	Deviation date	Crossover reason
GGC-001	Extended hours nocturnal haemodialysis	30jan2023	temporary due to being hospital inpatient
GGC-002	Extended hours nocturnal haemodialysis	14nov2022	Participant has reported that his sleep pattern had been affected. He also reports that he has always been needle phobic and found it harder to be distracted when being cannulated during nocturnal haemodialysis. It was making them very anxious.
KCH-013	Extended hours nocturnal haemodialysis	14feb2022	PARTICIPANT CHANGE TO DAYTIME SESSIONS DUE SLEEPING PROBLEM ON EXTENDED HOURS NOCTURNAL HAEMODIALYSIS
MFT-004	Extended hours nocturnal haemodialysis	08feb2024	Has been an inpatient for most of the study and still requiring lots of treatment for ischaemic feet. no longer wishes to do nights and has asked to come out of the study
NEW-004	Extended hours nocturnal haemodialysis	17may2023	Participant has been non-compliant and states that he feels he is not sleeping properly and that it is increasing his anxiety.
UHL-006	Extended hours nocturnal haemodialysis	13jun2022	Difficulty sleeping on nocturnal haemodialysis
UHL-016	Extended hours nocturnal haemodialysis	15apr2023	Agitation and unable to sleep overnight.

Table 40. Other protocol deviation

Participant ID	Treatment	Deviation date	Other protocol deviation
GGC-001	Extended hours nocturnal haemodialysis	05jan2023	post dialysis U&Es blood sample haemolysed. No values recorded on 4 month visit
KCH-002	Extended hours nocturnal haemodialysis	02mar2022	Transferrin saturation (month 1 visit) not collected in error
KCH-002	Extended hours nocturnal haemodialysis	21jan2022	Urea and creatinine and Transferrin saturation (baseline visit) not collected in error
KCH-003	Extended hours nocturnal haemodialysis	04mar2022	TRANSFERRIN SATURATION & PHT (MONT 1 VISIT) NOT COLLECTED IN ERROR
KCH-003	Extended hours nocturnal haemodialysis	24jan2022	TRANSFERRIN SATURATION (BASELINE VISIT) NOT COLLECTED IN ERROR
KCH-003	Extended hours nocturnal haemodialysis	03aug2022	UREA (POST DIAL) BLOOD TEST CANCELLED-INSUFFICIENT SPECIMENT RECEIVED
KCH-004	Daytime haemodialysis	18feb2022	PARTICIPANT REFUSED BLOOD TEST AND MONTH ONE F-UP QUESTIONNAIRES
KCH-004	Daytime haemodialysis	21jan2022	urea, creatinine and transferrin saturation saturant (baseline visit) not collected in error
KCH-006	Extended hours nocturnal haemodialysis	02mar2022	TRANSFERRIN SATURATION (MONTH 1 VISIT) NOT COLECTED IN ERROR
KCH-006	Extended hours nocturnal haemodialysis	13jan2022	TRANSFERRIN SATURATION (BASELINE VISIST) NOT COLLECTED IN ERROR
KCH-009	Daytime haemodialysis	03mar2022	TRANSFERRIN SATURATION (MONTH 1 VISIT) NOT COLLECTED IN ERROR
KCH-009	Daytime haemodialysis	03feb2022	Transferrin saturation (baseline visit) not collected in error
KCH-010	Extended hours nocturnal haemodialysis	18feb2022	UREA, CREATININE AND TRANSFERRIN SATURATION (BASELINE VISIT) NOT COLLECTED IN ERROR
KCH-010	Extended hours nocturnal haemodialysis	02mar2022	TRANSFERRIN SATURATION (MONTH 1 VISIT) NOT COLLECTED IN ERROR
KCH-012	Daytime haemodialysis	04aug2022	TRANSFERRIN SATURATION N/A DUE TO UIBC< 3umol/L TEST RE ORDERED - NOT COLLECTED IN ERROR
KCH-012	Daytime haemodialysis	03mar2022	Transferrin saturation (month 1 visit) not collected in error
KCH-012	Daytime haemodialysis	05may2022	TRANSFERRIN SATURATION BLOOD TEST RESULT NOT AVALIABLE SPECIMEN HEAMOLYSED AS PER LAB
KCH-013	Extended hours nocturnal haemodialysis	02feb2022	TRANSFERRIN SATURATION (BASELINE VISIT) NOT COLLECTED IN ERROR
KCH-013	Extended hours nocturnal haemodialysis	02mar2022	TRANSFERRIN SATURATION, PHT, FERRITIN (VISIT MONTH 1) NOT COLLECTED IN ERROR

