

SUPPLEMENTAL MATERIAL

Online Supporting Material

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Table s1- Particle diameter ranges.

	Diameter range (nm)	% CV
LDL Particles		
Total	18-23	2.1
Large	21.2-23	6.3
Small	18-21.2	4.7
IDL Particles	23-27	13.1
HDL Particles		
Total	7.3-13	1.5
Large	8.8-13	5.9
Medium	8.2-8.8	<30
Small	7.3-8.2	3.7
VLDL Particles		
Total	≥ 27	3.1
Large	> 60	5.1
Medium	35-60	4.1
Small	27-35	7.1

Table s2- Baseline characteristics of 26,034 apparently healthy women according to quintiles of fish and energy adjusted marine n-3 intake.

Characteristic	Total fish intake (median [min, max] serv/day)			P	Total marine n-3 (median [min, max] g/day)			P
	Q:1	Q:3	Q:5		Q:1	Q:3	Q:5	
	0.07 [0, 0.07]	0.21 [0.2, 0.21]	0.5 [0.43, 0.64]		0.95 [0.86, 1.02]	1.35 [1.31, 1.39]	1.89 [1.77, 2.1]	
<i>N</i>	5839	5465	5617		5248	4991	5123	
Age (y)	52.5 [48.6, 59.0]	52.8 [49.0, 58.8]	53.2 [49.2, 59.0]	0.0025	52.1 [48.5, 57.7]	52.7 [48.9, 58.7]	54 [49.6, 60]	<0.0001
White (%)	96.0	95.8	94.0	<0.0001	95.2	96.0	95.1	<0.0001
BMI (kg/m²)	24.7 [22.3, 28.2]	24.6 [22.3, 27.8]	25.0 [22.6, 28.3]	<0.0001	24.3 [22.1, 27.9]	24.9 [22.5, 28.2]	25.0 [22.6, 28.3]	<0.0001
Exercise (MET-h/wk)	6.87 [1.97, 17.51]	9.11 [3.03, 20.74]	11.3 [4.02, 23.55]	<0.0001	7.70 [2.30, 19.5]	9.20 [3.10, 20.94]	9.90 [3.01, 21.50]	<0.0001
Fruits and vegetables (serving/d)	4.44 [2.96, 6.30]	5.45 [3.93, 7.34]	6.96 [5.08, 9.32]	<0.0001	4.66 [3.14, 6.64]	5.58 [4.01, 7.63]	6.06 [4.29, 8.32]	<0.0001
Nuts (serving/d)	0 [0, 0.13]	0.07 [0, 0.13]	0.07 [0, 0.13]	<0.0001	0 [0, 0.13]	0.07 [0, 0.13]	0.07 [0, 0.13]	<0.0001
Red meat (serving/d)	0.55 [0.27, 0.91]	0.63 [0.34, 0.98]	0.56 [0.33, 0.98]	<0.0001	0.63 [0.34, 1.06]	0.63 [0.34, 0.99]	0.50 [0.28, 0.85]	<0.0001
Energy intake (kcal/d)	1471 [1177, 1826]	1686 [1377, 2035]	1896 [1557, 2284]	<0.0001	1639 [1324, 2008]	1707 [1368, 2105]	1649 [1322, 2017]	<0.0001
Dietary magnesium (mg)¹	314 [273, 366]	327 [289, 372]	352 [314, 399]	<0.0001	323 [279, 374]	329 [291, 377]	334 [294, 386]	<0.0001
trans Fatty acids (g/d)¹	2.27 [1.65, 3.09]	2.10 [1.58, 2.82]	1.81 [1.33, 2.47]	<0.0001	2.02 [1.48, 2.7]	2.1 [1.56, 2.83]	2.08 [1.47, 2.86]	<0.0001
Saturated fatty acids (g/d)¹	20.3 [17.1, 23.7]	19.5 [16.7, 22.5]	18.0 [15.2, 20.9]	<0.0001	19.6 [16.3, 23.1]	19.4 [16.5, 22.4]	19.0 [16.3, 21.9]	<0.0001
Cereal fiber (g/d)¹	4.27 [3.57, 5.12]	4.33 [3.70, 5.11]	4.57 [3.91, 5.41]	<0.0001	4.11 [3.44, 4.91]	4.4 [3.74, 5.16]	4.62 [3.92, 5.45]	<0.0001
Parental history of diabetes (%)	24.5	23.9	26.3	0.01	24.3	24.6	26.0	0.13
Glycated hemoglobin (%)	4.99 [4.84, 5.18]	4.99 [4.83, 5.17]	5.00 [4.83, 5.18]	0.13	4.99 [4.83, 5.17]	4.99 [4.83, 5.18]	5.00 [4.83, 5.17]	0.33
Current smoking (%)	12.5	11.6	10.2	<0.0001	14.2	10.4	11.5	<0.0001
Daily alcohol use (%)	7.1	11.9	12.0	<0.0001	11.8	10.5	9.78	<0.0001
Postmenopausal (%)	53.6	53.8	54.7	0.0019	51.5	53.7	57.5	<0.0001
Hormone Therapy use (%)	43.0	44.5	44.5	0.03	42.2	44.3	45.8	<0.001
Hypertension (%)	23.2	23.6	25.8	0.01	23.2	23.1	26.0	0.0015

Values shown are medians (25th 75th percentile) or percentages. MET-h indicates metabolic equivalent task hours. P values were derived from Wilcoxon rank sum test (continuous variables) or chi-squared test (categorical variables).¹Energy adjusted.

Table s3- Baseline characteristics of 26034 women according to quintiles (Q) of energy adjusted EPA, DHA and ALA fatty acid intake.

