Environ Health Perspect

DOI: 10.1289/EHP9791

Supplemental Material

Per- and Polyfluoroalkyl Substances and Risk of Myocardial Infarction and Stroke: A Nested Case–Control Study in Sweden

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Figure S1. Pairwise Spearman's rank correlations between different PFAS at baseline using both cohorts (SMC-C and 60YO), except for PFHpA and PFOA which were derived using the 60YO cohort alone. Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Figure S2. Multivariable-adjusted cross-sectional associations in controls of two Swedish pooled cohorts (SMC-C baseline: 2003-2009 and 60YO baseline: 1997-1999) between baseline PFAS plasma concentrations and a) LDL in pooled cohorts, estimated using linear mixed effects models stratified by BMI (lean: n=253, overweight: n=373) and b) apoB in the 60YO, estimated using a linear regression stratified by BMI (lean: n=105, overweight: n=200). PFHpA and PFOA are from 60YO cohort alone. Adjusted β-coefficients (±95% CIs, mmol/L) of blood lipids are presented by 1-SD increment in natural log-transformed plasma PFAS concentrations (ng/mL). Models are adjusted for age, sex, sampling date, education, diabetes, hypertension, family history of CVD, smoking habits, physical activity and healthy diet score. Individual PFAS were standardized (rescaled with mean=0 and SD=1) and summed (**Σ PFAS**). PFHpA and PFOA which were derived using the 60YO cohort alone. Abbreviations: **PFOS**, perfluorooctane sulfonate; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Appendix S1. Certificate quality control PFAS measurements (University of Erlangen-Nuremberg, Germany).

Appendix S2. Certificate quality control PFAS measurements (HBM4EU).

Table S1. Limit of detection (LOD) and between-run precision. Concentrations and coefficient of variation (CV) in three quality control (QC) samples n=31.

Compound	LOD (µg/L)	QC1 (µg/L)	CV QC1 (%)	QC2 (µg/L)	CV QC2 (%)	QC3 (µg/L)	CV QC3 (%)
PFHpA	0.01	0.5	10	2.1	9	20	6
PFOA	0.09	2.7	7	4.6	9	21	10
PFNA	0.02	1.7	7	3.3	6	19	5
PFDA	0.03	1.1	6	2.7	7	19	5
PFUnDA	0.03	1.2	7	2.7	5	19	5
PFHxS	0.02	1.7	7	3.3	6	19	5
PFOS	0.06	11	7	12	4	18	2

Table S2. Between-run precision of two reference samples originating from participation in the HBM4EU program and prepared as quality controls (QC). Concentrations, expected concentrations and coefficient of variation (CV) in n=31 repeated analysis are shown.

Compound	QC 1 HBM4EU (µg/L)	Expected HBM4EU 1 (µg/L)	CV (%)	QC 2 HBM4EU (µg/L)	Expected HBM4EU 2 (µg/L)	CV (%)
PFHpA	0.56	0.59	9	0,24	0.25	14
PFOA	4.8	5.0	7	0.93	1.1	8
PFNA	0.75	0.88	7	0.43	0.48	8
PFDA	0.80	0.77	6	0.42	0.43	9
PFUnDA	0.52	0.53	5	0.30	0.32	9
PFHxS	0.75	0.88	7	0.43	0.48	8
PFOS	5.2	5.5	4	1.7	1.9	7

Table S3. Baseline (2003-2009 and 1997-1999, respectively) characteristics by myocardial infarction (MI) case-control status of 398 women from the Swedish Mammography Cohort-Clinical and of 422 men and women from the Swedish 60 year-old cohort.

