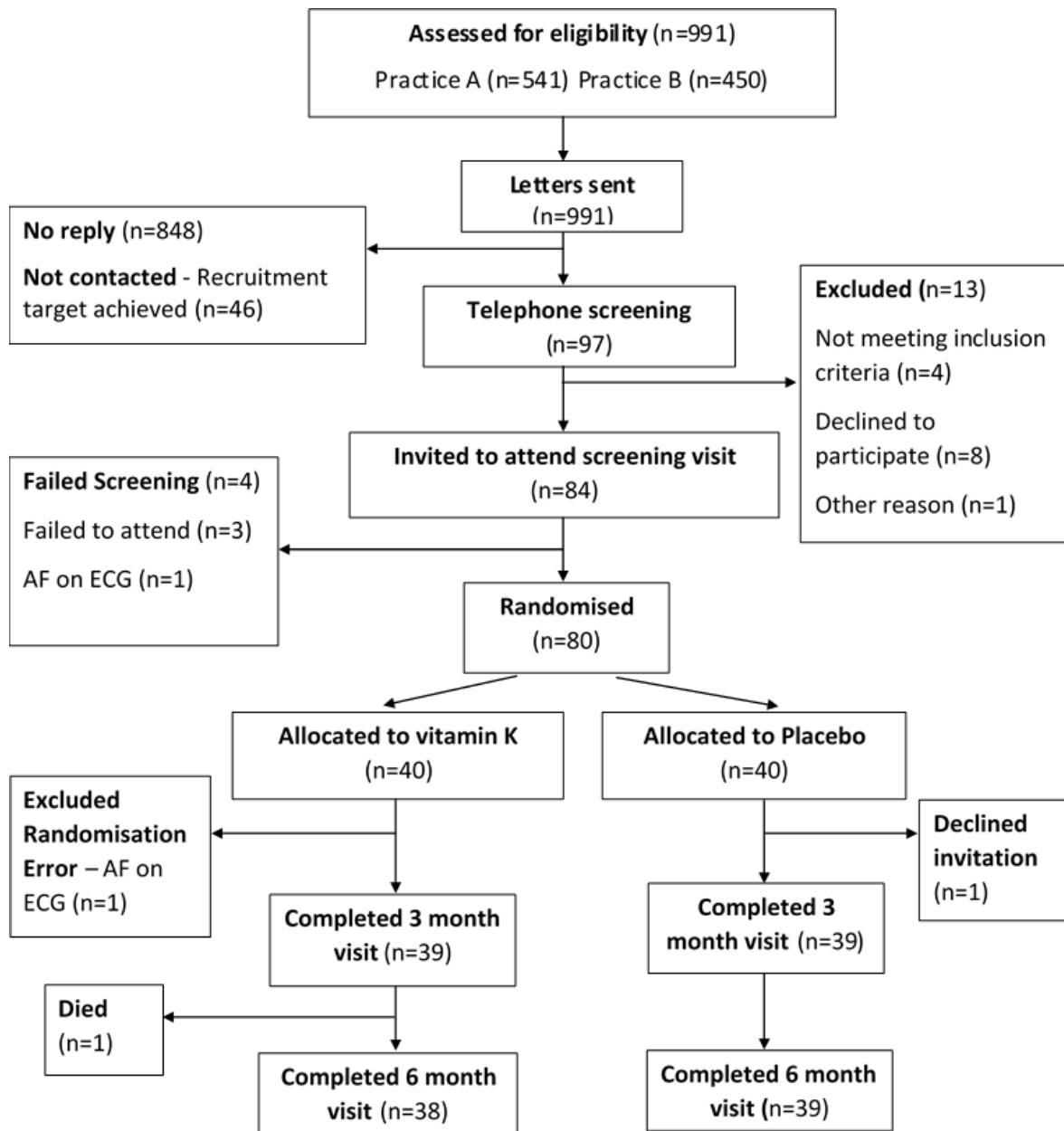


Participant Flow



Baseline characteristics

	Vitamin K (n=40)	Placebo (n=40)	p
Age (years) (SD)	76.0 (4.4)	77.1 (4.8)	0.31
Male sex (%)	21 (53)	23 (58)	0.37
Weight (kg) (SD)	79 (15)	77 (13)	0.64
Hypertension (%)	36 (90)	36 (90)	1.00
Previous stroke or TIA (%)	8 (20)	9 (23)	0.79
Previous myocardial infarction (%)	7 (18)	8 (20)	0.28
Angina (%)	11 (28)	7 (18)	0.28
Coronary revascularisation (%)	7 (18)	5 (13)	0.76
Diabetes Mellitus (%)	9 (23)	9 (23)	1.00
Peripheral vascular disease (%)	5 (13)	3 (8)	0.71
Osteoarthritis (%)	16 (40)	9 (23)	0.09
Walking aid (%)	10 (25)	4 (10)	0.17
Lived alone (%)	18 (45)	10 (25)	0.006
Home help (%)	4 (10)	4 (10)	1.0
Current smoker (%)	3 (8)	7 (18)	0.39
Antiplatelet medications (%)	25 (63)	18 (45)	0.12
ACEi / ARB (%)	30 (75)	25 (63)	0.23
Beta blocker (%)	8 (20)	10 (25)	0.59
Calcium channel blockers (%)	20 (50)	14 (35)	0.18
Other anti-anginals (%)	7 (18)	3 (8)	0.81
Statins (%)	26 (65)	27 (68)	0.31

Median total no. of medications (IQR)	8 (5)	5 (4)	<0.001
Creatinine (umol/L) (SD)	79 (22)	83 (18)	0.16
dp-ucMGP levels (pmol/L) (SD)	789 (363)	823 (360)	0.68
Median vitamin K2 levels (pg/ml) (IQR)	476 (301)	502 (242)	0.43

TIA: transient ischemic attack.