Characteristic	Eicosapentaenoic acid (EPA)				Docosahexaenoic acid (DHA)				α -Linolenic acid (ALA)			
	Q:1	Q:3	Q:5	<i>P</i>	Q:1	Q:3	Q:5	<i>P</i>	Q:1	Q:3	Q:5	<i>P</i>
<i>N</i>	5370	3226	4947		6351	4860	4797		5286	5225	5079	
Age (y)	52.6 [48.6 59.0]	52.7 [48.8 58.3]	53.6 [49.4 59.2]	<.0001	52.5 [48.6 58.9]	52.8 [48.8 58.6]	53.4 [49.5 59.1]	<.0001	52.2 [48.6 58.0]	52.7 [48.9 58.7]	53.8 [49.4 60.1]	<.0001
White (%)	96.7	96.5	92.1	<.0001	96.7	96.1	92.2	<.0001	93.7	96.0	96.8	<.0001
BMI (kg/m²)	24.9 [22.3 28.3]	25.1 [22.6 28.3]	24.5 [22.3 27.5]	<.0001	24.8 [22.3 28.3]	24.8 [22.5 28.3]	24.8 [22.5 28.2]	0.57	24.3 [22.1 27.8]	24.9 [22.6 28.3]	25.0 [22.5 28.4]	<.0001
Exercise (MET-h/wk)	7.14 [2.11 17.50]	8.83 [2.92 20.20]	11.8 [4.25 24.39]	<.0001	7.00 [2.12 17.87]	8.70 [2.87 20.20]	11.8 [4.15 24.4]	<.0001	8.69 [2.63 20.94]	9.00 [3.01 20.61]	8.68 [2.64 20.20]	0.01
Fruits & veg. (serving/d)	4.92 [3.44 6.82]	5.36 [3.77 7.30]	6.04 [4.28 8.23]	<.0001	4.89[3.33 6.87]	5.45 [3.89 7.50]	6.15 [4.34 8.43]	<.0001	4.87 [3.25 6.86]	5.65 [4.00 7.73]	5.81 [4.10 7.98]	<.0001
Nuts (serving/d)	0 [0 0.13]	0 [0 0.13]	0.07 [0 0.13]	<.0001	0 [0 0.13]	0.07 [0 0.13]	0.07 [0 0.13]	<.0001	0 [0 0.13]	0.07 [0 0.13]	0.07 [0 0.13]	<.0001
Red meat (serving/d)	0.64 [0.34 1.06]	0.56 [0.34 0.91]	0.43 [0.27 0.77]	<.0001	0.70 [0.34 1.07]	0.63 [0.35 0.99]	0.42 [0.27 0.71]	<.0001	0.56 [0.29 0.98]	0.63 [0.34 0.99]	0.56 [0.33 0.91]	<.0001
Energy intake (kcal/d)	1604 [1325 1988]	1545 [1281 1954]	1577 [1288 1947]	<.0001	1655 [1330 2050]	1681 [1362 2074]	1592 [1280 1961]	<.0001	1644 [1329 2004]	1713 [1368 2093]	1656 [1334 2026]	<.0001
Diet. magnesium (mg)¹	314 [274 364]	331 [294 378]	351 [312 400]	<.0001	312 [272 362]	327 [291 373]	357 [316 406]	<.0001	332 [285 384]	331 [291 379]	323 [286 370]	<.0001
trans FA (g/d)¹	2.31 [1.67 3.12]	2.08 [1.56 2.76]	1.75 [1.29 2.35]	<.0001	2.34 [1.71 3.15]	2.10 [1.59 2.82]	1.72 [1.27 2.33]	<.0001	1.86 [1.37 2.55]	2.11 [1.58 2.79]	2.28 [1.62 3.08]	<.0001
Saturated FA (g/d)¹	20.4 [17.2 23.7]	19.3 [16.5 22.1]	17.9 [15.1 20.9]	<.0001	20.5 [17.3 23.8]	19.5 [16.7 22.3]	17.7 [14.9 20.7]	<.0001	18.9 [15.6 22.3]	19.3 [16.6 22.3]	19.6 [16.9 22.5]	<.0001
Cereal fibre (g/d)¹	4.27 [3.59 5.13]	4.38 [3.75 5.12]	4.58 [3.89 5.44]	<.0001	4.24 [3.57 5.09]	4.33 [3.70 5.10]	4.61 [3.92 5.49]	<.0001	4.15 [3.47 4.99]	4.39 [3.73 5.16]	4.55 [3.86 5.38]	<.0001
Par. Hist. diabetes (%)	24.4	26.0	24.8	0.17	24.4	24.2	25.8	0.32	24.4	24.7	25.6	0.38

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GH (%)	5.00 [4.84 5.18]	4.99 [4.83 5.16]	4.98 [4.82 5.17]	0.03	5.00 [4.84 5.17]	4.99 [4.84 5.17]	4.99 [4.83 5.17]	0.25	4.99 [4.83 5.17]	4.98 [4.83 5.17]	5.01 [4.84 5.18]	0.03
Current smoking (%)	12.4	13.2	10.1	<.0001	12.9	11.9	10.3	<.0001	13.8	10.4	12.1	<.0001
Daily alcohol use (%)	7.32	10.3	13.7	<.0001	8.36	10.3	11.5	<.0001	13.5	9.90	9.18	<.0001
Postmenopausal (%)	53.7	52.6	55.8	<.0001	53.5	54.3	55.4	<.0001	51.6	54.1	57.6	<.0001
HT use (%)	42.4	45.2	46.8	<.0001	42.4	43.6	46.0	<.001	41.7	44.4	45.5	0.0018
Hypertension (%)	22.9	24.0	24.4	0.22	23.3	23.7	25.8	0.02	23.6	23.6	25.4	0.14

