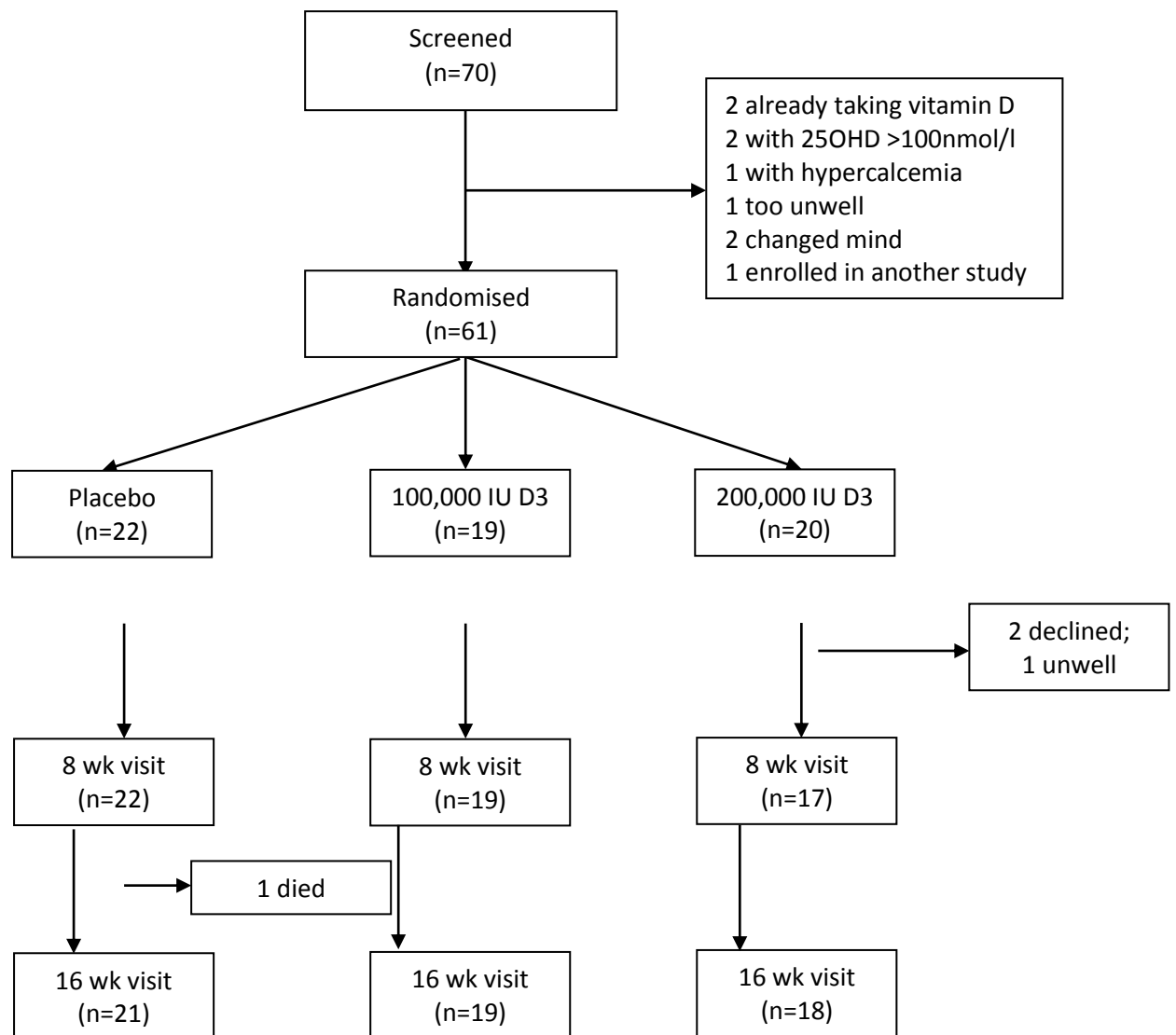


Participant flow



Baseline characteristics

	Placebo (n=22)	100,000U (n=19)	200,000U (n=20)
Mean age (years) (SD)	66.7 (9.7)	65.3 (11.1)	63.3 (9.6)
Male sex (%)	12 (55)	16 (84)	13 (65)
On statin (%)	17 (77)	17 (89)	14 (70)
On ACEi or ARB (%)	17 (77)	17 (89)	13 (65)
History of ischaemia heart disease (%)	5 (23)	6 (32)	6 (30)
History of hypertension (%)	19 (86)	13 (68)	14 (70)
Taking insulin (%)	5 (23)	4 (21)	5 (25)
Baseline systolic BP (mmHg) (SD)	143.9 (24.4)	149.6 (24.0)	145.1 (25.0)
Baseline diastolic BP (mmHg) (SD)	80.3 (9.7)	81.7 (12.4)	80.7 (14.3)
Body mass index (Kg/m ²) (SD)	33.3 (7.1)	31.1 (6.7)	29.7 (4.2)
Baseline 25OHD (nmol/l) (SD)	45 (17)	41 (14)	48 (21)
HbA1c (%) (SD)	7.8 (1.3)	7.0 (1.6)	6.9 (0.8)
HOMA IR index	13.0 (9.7)	11.7 (12.7)	12.0 (14.5)
Total cholesterol (mmol/l) (SD)	3.66 (0.71)	4.09 (1.14)	4.07 (0.97)
PTH (pmol/L) (SD)	4.8 (3.4)	4.5 (1.8)	4.4 (1.9)
Adjusted calcium (mmol/l) (SD)	2.34 (0.08)	2.32 (0.07)	2.34 (0.09)
Calcium intake (mmol/day) (SD)	12.4 (5.2)	16.0 (7.2)	13.2 (6.2)
Baseline FMD (%) (SD)	5.4 (2.7)	5.1 (3.0)	6.4 (3.2)
Baseline median BNP (pg/ml) (IQR)	17 (40)	30 (166)	21 (45)
Baseline median renin (pmol/l) (IQR)	19.0 (146.9)	26.1 (80.6)	47.4 (109.0)
Baseline median aldosterone (pmol/l) (IQR)	216 (116)	169 (191)	180 (274)

ACEi: Angiotensin converting enzyme inhibitor. ARB: Angiotensin receptor blocker. 25OHD: 25-hydroxyvitamin D. HOMA IR: Homeostatic Model Assessment Insulin resistance. PTH: Parathyroid hormone. FMD: Flow-mediated dilatation. BNP: B-type natriuretic peptide

Outcomes:

