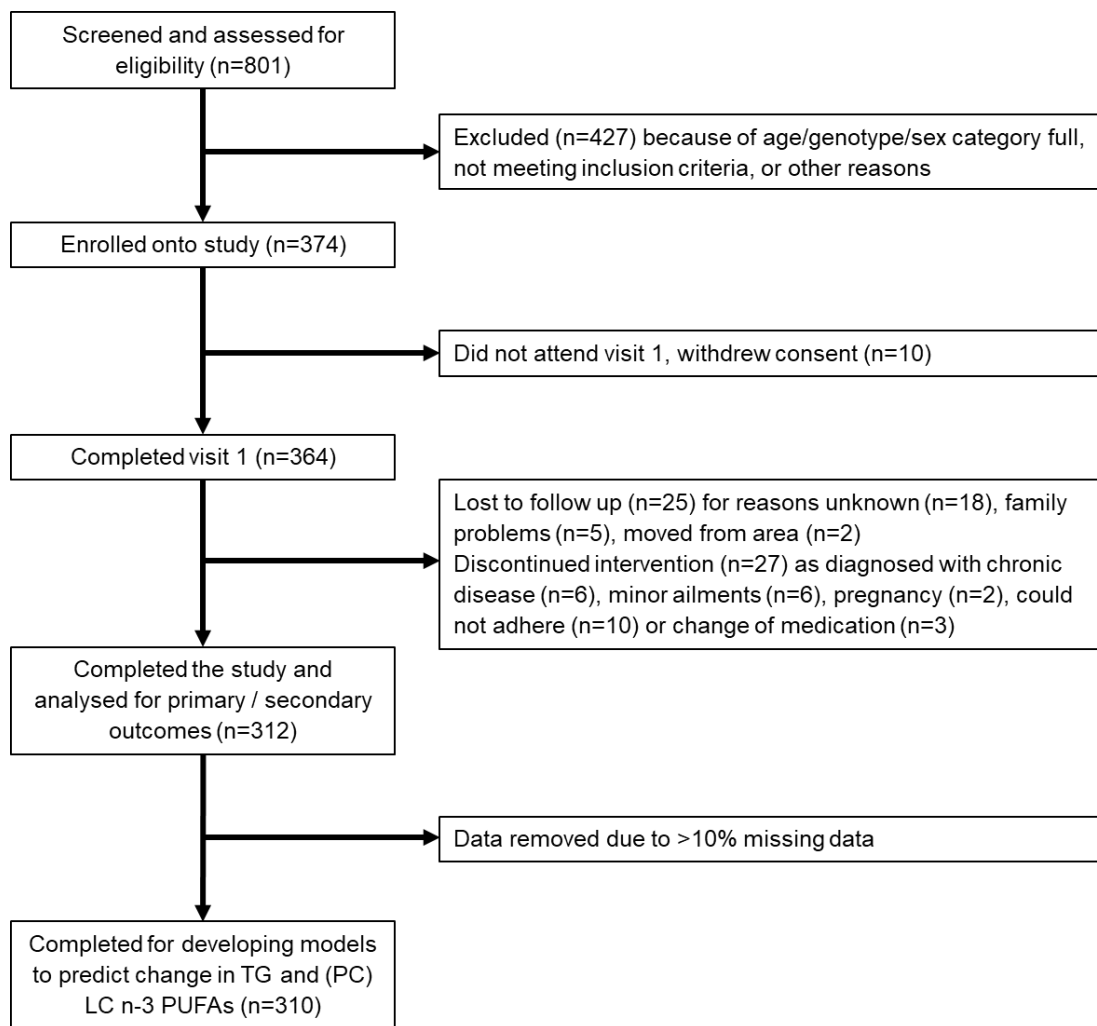


Supplementary Material



Supplementary Figure 1. Participant flow diagram.

Supplementary Table 1 List of all variables included in the dataset

Variable name/ code	Variable description/levels	Gene name	SNP reference ID(s)
Vol_no	Volunteer identifier		