KCH-014	Extended hours nocturnal haemodialysis	02mar2022	TRANSFERRIN SATURATION (MONTH 1 VISIT) NOT COLECTED IN ERROR
KCH-014	Extended hours nocturnal haemodialysis	18feb2022	UREA, CREATININE, PHT, TRANSFERRIN SATURATION (BASELINE VISIT) NOT COLLECTED IN ERROR
KCH-015	Daytime haemodialysis	14feb2022	TRANSFERRIN SATURATION (BASELINE VISIT) NOT COLLECTED IN ERROR
KCH-016	Extended hours nocturnal haemodialysis	02mar2022	TRANSFERRIN SATURATION (BASELINE VISIT) NOT COLLECTED IN ERROR
MFT-009	Daytime haemodialysis	03jan2024	had extra dialysis session
MFT-019	Daytime haemodialysis	09oct2024	Participant failed to bring back the baseline 24-hour urine specimen
MFT-021	Extended hours nocturnal haemodialysis	08nov2024	DNA night dialysis - A&E visit on 11/11/2024 - alcohol dependence - clinically stable, discharged
MFT-021	Extended hours nocturnal haemodialysis	11nov2024	DNA night dialysis session - A&E visit on 11/11/2024 - alcohol dependence - blood clinically stable
MFT-021	Extended hours nocturnal haemodialysis	27nov2024	DNA night dialysis and CMR scan - non compliant participant
MFT-021	Extended hours nocturnal haemodialysis	13nov2024	DNA night dialysis - left VM to attend A&E
MFT-021	Extended hours nocturnal haemodialysis	01nov2024	DNA night dialysis - hospital admission 29/10/2024 - HDX in hospital - SAE form completed
MFT-021	Extended hours nocturnal haemodialysis	18nov2024	Inpatient admission to hospital due to alcohol withdrawal - had day time dialysis
MFT-021	Extended hours nocturnal haemodialysis	15nov2024	Inpatient admission to hospital - alcohol withdrawal - had day time dialysis
NEW-004	Extended hours nocturnal haemodialysis	17mar2023	Patient did not attend for one session of dialysis
NEW-005	Daytime haemodialysis	06apr2023	some of the monthly bloods had to be repeated as labs lost original samples
NEW-006	Extended hours nocturnal haemodialysis	04apr2023	attended daytime dialysis as away for weekend
NEW-006	Extended hours nocturnal haemodialysis	14jun2023	participant had daytime dialysis on the 14th and 16th June 2023
NEW-006	Extended hours nocturnal haemodialysis	31mar2023	Had daytime dialysis 31/03/23 to facilitate an appt
NEW-006	Extended hours nocturnal haemodialysis	13mar2023	Had daytime dialysis 13/03/23 to facilitate an appointment
NEW-006	Extended hours nocturnal haemodialysis	31mar2023	participant had a daytime session on return from a weekend away
NEW-007	Extended hours nocturnal haemodialysis	24apr2023	Participant had a daytime session