Values shown are medians (25th 75th percentile) or percentages. MET-h indicates metabolic equivalent task hours. veg.: vegetables. Diet. Magnesium: Dietary magnesium. FA: Fatty Acids. Par. Hist. Diabetes: Parental History of Diabetes. GH: Glycated Haemoglobin. P values were derived from Wilcoxon rank sum test (continuous variables) or chi-squared test (categorical variables). ¹Energy adjusted

Table s4- LDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted EPA intake (gm)			P _{Trend}
		Q1	Q3	Q5	
		0.01 [0.01 0.01]	0.04 [0.04 0.05]	0.12 [0.11 0.16]	
LDL-C (mg/dL)	Raw mean	123 ± 34	125 ± 34	124 ± 35	
	Adj. mean ¹	123 [122 124]	125 [124 126]	124 [123 125]	0.29
	Adj. mean ²	123 [122 125]	124 [123 125]	123 [122 125]	0.50
TC (mg/dL)	Raw mean	210 ± 41	213 ± 42	213 ± 42	
	Adj. mean ¹	210 [208 211]	213 [212 214]	213 [212 214]	0.002
	Adj. mean ²	211 [210 212]	211 [210 212]	211 [209 212]	0.39
ApoB100 (mg/dL)	Raw mean	103 ± 28	104 ± 28	103 ± 28	
	Adj. mean ¹	103 [102 103]	105 [104 105]	103 [103 104]	0.68
	Adj. mean ²	103 [102 104]	103 [102 104]	103 [101 103.7]	0.52
LDL Size (Ø nm)	Geom. mean	21.04 [21.02 21.06]	21.05 [21.03 21.07]	21.12 [21.11 21.14]	
	Adj. mean ¹	21.04 [21.02 21.06]	21.05 [21.03 21.07]	21.12 [21.1 21.13]	<.0001
	Adj. mean ²	21.1 [21.08 21.13]	21.06 [21.03 21.08]	21.07 [21.04 21.1]	0.52
LDL Particles					
Total (nm/L)	Geom. mean	1189 [1179 1200]	1211 [1198 1225]	1190 [1180 1201]	
	Adj. mean ¹	1189 [1178 1199]	1214 [1200 1227]	1191 [1180 1202]	0.41
	Adj. mean ²	1184 [1169 1199]	1197 [1183 1210]	1182 [1165 1199]	0.30
IDL (nm/L)	Geom. mean	146 [143 148]	145 [141 148]	147 [145 150]	
	Adj. mean ¹	146 [143 148]	145 [142 149]	146 [143 149]	0.96
	Adj. mean ²	146 [142 151]	145 [141 149]	144 [139 149]	0.68
Large (nm/L)	Geom. mean	463 [454 473]	481 [469 494]	515 [505 525]	
	Adj. mean ¹	462 [453 471]	482 [470 494]	512 [501 523]	<.0001
	Adj. mean ²	491 [475 507]	480 [467 494]	488 [470 506]	0.89
Small A (nm/L)	Geom. mean	62.2 [61.3 63.2]	64 [62.6 65.5]	65.8 [64.4 67.2]	
	Adj. mean ¹	62.3 [61.3 63.2]	64 [62.6 65.4]	66 [64.5 67.4]	<.001
	Adj. mean ²	62.4 [60.7 64.2]	63.9 [62.3 65.6]	65.7 [63.2 68.2]	0.16
Small B (nm/L)	Geom. mean	661 [650 671]	662 [648 676]	647 [635 658]	
	Adj. mean ¹	662 [651 673]	663 [649 676]	644 [632 656]	0.02
	Adj. mean ²	657 [640 673]	654 [640 669]	637 [619 656]	0.27

Raw means ± sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans*-fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles). *Is-means.

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted ALA and DHA fatty acids (both in quintiles).

Table s5- LDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted DHA intake (gm)			
		Q2	Q3	Q5	P _{Trend}
		0.09 [0.08 0.1]	0.12 [0.11 0.13]	0.28 [0.24 0.35]	
LDL-C	Raw mean	124 ± 33	125 ± 35	125 ± 35	
(mg/dL)	Adj. mean ¹	124 [123 125]	125 [124 126]	125 [124 126]	0.005
	Adj. mean ²	123 [122 124]	124 [123 125]	124 [123 126]	0.23
TC	Raw mean	212 ± 41	212 ± 42	214 ± 42	
(mg/dL)	Adj. mean ¹	212 [210 213]	213 [211 214]	214 [213 215]	<.0001
	Adj. mean ²	211 [210 212]	212 [211 213]	212 [211 214]	0.11
ApoB100	Raw mean	104 ± 28	104 ± 28	104 ± 28	
(mg/dL)	Adj. mean ¹	104 [103 104]	104 [103 104]	104 [103 105]	0.01
	Adj. mean ²	103 [102 104]	103 [102 103]	104 [102 104.8]	0.27
LDL Size	Geom. mean	21.06 [21.04 21.08]	21.08 [21.06 21.1]	21.11 [21.09 21.13]	
(Ø nm)	Adj. mean ¹	21.06 [21.04 21.08]	21.08 [21.06 21.1]	21.11 [21.09 21.13]	<.0001
	Adj. mean ²	21.07 [21.04 21.09]	21.09 [21.07 21.11]	21.12 [21.08 21.15]	0.0075
LDL Particles					
Total	Geom. mean	1198 [1187 1210]	1201 [1190 1212]	1203 [1192 1214]	
(nm/L)	Adj. mean ¹	1197 [1186 1208]	1201 [1190 1211]	1204 [1192 1216]	0.09
	Adj. mean ²	1186 [1173 1199]	1187 [1176 1198]	1198 [1180 1217]	0.38
IDL	Geom. mean	147 [144 150]	146 [144 149]	147 [144 150]	
(nm/L)	Adj. mean ¹	147 [144 150]	147 [144 150]	146 [143 149]	0.85
	Adj. mean ²	146 [142 150]	145 [142 149]	146 [141 152]	0.83
Large	Geom. mean	476 [466 487]	489 [479 499]	507 [496 518]	
(nm/L)	Adj. mean ¹	477 [467 487]	490 [480 500]	508 [497 519]	<.0001
	Adj. mean ²	479 [465 492]	493 [482 505]	504 [485 524]	0.02
Small A	Geom. mean	63.7 [62.5 64.9]	63.3 [61.9 64.7]	65.3 [63.9 66.7]	
(nm/L)	Adj. mean ¹	63.5 [62.3 64.8]	63.2 [61.9 64.6]	65.4 [63.9 66.9]	0.005
	Adj. mean ²	64.2 [62.6 66]	62.9 [61.4 64.5]	63.3 [60.9 65.9]	0.72
Small B	Geom. mean	655 [644 667]	651 [640 663]	658 [647 670]	
(nm/L)	Adj. mean ¹	657 [645 668]	651 [641 663]	655 [643 667]	0.23
	Adj. mean ²	650 [636 664]	648 [636 660]	654 [635 674]	0.96