Age	Volunteer age (y) at baseline		
Gender	Male (0), Female (1)		
apoE_code	2 = E2/E2 + E2/E3, 3 = E3/E3, 4 = E3/E4 + E4/E4	APOE	<i>rs429358</i> and <i>rs7412</i>
eNOS_code	1 = GG, 2 = GT, 3 = TT	eNOS	<i>rs1799983</i>
BMI	Volunteer Body Mass Index at baseline		
Alcohol	Units of alcohol consumed/wk		
APOA1_v1	Plasma APOA1 levels at baseline		
APOE_v1	Plasma APOE levels at baseline		
CRP_v1	Plasma CRP levels at baseline		
Glu_v1	Plasma glucose levels at baseline		
HDLC_v1	Plasma HDL-cholesterol levels at baseline		
Ins_v1	Plasma insulin levels at baseline		
NEFA_v1	Plasma NEFA levels at baseline		
Psel_v1	Plasma P-selectin levels at baseline		
Esel_v1	Plasma E-selectin levels at baseline		
IL-6_v1	Plasma IL-6 levels at baseline		
IL-10_v1	Plasma IL-10 levels at baseline		
PAI1_v1	Plasma PAI-1 levels at baseline		
tPA_v1	Plasma tPA levels at baseline		
ICAM_v1	Plasma ICAM levels at baseline		
VCAM_v1	Plasma VCAM levels at baseline		

TNF_v1	Plasma TNF levels at baseline		
vWF_v1	Plasma vWF levels at baseline		
DBP_a/c_0	Diastolic blood pressure levels before intervention period		
SBP_a/c_0	Systolic blood pressure levels before intervention period		
TG_a/c_0	Plasma triglyceride levels before intervention period		
TG_a/c_8	Plasma triglyceride levels after intervention period (used to calculate TG change score only)		
TG_a/c_change	Triglyceride change between start and end of intervention period (outcome)		
TC_a/c_0	Total plasma cholesterol levels before intervention period		
LDL_a/c_0	Plasma LDL-cholesterol levels before intervention period		
Fruit_g_d	Fruit consumption in grams at baseline		
Veg_g_d	Vegetable consumption in grams at baseline		
Fat_percent	% of calories from fat at baseline		
Mono_fat	Grams of monosaturated fat at baseline		
Polyunsat_fat	Grams of polyunsaturated fat at baseline		
Sat_fat	Grams of saturated fat at baseline		
Energy_MJ	Energy consumed per day, MJ		
Oilyfish_wk	Portions of oily fish consumed/wk		
apoA5_1131	1 = AA, 2 = GA	APOA5	<i>rs662799</i>
apoA5_S19W	1 = GG, 2 = CG, 3 = CC		<i>rs3135506</i>

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LPL_Hind_III	1 = TT, 2 = TG, 3 = GG	LPL	<i>rs320</i>
LPL_S447X	1 = CC, 2 = GC, 3 = GG		<i>rs328</i>
apoC3_455	1 = TC, 2 = TT, 3 = CC	APOC3	<i>rs2854116</i>
apoA4_S347Th	1 = AA, 2 = GA, 3 = GG	APOA4	<i>rs5675</i>
Comp_C3_1	1 = GG, 2 = GA, 3 = AA	C3	<i>rs11569562</i>
Comp_C3_2	1 = TT, 2 = TC, 3 = CC		<i>rs2250656</i>
LIPC_250	1 = GG, 2 = GA, 3 = AA	LIPC	<i>rs2070895</i>
LIPC_514	1 = CC, 2 = TC, 3 = TT		<i>rs1800588</i>
CYP7A1_204	1 = GG, 2 = TG, 3 = TT	CYP7A1	<i>rs3808607</i>
TNFA_238	1 = GG, 2 = AG, 3 = AA	TNF- α	<i>rs361525</i>
TNFA_308	1 = GG, 2 = GA, 3 = AA		<i>rs1800629</i>
TNFA_308_a/c_0	Measure of TNF- α levels before intervention period		
LTA_252	1 = AA, 2 = GA, 3 = GG	LTA	<i>rs909253</i>
IL1B_511	1 = CC, 2 = TC, 3 = TT	IL-1 β	<i>rs16944</i>
IL1B_6054	1 = GG, 2 = AG, 3 = AA		<i>rs1143643</i>
IL6_174	1 = GG, 2 = CG, 3 = CC	IL-6	<i>rs1800795</i>
IL10_1082	1 = TT, 2 = CT, 3 = CC	IL-10	<i>rs1800896</i>
NFkB_94	1 = ATTG:-, 2 = ATTG:ATTG, 3 = :-	NFkB	<i>rs28720239</i>
LepR_G_A	1 = CC, 2 = TC, 3 = TT	LEPR	<i>rs3790433</i>
Adiponectin_276	1 = CC, 2 = CA, 3 = AA	Adiponectin	<i>rs1501299</i>