		Placebo	100,000 U	200,000 U	P ₁	P ₂
<i>Primary outcome:</i>						
FMD (%) (SD)	8 wks	5.2 (3.1)	4.3 (2.3)	4.9 (3.2)	0.29	0.80
	16 wks	5.1 (1.8)	5.2 (2.1)	6.5 (2.6)	0.81	0.06
<i>Secondary outcomes:</i>						
Systolic blood pressure (mmHg) (SD)	8 wks	146.4 (19.5)	141.4 (16.6)	136.8 (12.9)	0.04	0.03
	16 wks	143.4 (16.4)	144.6 (20.4)	139.5 (15.4)	0.89	0.54
Diastolic blood pressure (mmHg) (SD)	8 wks	78.9 (9.2)	77.1 (11.7)	74.4 (9.8)	0.32	0.22
	16 wks	78.4 (10.3)	79.6 (11.9)	77.6 (11.7)	0.73	0.89
Median BNP (pg/ml) (IQR)	8 wks	31 (78)	25 (50)	25 (33)	0.83	0.41
	16 wks	34 (59)	25 (52)	21 (35)	0.08	0.02
HOMA IR (SD)	8 wks	25.3 (33.6)	13.5 (12.8)	11.9 (10.4)	0.14	0.05
	16 wks	17.2 (19.3)	15.9 (14.3)	10.5 (7.2)	0.95	0.11
25OHD (nmol/l) (SD)	8 wks	54 (20)	63 (20)	79 (31)	0.07	0.001
	16 wks	53 (20)	59 (18)	76 (30)	0.24	0.003
PTH (pmol/l) (SD)	8 wks	4.7 (3.6)	4.0 (1.5)	4.6 (2.4)	0.58	0.57
	16 wks	53 (20)	59 (18)	76 (30)	0.24	0.003
Adjusted calcium (mmol/l) (SD)	8 wks	2.33 (0.07)	2.33 (0.08)	2.31 (0.08)	0.32	0.76
	16 wks	2.32 (0.07)	2.34 (0.07)	2.31 (0.09)	0.48	0.49

FMD: Flow mediated dilatation. BNP: B-type natriuretic peptide. HOMA IR: Homeostatic Model Assessment Insulin resistance. PTH: Parathyroid hormone. 25OHD: 25-hydroxyvitamin D

P₁: p value for placebo vs 100,000 units D3. P₂: p value for placebo vs 200,000 units D3

Adverse events:

	Placebo	100,000 units vitamin D	200,000 units vitamin D
Myocardial infarction	1	0	0
Gastrointestinal upset	1	1	0
Decompensated heart failure	1	0	0
Hyperkalemia	1	0	0
Urinary tract infection	0	2	0
Respiratory tract infection	0	2	0
Breadycardia	0	0	1
TOTAL	4	5	1
Deaths	1	0	0