Raw means ± sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans* fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles).

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted ALA and EPA fatty acids (both in quintiles).

Table s6- LDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted ALA intake (gm)			
		Q1	Q3	Q5	P _{Trend}
		0.79 [0.71 0.84]	1.12 [1.08 1.16]	1.61 [1.5 1.79]	
LDL-C	Raw mean	123 ± 34	124 ± 35	125 ± 34	
(mg/dL)	Adj. mean ¹	125 [124 126]	124 [123 125]	124 [122 125]	0.10
	Adj. mean ²	125 [124 126]	123 [123 124]	123 [122 124]	0.03
TC	Raw mean	211 ± 42	212 ± 42	213 ± 42	
(mg/dL)	Adj. mean ¹	213 [211 214]	212 [211 213]	211 [210 213]	0.38
	Adj. mean ²	212 [211 213]	211 [210 212]	211 [210 212]	0.25
ApoB100	Raw mean	103 ± 28	104 ± 28	104 ± 28	
(mg/dL)	Adj. mean ¹	104 [103 105]	104 [103 104]	103 [102 104]	0.19
	Adj. mean ²	104 [103 105]	103 [102 104]	103 [102 103.4]	0.09
LDL Size	Geom. mean	21.08 [21.06 21.1]	21.07 [21.06 21.09]	21.05 [21.04 21.07]	
(Ø nm)	Adj. mean ¹	21.04 [21.02 21.07]	21.08 [21.06 21.1]	21.08 [21.06 21.11]	0.03
	Adj. mean ²	21.05 [21.03 21.07]	21.08 [21.07 21.1]	21.1 [21.07 21.12]	0.002
LDL Particles					
Total	Geom. mean	1189 [1178 1199]	1200 [1189 1211]	1212 [1202 1223]	
(nm/L)	Adj. mean ¹	1208 [1196 1221]	1199 [1188 1209]	1195 [1181 1208]	0.23
	Adj. mean ²	1203 [1191 1215]	1189 [1180 1199]	1186 [1173 1199]	0.12
IDL	Geom. mean	152 [149 155]	146 [144 149]	141 [138 144]	
(nm/L)	Adj. mean ¹	147 [144 151]	146 [144 149]	146 [142 149]	0.80
	Adj. mean ²	146 [143 150]	145 [143 148]	145 [142 149]	0.95
Large	Geom. mean	474 [464 484]	490 [480 500]	493 [483 503]	
(nm/L)	Adj. mean ¹	472 [460 484]	492 [482 503]	489 [477 502]	0.09
	Adj. mean ²	476 [463 489]	493 [482 503]	491 [477 505]	0.15
Small A	Geom. mean	60.7 [59.4 62.1]	64.1 [62.9 65.4]	65.8 [64.4 67.1]	
(nm/L)	Adj. mean ¹	63.1 [61.6 64.7]	64 [62.7 65.3]	63.4 [61.7 65.1]	0.84
	Adj. mean ²	62.5 [60.8 64.2]	63.8 [62.4 65.1]	63.2 [61.5 65.1]	0.98
Small B	Geom. mean	654 [643 665]	652 [641 663]	669 [658 681]	
(nm/L)	Adj. mean ¹	663 [650 677]	652 [641 663]	659 [645 673]	0.78
	Adj. mean ²	661 [648 675]	648 [637 659]	655 [641 669]	0.80

Raw means ± sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans* fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles).

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted EPA and DHA fatty acids (both in quintiles).