NEW-013	Extended hours nocturnal haemodialysis	21mar2023	Patient attended daytime dialysis for 5 successive sessions
UHL-001	Extended hours nocturnal haemodialysis	05nov2021	Patient consent and baseline visit done on different dates
UHL-001	Extended hours nocturnal haemodialysis	18jan2022	One month follow-up (and all subsequent follow-up) delayed due to waiting to start the intervention.
UHL-002	Extended hours nocturnal haemodialysis	07mar2022	Delay in commencing follow-up due to delay in commencing the intervention
UHL-003	Daytime haemodialysis	04mar2022	Delay in commencing follow-up as awaiting MRI scan for substudy
UHL-003	Daytime haemodialysis	10jun2022	Missed dialysis from May 2022 - June 2022 as participant away on holiday
UHL-004	Daytime haemodialysis	01jul2022	4 sessions of haemodialysis as an inpatient due to hospital admission
UHL-004	Daytime haemodialysis	02aug2022	Paired blood samples not collected for residual kidney function (for 6 month follow-up)
UHL-005	Daytime haemodialysis	09aug2022	MOCA not completed - unable to complete at the beginning of dialysis session
UHL-005	Daytime haemodialysis	01mar2022	Delay in follow-up whilst considering the substudy
UHL-007	Extended hours nocturnal haemodialysis	11may2022	Questionnaires not completed: research team unaware participant had started the intervention
UHL-007	Extended hours nocturnal haemodialysis	11mar2022	Delay in follow-up due to delay in commencing intervention
UHL-010	Extended hours nocturnal haemodialysis	24oct2022	Monthly bloods just outside of the two week window for follow-up visit.
UHL-011	Extended hours nocturnal haemodialysis	03may2023	Unable to complete MOCA due to visual impairment
UHL-011	Extended hours nocturnal haemodialysis	09jan2023	Did not attend dialysis on 09/01/2023 (missed session)
UHL-011	Extended hours nocturnal haemodialysis	03nov2022	MoCA not completed due to participant's visual impairment
UHL-011	Extended hours nocturnal haemodialysis	08feb2023	Patient did not attend dialysis on 08/02/2023
UHL-012	Daytime haemodialysis	24mar2023	Missed dialysis sessions (4 sessions) during inpatient admission
UHL-012	Daytime haemodialysis	20apr2023	Participant missed 2 HD sessions
UHL-013	Daytime haemodialysis	21apr2023	Participant missed 4 HD sessions due to work
UHL-013	Daytime haemodialysis	21feb2023	Difficulty obtaining baseline data. MoCA could not be completed at beginning of dialysis.
UHL-013	Daytime haemodialysis	22mar2023	Participant missed dialysis sessions due to hospital admission and line removal
UHL-013	Daytime haemodialysis	30may2023	Unable to complete questionnaires as participant did not turn up for dialysis.
UHL-013	Daytime haemodialysis	22aug2023	Unable to complete MoCA within first hour of haemodialysis
UHL-016	Extended hours nocturnal haemodialysis	30apr2023	Unable to complete questionnaires as clinically unwell
UHL-017	Extended hours nocturnal haemodialysis	18oct2023	MoCA not completed - participant declined

UHL-018	Daytime haemodialysis	20jul2023	Unable to complete all the questionnaires and MoCA due to language barrier
UHL-018	Daytime haemodialysis	12jun2023	Unable to complete all the questionnaires and MoCA due to language barrier
UHL-018	Daytime haemodialysis	21sep2023	Unable to complete MoCA and other secondary questionnaires due to language barrier
UHL-018	Daytime haemodialysis	04jan2024	Only the KDQoL completed - participant language barrier and so completed with a relative
UHL-021	Extended hours nocturnal haemodialysis	21nov2023	MoCA not completed as English not the participant's first language
UHL-021	Extended hours nocturnal haemodialysis	16may2024	MoCA not completed as English is not the participant's first language
UHL-022	Daytime haemodialysis	14aug2024	MoCA - not able to complete within the first hour of HD
UHL-022	Daytime haemodialysis	12feb2025	MoCA not completed in the first hour of haemodialysis
UHL-023	Extended hours nocturnal haemodialysis	06aug2024	Randomisation did not occur on day of consent
UHL-023	Extended hours nocturnal haemodialysis	18nov2024	MoCA not completed in the first hour of dialysis
UHL-023	Extended hours nocturnal haemodialysis	12feb2025	MoCA not completed in first hour of dialysis