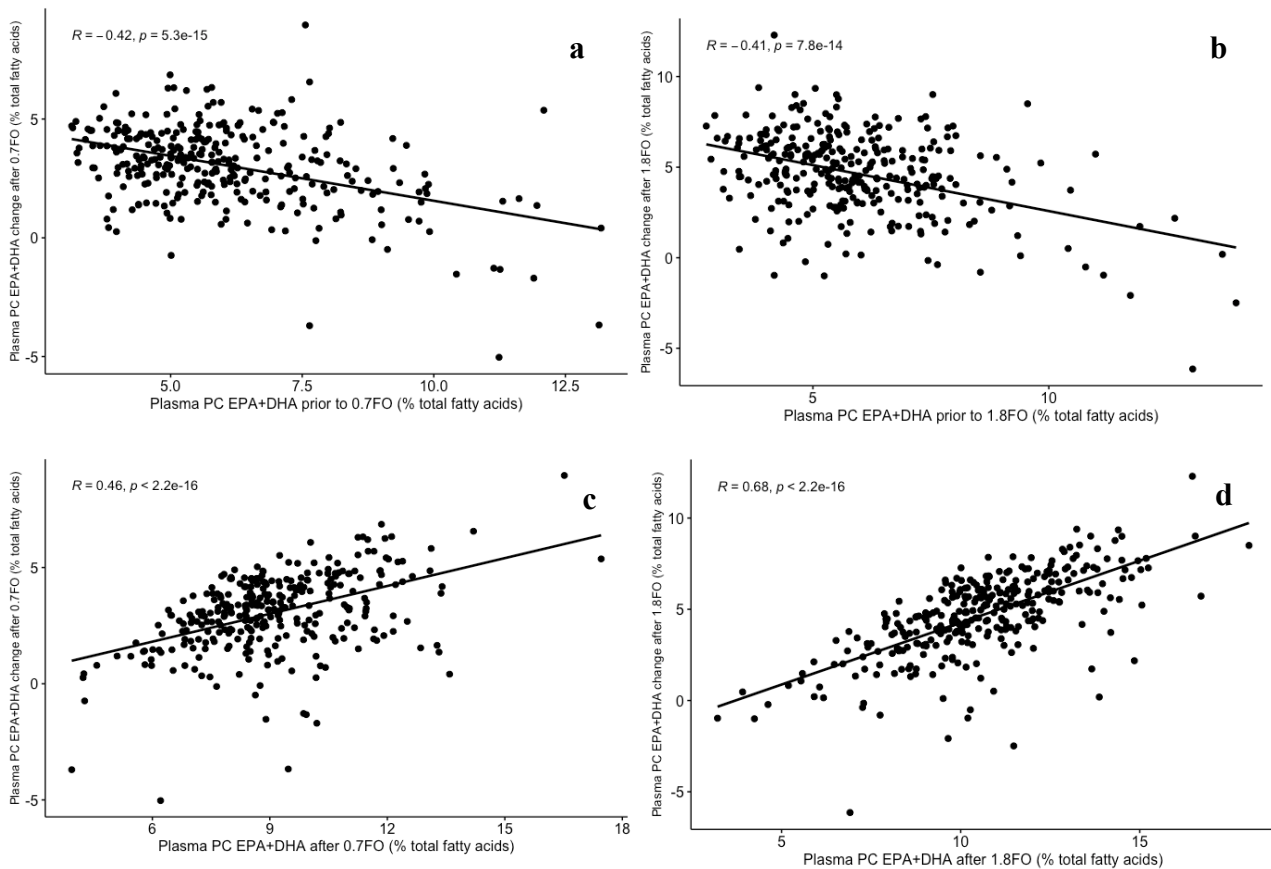
IR_S1	1 = CC, 2 = TC, 3 = TT	IRS1	<i>rs1801278</i>
PI3Kinase	1 = GG, 2 = GA, 3 = AA	PI3Kinase	<i>rs3730089</i>
VLDL_R	1 = AA, 2 = CA, 3 = CC	VLDLR	<i>rs1454626</i>
p22phox_242	1 = CC, 2 = CT, 3 = TT	NADPHox	<i>rs4673</i>
p22phox_nitrate_a/c_0	Measure of NADPHox before intervention period		
EDN1_198	1 = GG, 2 = TG, 3 = TT	EDN1	<i>rs5370</i>
UTS2_T21M	1 = AA, 2 = GA, 3 = GG	UTS2	<i>rs228648</i>
UTS2R_8515	1 = CC, 2 = TC, 3 = TT	UTS2R	<i>rs35373706</i>
CYP1A1_2_I462V	1 = AA, 2 = GA, 3 = GG	CYP1A1.2	<i>rs1048943</i>
FADS174575	1 = CC, 2 = CG, 3 = GG	FADS2	<i>rs174575</i>
FADS174575_ADMA_a/c_0	Measure of FADS2 before intervention period		
ELOVL1	1 = GG, 2 = GA, 3 = AA	ELOVL2	<i>rs953413</i>
FABP1_Th94A1	1 = TT, 2 = TC, 3 = CC	FABP1	<i>rs2241883</i>
PPARa_L162V	1 = CC, 2 = GC, 3 = GG	PPAR α	<i>rs1800206</i>
PPARa_3UTR	1 = GG, 2 = GA, 3 = AA		<i>rs6008259</i>
PPARa_3UTR_RQ_a_0	Measure of PPAR α before intervention period		
PPARa_5UTR	1 = CC, 2 = CA, 3 = AA		<i>rs535543</i>
SCARB1	1 = CC, 2 = TC, 3 = TT	SCARB1	<i>rs4238001</i>
FABP2	1 = TT, 2 = AT, 3 = AA	FABP2	<i>rs1799883</i>
CD36_1	1 = GG, 2 = AG, 3 = AA	CD36	<i>rs1527483</i>
CD36_2	1 = GG, 2 = GC, 3 = CC		<i>rs1049673</i>