Table s7- VLDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted EPA intake (gm)			
		Q1	Q3	Q5	P _{Trend}
		0.01 [0.01 0.01]	0.04 [0.04 0.05]	0.12 [0.11 0.16]	
TG (mg/dL)	Geom. mean	124 [122 125]	124 [122 127]	117 [115 119]	
	Adj. mean ¹	124 [122 126]	125 [122 127]	117 [115 119]	<.0001
	Adj. mean ²	121 [118 124]	123 [120 125]	118 [115 121]	0.19
VLDL Size (Ø nm)	Geom. mean	51.11 [50.92 51.31]	51.05 [50.81 51.3]	50.87 [50.68 51.07]	
	Adj. mean ¹	51.12 [50.93 51.31]	51.1 [50.86 51.35]	50.87 [50.67 51.07]	0.07
	Adj. mean ²	50.93 [50.62 51.24]	51.06 [50.79 51.32]	50.91 [50.58 51.25]	0.87
VLDL Particles					
Total (nm/L)	Geom. mean	57.3 [56.7 58]	56.7 [55.8 57.7]	53.1 [52.4 53.8]	
	Adj. mean ¹	57.3 [56.6 58]	56.6 [55.8 57.5]	53.4 [52.7 54.1]	<.0001
	Adj. mean ²	55.9 [54.8 57.1]	56.4 [55.4 57.4]	54.1 [53 55.4]	0.03
Large (nm/L)	Geom. mean	2.62 [2.54 2.69]	2.53 [2.45 2.63]	2.21 [2.14 2.28]	
	Adj. mean ¹	2.61 [2.54 2.69]	2.56 [2.47 2.66]	2.23 [2.16 2.29]	<.0001
	Adj. mean ²	2.46 [2.35 2.58]	2.51 [2.41 2.6]	2.3 [2.19 2.41]	0.07
Medium (nm/L)	Geom. mean	13.4 [13.1 13.7]	13.2 [12.9 13.6]	12.2 [11.9 12.5]	
	Adj. mean ¹	13.5 [13.2 13.8]	13.2 [12.9 13.6]	12.1 [11.8 12.4]	<.0001
	Adj. mean ²	12.7 [12.3 13.2]	13.1 [12.6 13.5]	12.5 [12 13.1]	0.26
Small (nm/L)	Geom. mean	36.8 [36.2 37.3]	36.4 [35.7 37.1]	34.2 [33.6 34.8]	
	Adj. mean ¹	36.5 [36 37.1]	36.3 [35.6 36.9]	34.6 [34 35.1]	<.0001
	Adj. mean ²	36.1 [35.2 37]	36.2 [35.5 37]	34.8 [33.8 35.7]	0.07
VLDL-TG (mg/dL)	Geom. mean	76.5 [75.5 77.6]	75.6 [74.3 76.9]	70.3 [69.3 71.3]	
	Adj. mean ¹	76.6 [75.6 77.6]	75.7 [74.4 77]	70.6 [69.6 71.6]	<.0001
	Adj. mean ²	74.2 [72.7 75.9]	75 [73.7 76.4]	71.6 [70 73.3]	0.02

Raw means \pm sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans*-fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles).

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted ALA and DHA fatty acids (both in quintiles).

Table s8- VLDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted DHA intake (gm)			
		Q1	Q3	Q5	P ^{Trend}
		0.05 [0.03 0.06]	0.12 [0.11 0.13]	0.28 [0.24 0.35]	
TG (mg/dL)	Geom. mean	123 [121 125]	121 [119 123]	119 [117 121]	
	Adj. mean ¹	123 [122 125]	121 [119 123]	118 [117 120]	<.0001
	Adj. mean ²	122 [119 125]	119 [117 121]	119 [116 122]	0.35
VLDL Size (Ø nm)	Geom. mean	51.18 [51 51.36]	50.77 [50.58 50.97]	50.92 [50.72 51.12]	
	Adj. mean ¹	51.17 [50.99 51.36]	50.78 [50.59 50.98]	50.91 [50.7 51.12]	0.30
	Adj. mean ²	51.22 [50.92 51.53]	50.77 [50.56 50.99]	50.83 [50.47 51.19]	0.39
VLDL Particles					
Total (nm/L)	Geom. mean	57.2 [56.5 57.8]	56.3 [55.6 57.1]	53.9 [53.1 54.6]	
	Adj. mean ¹	57.2 [56.5 57.9]	56.2 [55.5 56.9]	54 [53.2 54.7]	<.0001
	Adj. mean ²	56.3 [55.2 57.4]	55.3 [54.5 56.1]	55.4 [54.1 56.8]	0.61
Large (nm/L)	Geom. mean	2.63 [2.57 2.7]	2.43 [2.36 2.5]	2.27 [2.2 2.34]	
	Adj. mean ¹	2.63 [2.56 2.7]	2.43 [2.36 2.5]	2.28 [2.21 2.35]	<.0001
	Adj. mean ²	2.58 [2.47 2.7]	2.36 [2.29 2.44]	2.35 [2.23 2.48]	0.12
Medium (nm/L)	Geom. mean	13.4 [13.2 13.7]	13.2 [12.9 13.5]	12.3 [12 12.7]	
	Adj. mean ¹	13.6 [13.3 13.9]	13.2 [12.8 13.5]	12.2 [11.9 12.5]	<.0001
	Adj. mean ²	13.5 [13 14]	12.7 [12.4 13.1]	12.5 [12 13.1]	0.10
Small (nm/L)	Geom. mean	36.5 [36 37]	36.1 [36.5 36.7]	34.6 [34.1 35.2]	
	Adj. mean ¹	36.4 [35.8 36.9]	36 [35.5 36.6]	34.9 [34.4 35.5]	<.001
	Adj. mean ²	35.7 [34.8 36.6]	35.6 [35 36.2]	36 [34.9 37]	0.70
VLDL- TG (mg/dL)	Geom. mean	76.5 [75.6 77.4]	74.2 [73.2 75.2]	71.4 [70.4 72.5]	
	Adj. mean ¹	76.7 [75.7 77.7]	74.1 [73.1 75.1]	71.4 [70.3 72.5]	<.0001
	Adj. mean ²	75.5 [73.9 77.1]	72.7 [71.6 73.8]	73.1 [71.3 75]	0.30

Raw means ± sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans* fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles).

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted ALA and EPA fatty acids (both in quintiles).