Continuous: Mean (SD) Categorical: Proportion (n)	**SMC-C cohort**		**60YO cohort**	
	Myocardial infarction cases n=134	**Controls** n=264	**Myocardial infarction cases** n=211	**Controls** n=211
Characteristics				
Sex, %(n)				
Female	100 (134)	100 (264)	32 (67)	32 (67)
Male	0 (0)	0 (0)	68 (144)	68 (144)
Age, y	72 (7.5)	72 (7.4)	61 (0.1)	61 (0.1)
Sample year	2006 (1.5)	2006 (1.5)	1998 (0.4)	1998 (0.3)
Education, %(n)				
<12 yrs	70 (94)	69 (182)	76 (152)	64 (130)
≥12 yrs	30 (40)	31 (82)	24 (47)	36 (72)
Missing, n	0	0	12	9
Body mass index, kg/m^2	27 (4.7)	26 (4.5)	28 (4.1)	27 (4.0)
History diabetes, %(n)				
No	93 (125)	97 (256)	89 (187)	95 (200)
Yes	6.7 (9)	3.0 (8)	11 (24)	5.2 (11)
History hypertension, %(n)				
No	49 (65)	61 (160)	53 (111)	64 (135)
Yes	51 (69)	39 (104)	47 (100)	36 (76)
History high cholesterol, %(n)				
No	78 (104)	78 (207)	93 (196)	91 (191)
Yes	22 (30)	22 (57)	7.1 (15)	9.5 (20)
Family history CVD, %(n)				
No	59 (79)	63 (166)	55 (117)	57 (120)
Yes	41 (55)	37 (98)	45 (94)	43 (91)
Smoking status, %(n)				
Never	46 (59)	58 (144)	29 (57)	46 (91)
Former	34 (44)	33 (83)	35 (69)	39 (78)
Current	20 (25)	9 (23)	36 (71)	16 (31)
Missing, n	6	14	14	11
Physical activity, %(n)				
Active	29 (32)	32 (72)	26 (51)	33 (67)
Inactive	71 (77)	68 (152)	74 (142)	67 (138)
Missing, n	25	40	18	6
Healthy diet score, %(n)				
Unhealthy	25 (33)	15 (39)	44 (87)	31 (63)
Moderately healthy	58 (75)	59 (150)	33 (65)	35 (71)
Healthy	17 (22)	25 (64)	24 (47)	35 (71)
Missing, n	4	11	12	6
Lipid measurements (mmol/L)				
Total cholesterol	5.82 (0.94)	5.79 (1.01)	6.14 (1.1)	5.89 (1.0)
LDL	3.59 (0.91)	3.50 (0.90)	4.12 (0.90)	3.90 (0.93)
HDL	1.44 (0.35)	1.56 (0.37)	1.31 (0.37)	1.40 (0.39)
Triglycerides	1.49 (0.68)	1.32 (0.62)	1.57 (0.98)	1.33 (0.81)
ApoB [a]			1.2 (0.2)	1.1 (0.2)
ApoA1 [a]			1.4 (0.3)	1.5 (0.3)
PFAS concentrations (ng/mL) Mean ± SD and median (IQR)				
PFHxS	5.2 ± 9.8	5.9 ± 7.1	3.1 ± 3.7	3.2 ± 4.7
Median (IQR)	2.52 (2.0,3.4)	2.78 (2.0,6.6)	2.4 (1.9,3.0)	2.3 (1.9,2.9)
PFHpA [a]			0.078 ± 0.11	0.083 ± 0.091
Median (IQR)			0.05 (0.03,0.09)	0.06 (0.04,0.1)

PFOS	17.1 ± 10.9	19.2 ± 19.8	26.6 ± 12.8	27.5 ± 11.9
Median (IQR)	16.2 (11.2,20.4)	17.09 (12.6,21.8)	24.9 (20.2,31.4)	25.0 (18.9,34.2)
PFOA [a]			5.7 ± 3.8	5.8 ± 3.1
Median (IQR)			5.1 (3.9,6.5)	5.3 (4.0,6.8)
PFNA	0.90 ± 0.40	1.0 ± 0.5	0.74 ± 0.40	0.80 ± 0.44
Median (IQR)	0.86 (0.62,1.1)	0.94 (0.7,1.2)	0.7 (0.5,0.9)	0.7 (0.5,1.0)
PFDA	0.36 ± 0.16	0.43 ± 0.24	0.27 ± 0.14	0.30 ± 0.17
Median (IQR)	0.34 (0.24,0.46)	0.37 (0.29,0.5)	0.25 (0.2,0.3)	0.25 (0.2,0.4)
PFUnDA	0.29 ± 0.15	0.35 ± 0.20	0.25 ± 0.14	0.29 ± 0.18
Median (IQR)	0.25 (0.19,0.36)	0.31 (0.2,0.44)	0.22 (0.2,0.3)	0.23 (0.2,0.4)

Note: Continuous variables are shown as mean (standard deviation) if not otherwise stated. PFAS concentrations are presented as medians and interquartile ranges.