Table 41: Difficulty obtaining samples at specified time point

Participant ID	Treatment	Deviation date	Difficulty obtaining samples	Reason sample not collected
KCH-005	Extended hours nocturnal haemodialysis	28jul2022	Urine sample not collected	URINE SAMPLE NOT RETURNED
KCH-009	Daytime haemodialysis	03mar2022	Serum Beta2 sample not collected	NOT COLLECTED IN ERROR
UHL-001	Extended hours nocturnal haemodialysis	16jun2022	Urine sample not collected	Urine drained into nephrostomy which is emptied once a week by practice nurse
UHL-002	Extended hours nocturnal haemodialysis	19jan2022	Urine sample not collected	Reason unknown
UHL-002	Extended hours nocturnal haemodialysis	17aug2022	Urine sample not collected	Urine sample not returned
UHL-003	Daytime haemodialysis	17aug2022	Urine sample not collected	URINE SAMPLE NOT RETURNED
UHL-004	Daytime haemodialysis	01jun2022	Serum Beta2 sample not collected	Sample not collected as part of routine bloods
UHL-004	Daytime haemodialysis	01jul2022	Serum Beta2 sample not collected	Sample not collected as part of routine bloods
UHL-004	Daytime haemodialysis	01may2022	Serum Beta2 sample not collected	Sample not collected as part of routine bloods
UHL-004	Daytime haemodialysis	01apr2022	Serum Beta2 sample not collected	Sample not collected as part of routine bloods
UHL-007	Extended hours nocturnal haemodialysis	12aug2022	Serum Beta2 sample not collected	Not taken as part of routine bloods

UHL-007	Extended hours nocturnal haemodialysis	11apr2022	Serum Beta2 sample not collected	Not taken as part of routine bloods
UHL-007	Extended hours nocturnal haemodialysis	11jun2022	Serum Beta2 sample not collected	Not taken as part of routine bloods
UHL-007	Extended hours nocturnal haemodialysis	11may2022	Serum Beta2 sample not collected	Not taken as part of routine bloods
UHL-007	Extended hours nocturnal haemodialysis	11jul2022	Serum Beta2 sample not collected	Sample not collected as part of routine bloods
UHL-007	Extended hours nocturnal haemodialysis	11mar2022	Serum Beta2 sample not collected	Not taken as part of routine bloods
UHL-007	Extended hours nocturnal haemodialysis	26jan2022	Serum Beta2 sample not collected	Not taken as part of routine bloods
UHL-011	Extended hours nocturnal haemodialysis	03may2023	Urine sample not collected	Reason unknown
UHL-012	Daytime haemodialysis	20dec2022	Urine sample not collected	Urine sample collection bottle not available
UHL-013	Daytime haemodialysis	21feb2023	Urine sample not collected	Participant declined - difficulty in taking and returning the sample
UHL-013	Daytime haemodialysis	21feb2023	Serum Beta2 sample not collected	Reason unknown

17 References

1- Cro, S., Morris, T.P., Kenward, M.G. and Carpenter, J.R., 2016. Reference-based sensitivity analysis via multiple imputation for longitudinal trials with protocol deviation. *The Stata Journal*, *16*(2), pp.443-463.

2- Herdman M, Gudex C, Lloyd A, et al. Development and preliminary testing of the new five-level version of EQ-5D (EQ-5D-5L). Qual Life Res. 2011;20(10):1727–36.

3- Pickard AS, Neary MP, Cella D. Estimation of minimally important differences in EQ-5D utility and VAS scores in cancer. Health Qual Life Outcomes. 2007;5:70.

4- Nasreddine ZS, Phillips NA, Bédirian V, Charbonneau S, Whitehead V, Collin I, Cummings JL, Chertkow H. The Montreal Cognitive Assessment, MoCA: a brief screening tool for mild cognitive impairment. Journal of the American Geriatrics Society. 2005 Apr;53(4):695-9.

5- Evans RW, Tong A, et al. (2020). *Standardised Outcomes in Nephrology–Haemodialysis (SONG-HD): development of a core outcome set for trials in haemodialysis.* Kidney International, 98(4): 849–859.

6- Buysse DJ, Reynolds CF, Monk TH, Berman SR, Kupfer DJ. *The Pittsburgh Sleep Quality Index: a new instrument for psychiatric practice and research.* Psychiatry Res. 1989;28(2):193–213.

End of Report