Table s9- VLDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted ALA intake (gm)			P _{Trend}
		Q1	Q3	Q5	
		0.79 [0.71 0.84]	1.12 [1.08 1.16]	1.61 [1.5 1.79]	
TG (mg/dL)	Geom. mean	122 [120 123]	122 [121 124]	122 [121 124]	
	Adj. mean ¹	123 [121 125]	122 [120 124]	122 [119 124]	0.62
	Adj. mean ²	122 [120 124]	121 [119 123]	121 [118 123]	0.64
VLDL Size (Ø nm)	Geom. mean	51.53 [51.34 51.74]	51 [50.81 51.19]	50.61 [50.42 50.8]	
	Adj. mean ¹	51.26 [51.03 51.5]	51.03 [50.83 51.22]	50.84 [50.59 51.09]	0.04
	Adj. mean ²	51.25 [51 51.5]	50.98 [50.78 51.17]	50.72 [50.46 50.97]	0.01
VLDL Particles					
Total (nm/L)	Geom. mean	54.2 [53.5 54.9]	56.6 [55.9 57.3]	57.6 [56.9 58.3]	
	Adj. mean ¹	56.3 [55.4 57.2]	56.4 [55.7 57.1]	55.7 [54.8 56.6]	0.45
	Adj. mean ²	55.7 [54.8 56.7]	56.2 [55.5 56.9]	55.8 [54.8 56.7]	0.94
Large (nm/L)	Geom. mean	2.63 [2.56 2.7]	2.5 [2.42 2.57]	2.36 [2.29 2.43]	
	Adj. mean ¹	2.59 [2.5 2.68]	2.49 [2.41 2.56]	2.43 [2.34 2.52]	0.06
	Adj. mean ²	2.56 [2.47 2.66]	2.45 [2.38 2.52]	2.38 [2.29 2.47]	0.04
Medium (nm/L)	Geom. mean	12.9 [12.6 13.1]	13.3 [13 13.7]	13.1 [12.8 13.5]	
	Adj. mean ¹	13.2 [12.8 13.6]	13.3 [12.9 13.6]	13 [12.6 13.4]	0.65
	Adj. mean ²	13 [12.6 13.4]	13.1 [12.8 13.4]	12.9 [12.5 13.3]	0.88
Small (nm/L)	Geom. mean	34.1 [33.5 34.7]	36.3 [35.7 36.8]	37.3 [36.8 37.9]	
	Adj. mean ¹	35.7 [35 36.4]	36.2 [35.6 36.7]	35.8 [35.1 36.5]	0.96
	Adj. mean ²	35.4 [34.7 36.2]	36.1 [35.5 36.7]	35.9 [35.2 36.7]	0.61
VLDL-TG (mg/dL)	Geom. mean	74.1 [73.1 75.1]	75.3 [74.3 76.3]	74.9 [73.9 76]	
	Adj. mean ¹	75.6 [74.4 76.9]	75.1 [74.1 76.1]	73.8 [72.5 75.1]	0.11
	Adj. mean ²	74.8 [73.5 76.1]	74.6 [73.5 75.6]	73.4 [72.1 74.7]	0.23

Raw means ± sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans* fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles).

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted EPA and DHA fatty acids (both in quintiles).

Table s10- HDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted EPA intake (gm)			P _{Trend}
		Q1	Q3	Q5	
		0.01 [0.01 0.01]	0.04 [0.04 0.05]	0.12 [0.11 0.16]	
HDL-C	Raw mean	52.9 ± 14.5	53.8 ± 15	55.9 ± 15.7	
(mg/dL)	Adj. mean ¹	52.9 [52.5 53.3]	53.8 [53.3 54.3]	55.5 [55.1 55.9]	<.0001
	Adj. mean ²	54.4 [53.8 55]	53.8 [53.3 54.4]	53.9 [53.3 54.6]	0.30
ApoA1	Raw mean	149 ± 25	152 ± 25	154 ± 26	
(mg/dL)	Adj. mean ¹	149 [149 150]	152 [151 152]	153 [152 154]	<.0001
	Adj. mean ²	152 [151 153]	151 [150 152]	150 [149 151]	0.02
HDL Size	Geom. mean	9.17 [9.16 9.19]	9.18 [9.16 9.2]	9.25 [9.24 9.27]	
(Ø nm)	Adj. mean ¹	9.18 [9.16 9.19]	9.18 [9.16 9.2]	9.24 [9.23 9.26]	<.0001
	Adj. mean ²	9.23 [9.21 9.25]	9.19 [9.17 9.2]	9.2 [9.18 9.22]	0.55
HDL Particles					
Total	Geom. mean	36.6 [36.4 36.8]	37.1 [36.9 37.4]	37.2 [37 37.4]	
(µm/L)	Adj. mean ¹	36.7 [36.5 36.9]	37.1 [36.9 37.3]	37 [36.8 37.2]	0.44
	Adj. mean ²	37 [36.7 37.3]	37 [36.7 37.2]	36.5 [36.2 36.8]	0.004
Large	Geom. mean	5.32 [5.24 5.4]	5.42 [5.32 5.53]	5.86 [5.77 5.96]	
(µm/L)	Adj. mean ¹	5.35 [5.27 5.43]	5.41 [5.3 5.51]	5.76 [5.67 5.86]	<.0001
	Adj. mean ²	5.66 [5.53 5.8]	5.44 [5.33 5.55]	5.47 [5.33 5.61]	0.16
Medium	Geom. mean	11.3 [11.1 11.4]	11.4 [11.2 11.6]	11.3 [11.1 11.5]	
(µm/L)	Adj. mean ¹	11.5 [11.3 11.6]	11.4 [11.2 11.6]	11.1 [10.9 11.3]	0.01
	Adj. mean ²	11.5 [11.2 11.8]	11.3 [11.1 11.6]	10.9 [10.7 11.2]	0.01
Small	Geom. mean	17.6 [17.5 17.8]	17.8 [17.6 18]	17.5 [17.4 17.7]	
(µm/L)	Adj. mean ¹	17.5 [17.4 17.7]	17.8 [17.7 18]	17.7 [17.5 17.9]	0.70
	Adj. mean ²	17.3 [17.1 17.6]	17.7 [17.5 17.9]	17.8 [17.5 18]	0.54

Raw means ± sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans* fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles).