[a] Available for the 60YO cohort alone.

Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Table S4. Baseline (2003-2009 and 1997-1999, respectively) characteristics by stroke case-control status of 344 women from the Swedish Mammography Cohort-Clinical and of 364 men and women from the Swedish 60 year-old cohort.

Continuous: Mean (SD) Categorical: Proportion (n)	**SMC-C cohort**		**60YO cohort**	
	Ischemic stroke cases n=172	**Controls** n=172	**Ischemic stroke cases** n=182	**Controls** n=182
Characteristics				
Sex, %(n)				
Female	100 (172)	100 (172)	41 (74)	41 (74)
Male	0 (0)	0 (0)	108 (59)	108 (59)
Age, y	72 (7.2)	72 (7.2)	61 (0.1)	61 (0.1)
Sample year	2006 (1.5)	2006 (1.5)	1998 (0.4)	1998 (0.3)
Education, %(n)				
<12 yrs	69 (118)	67 (114)	81 (137)	70 (124)
≥12 yrs	31 (53)	33 (56)	19 (32)	30 (53)
Missing, n	1	2	13	5
Body mass index, kg/m^2	27 (4.5)	26 (4.2)	27 (4.5)	28 (4.5)
History diabetes, %(n)				
No	97 (167)	98 (168)	93 (169)	93 (170)
Yes	2.9 (5)	2.3 (4)	7.1 (13)	6.6 (12)
History hypertension, %(n)				
No	47 (81)	56 (97)	48 (87)	59 (108)
Yes	53 (91)	44 (75)	52 (95)	41 (74)
History high cholesterol, %(n)				
No	68 (117)	75 (129)	93 (169)	89 (162)
Yes	32 (55)	25 (43)	7.1 (13)	11 (20)
Family history CVD, %(n)				
No	65 (112)	66 (114)	58 (105)	55 (100)
Yes	35 (60)	34 (58)	42 (77)	45 (82)
Smoking status, %(n)				
Never	57 (93)	62 (105)	30 (51)	46 (81)
Former	29 (48)	30 (50)	39 (66)	37 (66)
Current	14 (22)	8 (14)	31 (52)	17 (30)
Missing, n	9	3	13	5
Physical activity, %(n)				
Active	31 (45)	33 (48)	30 (49)	34 (60)
Inactive	67 (98)	67 (97)	70 (115)	66 (117)
Missing, n	29	27	18	5
Healthy diet score, %(n)				
Unhealthy	18 (29)	10 (17)	35 (59)	36 (64)
Moderately healthy	64 (105)	64 (106)	38 (65)	30 (53)
Healthy	19 (31)	25 (42)	27 (45)	34 (61)
Missing, n	7	7	13	4
Lipid measurements (mmol/L)				
Total cholesterol	5.80 (1.19)	5.78 (1.10)	5.94 (0.96)	5.93 (1.03)
LDL	3.45 (1.03)	3.51 (1.02)	3.87 (0.85)	3.9 (0.92)
HDL	1.55 (0.44)	1.57 (0.35)	1.39 (0.37)	1.42 (0.39)
Triglycerides	1.46 (0.74)	1.28 (0.61)	1.54 (1.00)	1.39 (1.00)
ApoB [a]			1.1 (0.2)	1.1 (0.2)
ApoA1 [a]			1.5 (0.3)	1.5 (0.3)
PFAS concentrations (ng/mL) Mean ± SD and median (IQR)				
PFHxS	5.4 ± 5.9	6.0 ± 8.4	3.3 ± 5.4	3.8 ± 8.0
Median (IQR)	2.82 (2.2,5.6)	2.68 (2.1,5.1)	2.3 (1.7,2.9)	2.4 (1.8,2.9)
PFHpA [a]			0.08 ± 0.07	0.08 ± 0.07
Median (IQR)			0.06 (0.03,0.09)	0.06 (0.03,0.11)