CD36_3	1 = AA, 2 = GA, 3 = GG		<i>rs1761667</i>
CD36_4	1 = AA, 2 = GA, 3 = GG		<i>rs1984112</i>
C14_0_a/c_0	Plasma fatty acid levels of C14:0 before intervention period		
C16_0_a/c_0	Plasma fatty acid levels of C16:0 before intervention period		
C18_0_a/c_0	Plasma fatty acid levels of C18:0 before intervention period		
C16_1_a/c_0	Plasma fatty acid levels of C16:1 before intervention period		
C18_1_a/c_0	Plasma fatty acid levels of C18:1 before intervention period		
C18_2_a/c_0	Plasma fatty acid levels of C18:2 before intervention period		
C20_3_a/c_0	Plasma fatty acid levels of C20:3 before intervention period		
C20_4_a/c_0	Plasma fatty acid levels of C20:4 before intervention period		
C20_5_a/c_0	Plasma fatty acid levels of C20:5 before intervention period		
C22_5_a/c_0	Plasma fatty acid levels of C22:5 before intervention period		
C22_6_a/c_0	Plasma fatty acid levels of C22:6 before intervention period		
O3I_a/c_0	Plasma EPA+DHA levels before intervention period (used to calculate TG change score only)		
O3I_a/c_change	Change in plasma EPA+DHA levels between start and end of intervention period (outcome)		

APOA4 – apolipoprotein A4 gene; APOA5 – apolipoprotein A5 gene; APOC3 – apolipoprotein C3 gene; APOE – apolipoprotein E gene; C3 – complement component 3 gene; CD36 – scavenger receptor gene; CYP1A1.2 – cytochrome

p450 gene; CYP7A1 – cholesterol 7 alpha hydrolase gene; EDN1 – Endothelin-1 gene; ELOVL2 – fatty acid elongase gene; eNOS – endothelial nitric oxide synthase gene; FABP1 – fatty acid binding protein 1 gene; FABP2 – fatty acid binding protein 2 gene; FADS2 – delta 6 desaturase gene; IL-6 – interleukin 6 gene; IL-10 – interleukin 10; IL-1 β – interleukin 1 beta gene; IRS1 – insulin receptor substrate 1 gene; LEPR – leptin receptor gene; LIPC – hepatic lipase gene; LPL – lipoprotein lipase gene; NADPHox – nicotinamide adenine dinucleotide phosphate oxidase; PIK3R1 – P13 Kinase regulatory subunit 1 α gene; PPAR α - peroxisome proliferator activator receptor alpha; SCARB1 – scavenger receptor class B1 gene; TNF- α - tumour necrosis factor alpha gene; UTS2 – urotensin 2 gene; UTS2R urotensin 2 receptor gene; VLDLR – very low density lipoprotein receptor gene.

Supplementary Figure 2



Supplementary Figure 2. Relationship between initial and final plasma PC EPA+DHA with plasma PC EPA+DHA change. **a** relationship between pre-0.7FO plasma PC EPA+DHA with EPA+DHA change after 0.7FO; **b** relationship between pre-1.8FO plasma PC EPA+DHA with EPA+DHA change after 1.8FO; **c** relationship between plasma PC EPA+DHA after 0.7FO with EPA+DHA change; **d** relationship between plasma PC EPA+DHA after 1.8FO with EPA+DHA change. 0.7FO – 0.7 g/d EPA+DHA; 1.8FO – 1.8 g/d EPA+DHA; PC – plasma phosphatidylcholine.