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted ALA and DHA fatty acids (both in quintiles)

Table s11- HDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted DHA intake (gm)			
		Q1	Q3	Q5	P _{linear}
		0.05 [0.03 0.06]	0.12 [0.11 0.13]	0.28 [0.24 0.35]	
HDL-C (mg/dL)	Raw mean	53 ± 14.6	54.2 ± 14.9	55.3 ± 15.3	
	Adj. mean ¹	53.1 [52.7 53.5]	54.3 [53.8 54.7]	55.1 [54.7 55.6]	<.0001
	Adj. mean ²	53.3 [52.7 54]	54.6 [54.2 55.1]	55 [54.3 55.7]	0.02
ApoA1 (mg/dL)	Raw mean	150 ± 25	152 ± 25	153 ± 26	
	Adj. mean ¹	150 [149 150]	152 [151 152]	153 [152 154]	<.0001
	Adj. mean ²	150 [149 151]	152 [151 153]	153 [152 154]	0.004
HDL Size (Ø nm)	Geom. mean	9.17 [9.16 9.18]	9.19 [9.17 9.2]	9.23 [9.22 9.25]	
	Adj. mean ¹	9.18 [9.16 9.19]	9.19 [9.18 9.2]	9.22 [9.21 9.24]	<.0001
	Adj. mean ²	9.17 [9.15 9.19]	9.21 [9.19 9.22]	9.24 [9.21 9.26]	0.002
HDL Particles					
Total (µm/L)	Geom. mean	36.7 [36.6 36.9]	37 [36.8 37.2]	37.1 [36.9 37.3]	
	Adj. mean ¹	36.9 [36.7 37]	37 [36.8 37.2]	36.9 [36.7 37.1]	0.58
	Adj. mean ²	36.9 [36.6 37.2]	37 [36.8 37.1]	37.1 [36.8 37.4]	0.29
Large (µm/L)	Geom. mean	5.32 [5.25 5.4]	5.48 [5.39 5.57]	5.72 [5.62 5.82]	
	Adj. mean ¹	5.36 [5.28 5.44]	5.48 [5.4 5.57]	5.65 [5.55 5.74]	<.0001
	Adj. mean ²	5.33 [5.2 5.45]	5.57 [5.48 5.66]	5.74 [5.58 5.9]	0.002
Medium (µm/L)	Geom. mean	11.3 [11.2 11.5]	11.3 [11.1 11.5]	11.3 [11.1 11.5]	
	Adj. mean ¹	11.5 [11.4 11.7]	11.3 [11.1 11.5]	11.1 [10.9 11.2]	0.005
	Adj. mean ²	11.4 [11.2 11.7]	11.3 [11.1 11.4]	11.3 [11 11.6]	0.94
Small (µm/L)	Geom. mean	17.7 [17.6 17.9]	17.8 [17.7 18]	17.6 [17.4 17.7]	
	Adj. mean ¹	17.6 [17.5 17.7]	17.8 [17.6 18]	17.7 [17.6 17.9]	0.53
	Adj. mean ²	17.7 [17.5 18]	17.7 [17.5 17.9]	17.5 [17.2 17.8]	0.33

Raw means ± sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans* fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles).

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted ALA and EPA fatty acids (both in quintiles).

Table s12- HDL related variables. Strategy based on modelling energy adjusted variables.

		Quintile of energy adjusted ALA intake (gm)			
		Q1	Q3	Q5	P _{Trend}
		0.79 [0.71 0.84]	1.12 [1.08 1.16]	1.61 [1.5 1.79]	
HDL-C	Raw mean	53.5 ± 14.6	53.9 ± 15	54.3 ± 15.2	
(mg/dL)	Adj. mean ¹	53.7 [53.2 54.2]	54 [53.6 54.5]	53.9 [53.4 54.4]	0.83
	Adj. mean ²	53.8 [53.3 54.3]	54 [53.6 54.4]	54.1 [53.6 54.7]	0.48
ApoA1	Raw mean	150 ± 25	151 ± 25	152 ± 26	
(mg/dL)	Adj. mean ¹	151 [150 151]	151 [151 152]	151 [150 152]	0.51
	Adj. mean ²	151 [150 152]	151 [151 152]	151 [150 152]	0.50
HDL Size	Geom. mean	9.2 [9.19 9.21]	9.18 [9.17 9.2]	9.19 [9.18 9.21]	
(Ø nm)	Adj. mean ¹	9.18 [9.16 9.19]	9.19 [9.17 9.2]	9.21 [9.19 9.22]	0.08
	Adj. mean ²	9.18 [9.17 9.2]	9.2 [9.18 9.21]	9.22 [9.2 9.24]	0.01
HDL Particles					
Total	Geom. mean	36.9 [36.7 37]	37 [36.8 37.2]	37 [36.8 37.1]	
(µm/L)	Adj. mean ¹	37 [36.8 37.3]	37 [36.8 37.2]	36.7 [36.5 37]	0.10
	Adj. mean ²	37 [36.8 37.3]	37 [36.8 37.2]	36.7 [36.5 36.9]	0.09
Large	Geom. mean	5.4 [5.32 5.49]	5.44 [5.35 5.53]	5.55 [5.46 5.64]	
(µm/L)	Adj. mean ¹	5.37 [5.27 5.48]	5.46 [5.37 5.55]	5.52 [5.41 5.64]	0.19
	Adj. mean ²	5.41 [5.31 5.51]	5.5 [5.42 5.58]	5.59 [5.48 5.7]	0.07
Medium	Geom. mean	11.6 [11.5 11.8]	11.3 [11.1 11.4]	11 [10.9 11.2]	
(µm/L)	Adj. mean ¹	11.5 [11.3 11.7]	11.3 [11.1 11.5]	11.2 [11 11.4]	0.09
	Adj. mean ²	11.4 [11.2 11.6]	11.3 [11.2 11.5]	11.2 [11 11.4]	0.31
Small	Geom. mean	17.3 [17.2 17.5]	17.8 [17.7 18]	17.9 [17.8 18.1]	
(µm/L)	Adj. mean ¹	17.7 [17.5 17.9]	17.8 [17.7 18]	17.6 [17.4 17.8]	0.23
	Adj. mean ²	17.8 [17.6 18]	17.7 [17.5 17.9]	17.4 [17.2 17.6]	0.03