ARB: Angiotensin receptor blocker.

ACEi: Angiotensin Converting Enzyme Inhibitor.

dp-ucMGP – desphospho-uncarboxylated Matrix Gla protein

Outcome measures

	Group	Baseline (SD) [IQR]	3 mo (SD) [IQR]	6 mth (SD) [IQR]	Adjusted treatment effect Baseline vs 3 mth (95% CI)	Adjusted treatment effect Baseline vs 6 mth (95% CI)
Primary outcome						
FMD (%)	Vit K	6.3 (2.7)	7.1 (2.5)	7.6 (2.7)	0.4 (-0.9, 1.8)	-0.3 (-1.3, 0.8)
	Placebo	7.3 (2.4)	7.0 (3.0)	8.6 (2.4)		
Secondary outcomes						
Systolic BP (mmHg)	Vit K	144 (17)	141 (16)	140 (17)	-1 (-8, 6)	1 (-6, 8)
	Placebo	148 (20)	144 (17)	140 (18)		
Diastolic BP (mmHg)	Vit K	81 (11)	82 (9)	80 (9)	1 (-3, 4)	1 (-3, 5)
	Placebo	83 (10)	82 (9)	80 (9)		
Carotid IMT (mm)	Vit K	0.077 (0.015)	0.078 (0.013)	0.076 (0.020)	0.003 (-0.002, 0.007)	-0.001 (-0.008, 0.006)
	Placebo	0.080 (0.021)	0.078 (0.010)	0.080 (0.010)		
Total Cholesterol (mmol/L)	Vit K	4.7 (1.1)	-	4.6 (1.1)	-	0.1 (-0.2, 0.3)
	Placebo	4.7 (1.1)	-	4.5 (1.1)		
HDL Cholesterol (mmol/L)	Vit K	1.5 (0.5)	-	1.4 (0.5)	-	0.0 (-0.1, 0.1)
	Placebo	1.5 (0.6)	-	1.4 (0.4)		
LDL Cholesterol (mmol/L)	Vit K	3.3 (1.0)	-	3.3 (0.9)	-	0.0 (-0.3, 0.3)
	Placebo	3.3 (1.1)	-	3.4 (1.0)		

BNP (pg/ml)	Vit K	33 [29]	-	40 [24]	-	8 (-8, 24)
	Placebo	33 [22]	-	37 [29]		
CRP (mg/L)	Vit K	1.8 [2.1]	-	1.8 [3.5]	-	-0.4 (-4.0, 3.2)
	Placebo	1.8 [2.1]	-	1.8 [2.6]		
PWV (m/s)	Vit K	9.7 (2.1)	10.0 (3.1)	9.9 (1.4)	-0.1 (-1.4, 1.3)	-0.8 (-1.8, 0.3)
	Placebo	10.7 (2.3)	10.2 (1.7)	10.9 (3.0)		
Augmentation index (%)	Vit K	28 (10)	26 (9)	25 (8)	-1 (-5, 2)	-2 (-5, 2)
	Placebo	28 (7)	28 (6)	27 (6)		

IMT: Intima-media thickness. PWV: Pulse wave velocity. BNP: B-type natriuretic peptide. CRP: C-reactive protein

Adjusted for baseline age, systolic BP and baseline value of outcome

Change in markers of vitamin K between baseline and 6 months:

	Vitamin K group	Placebo group	P*
Serum vitamin K2 levels (pg/ml)	48 (160)	-6 (105)	0.12
dp-ucMGP levels (pmol/L) (SD)	-130 (117)	13 (180)	<0.001

dp-ucMGP – desphospho-uncarboxylated Matrix Gla protein

*adjusted for baseline values

Outcome		Baseline [IQR]	6 month [IQR]	Adjusted Treatment effect (95% CI)
Grip strength (Kg)	Vit K	25.8 [13.0]	26.7 [12.8]	0.1 (-1.0, 1.2)
	Placebo	27.3 [13.3]	29.0 [10.5]	
Short Physical Performance Battery	Vit K	9 [4]	9 [3]	-0.5 (-1.1, 0.2)
	Placebo	10 [3]	10 [4]	
<i>Sway measures - Eyes closed</i>				
A-P sway (mm)	Vit K	43.9 [22.2]	38.7 [19.6]	-0.1 (-6.5, 6.3)
	Placebo	41.3 [13.7]	36.8 [15.2]	
M-L sway (mm)	Vit K	38.3 [22.2]	22.1 [16.5]	-3.1 (-9.0, 2.8)
	Placebo	38.1 [24.3]	21.9 [17.5]	
Sway path length (mm)	Vit K	2661 [694]	2588 [701]	3 (-188, 194)
	Placebo	2670 [732]	2579 [585]	
RMS sway (mm)	Vit K	10.6 [5.3]	8.5 [4.5]	-0.3 (-1.6, 1.1)
	Placebo	10.2 [4.7]	8.3 [5.1]	
95% sway Ellipse (mm ²)	Vit K	1034 [1010]	542 [648]	-37 (-295, 220)
	Placebo	968 [1001]	547 [813]	

SPPB: Short physical performance battery. A-P: Antero-posterior. M-L: Medio-lateral. RMS: Root Mean Square

Adjusted for baseline age and baseline value of outcome

Adverse events

	Vitamin K (n=40)	Placebo (n=40)
Cardiovascular	6	5
Pain	4	3
Gastrointestinal disturbances	10	5
Postural symptoms	2	2
Falls / musculoskeletal	17	7
Infections	6	5
TOTAL Events:	45	27
Hospitalisations	3	2
Deaths	1	0