Raw means ± sd and geometric (Geom.) means [CI]. ¹ Model 1: The adjusted means (Adj.) are estimated from linear regression models adjusted for age (continuous), total energy (quintiles), energy adjusted saturated fats (quintiles), energy adjusted monounsaturated fats (quintiles), energy adjusted *trans*-fat (quintiles), energy adjusted total n-6 (quintiles) and energy adjusted proteins (quintiles).

² Model 2: Adjusted as in model 1 but including smoking (current, past, never), alcohol use (rarely/never, 1–3 drinks/month, 1–6 drinks/week, and 1 drinks/day), BMI (continuous), exercise (quintiles of metabolic equivalent task hours per week), menopausal status (premenopausal, uncertain, postmenopausal), use of HT (current, past/never), hypertension (systolic blood pressure of at least 140 mmHg, diastolic blood pressure of at least 90 mmHg), antihypertensive treatment (yes or no), hypercholesterolemia (total cholesterol of at least 240 mg/dL), treatment for high cholesterol (yes or no), parental history of CHD (yes or no), energy adjusted glycemic index (quintiles), multivitamin use (current, past and never), aspirin use (Current use > 1x/week), red meat consumption, fruits and vegetables consumption (both quintiles) and energy adjusted EPA and DHA fatty acids (both in quintiles).

Table s13- Correspondence between absolute values and per 1% and per 5% differences.

		Absolute values	1% differences	5 % differences
LDL-C	(mg/dL)	123	1.23	6.17
TC	(mg/dL)	210	2.10	10.51
ApoB100	(mg/dL)	103	1.03	5.16
LDL Size	(Ø nm)	21	0.21	1.05
LDL Particles				
Total	(nm/L)	1188	11.88	59.38
IDL	(nm/L)	151	1.51	7.56
Large	(nm/L)	460	4.60	22.98
Small A	(nm/L)	60	0.06	3.00
Small B	(nm/L)	658	6.58	32.90
TG	(mg/dL)	123	1.23	6.15
VLDL Size	(Ø nm)	52	0.52	2.58
VLDL Particles				
Total	(nm/L)	55	0.55	2.77
Large	(nm/L)	3	0.03	0.14
Medium	(nm/L)	13	0.13	0.65
Small	(nm/L)	35	0.35	1.75
VLDL-TG	(mg/dL)	75	0.75	3.77
HDL-C	(mg/dL)	53	0.53	2.66
ApoA1	(mg/dL)	150	1.50	7.49
HDL Size	(Ø nm)	9	0.09	0.46
HDL Particles				
Total	(µm/L)	37	0.37	1.84
Large	(µm/L)	5	0.05	0.27
Medium	(µm/L)	12	0.12	0.58
Small	(µm/L)	17	0.17	0.87

The absolute values are the raw mean values of the n-3 1st quintile intake.

Table s14- Adjusted means (95% CI) for the lower exposure quintiles (Q1) that showed a significant association (Ptrend<0.05).

	Fish	n-3	EPA	DHA	ALA
TC (mg/dL)	210 (210–211)				
Apo B100 (mg/dL)	102 (102–103)				
LDL-C (mg/dL)	123 (122–124)				125 (124–126)
LDL particles (nm/L)	1189 (1173–1198)				
Large LDL particles (nm/L)	469 (460–479)	458 (447–470)		479 (465–492)	
LDL size (nm)	21.06 (21.04–21.08)	21.03 (21.01–21.05)		21.07 (21.04–21.09)	21.05 (21.03–21.07)
TG (mg/dL)	123 (122–124)	124 (123–125)			
VLDL-TG (mg/dL)	75.6 (74.6–76.6)	76.6 (75.4–77.9)	74.2 (72.7–75.9)		
Total VLDL particles (nm/L)	56.2 (55.5–56.9)	57 (56.2–57.9)	55.9 (54.8–57.1)		
Large VLDL particles (nm/L)	2.62 (2.55–2.7)	2.69 (2.6–2.78)			2.56 (2.47–2.66)
HDL-C (mg/dL)				53.3 (52.7–54)	
Large HDL particles (µm/L)		5.37 (5.28–5.47)		5.33 (5.2–5.45)	
HDL size (nm)		9.17 (9.16–9.19)		9.17 (9.15–9.19);	9.18 (9.17–9.2)

The means were adjusted for all demographic, clinical, and dietary factors. Blank spaces indicate no significant association (fish: Q1, n=5839; Q5, n=5617; n-3: Q1, n=5248; Q5, n=5123; EPA: Q1, n=5370; Q5, n=4947; 6 DHA: Q1, n=6351; Q5, n=4797; ALA: Q1, n=5286; Q5, n=5097). ALA indicates a-linolenic acid; Apo, apolipoprotein; DHA, docosahexaenoic acid; EPA, eicosapentaenoic acid; TC, total cholesterol; LDL, low density lipoprotein; LDL-C, low-density lipoprotein cholesterol; TG, triglycerides; VLDL, very low-density lipoprotein; HDL, high-density lipoprotein; HDL-C, high-density lipoprotein cholesterol.