PFOS	19.4 ± 10.0	19.2 ± 13.5	26.2 ± 13.7	28.3 ± 17.8
Median (IQR)	17.8 (12.9,23.8)	16.4 (12.5,21.8)	24.4 (17.8,30.9)	25.5 (19.1,34.9)
PFOA [a]			5.5 ± 2.95	6.1 ± 4.7)
Median (IQR)			5.0 (3.8,6.7)	5.4 (3.9,7.0)
PFNA	1.1 ± 0.58	1.0 ± 0.45	0.74 ± 0.38	0.81 ± 0.41
Median (IQR)	1.0 (0.70,1.3)	0.91 (0.75,1.2)	0.68 (0.47,0.92)	0.73 (0.49,1.0)
PFDA	0.43 ± 0.23	0.44 ± 0.22	0.28 ± 0.16	0.30 ± 0.16
Median (IQR)	0.38 (0.28,0.49)	0.39 (0.29,0.53)	0.25 (0.19,0.35)	0.27 (0.19,0.4)
PFUnDA	0.35 ± 0.21	0.37 ± 0.21	0.26 ± 0.15	0.29 ± 0.17
Median (IQR)	0.28 (0.20,0.44)	0.31 (0.23,0.46)	0.22 (0.16,0.32)	0.25 (0.17,0.36)

Note: Continuous variables are shown as mean (standard deviation) if not otherwise stated. PFAS concentrations are presented as medians and interquartile ranges.

[a] Available for the 60YO cohort alone.

Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Table S5. Multivariable-adjusted cross-sectional associations in controls between baseline PFAS plasma concentrations and total cholesterol, LDL, HDL and triglycerides in 631 men and women from two pooled Swedish cohorts, estimated using linear mixed effects models – PFHpA and PFOA results are from 60YO cohort alone.

	Model 1			Model 2		
	Tertile 2	**Tertile 3**	**1-SD increase**	**Tertile 2**	**Tertile 3**	**1-SD increase**
	Mean differences in total cholesterol (β-coefficient ±95% CI, mmol/L), n=631					
∑ PFAS	0.14 (-0.04,0.33)	0.32 (0.13,0.50)	0.04 (0.01,0.06)	0.16 (-0.03,0.35)	0.34 (0.15,0.53)	0.04 (0.01,0.06)
PFHxS	0.06 (-0.13,0.26)	0.08 (-0.11,0.27)	0.04 (-0.04,0.11)	0.08 (-0.11,0.27)	0.08 (-0.11,0.27)	0.03 (-0.04,0.11)
PFHpA [a]	-0.03 (-0.30,0.25)	0.12 (-0.16,0.40)	0.02 (-0.09,0.14)	-0.09 (-0.38,0.20)	0.09 (-0.20,0.38)	0.02 (-0.10,0.14)
PFOS	0.16 (-0.02,0.35)	0.34 (0.15,0.53)	0.15 (0.07,0.23)	0.16 (-0.02,0.35)	0.31 (0.11,0.50)	0.14 (0.06,0.22)
PFOA [a]	0.07 (-0.21,0.35)	0.23 (-0.05,0.51)	0.08 (-0.03,0.20)	0.07 (-0.22,0.35)	0.22 (-0.07,0.51)	0.07 (-0.05,0.19)
PFNA	0.14 (-0.05,0.33)	0.31 (0.12,0.50)	0.11 (0.04,0.19)	0.16 (-0.03,0.34)	0.33 (0.13,0.52)	0.12 (0.04,0.20)
PFDA	0.21 (0.02,0.39)	0.33 (0.14,0.51)	0.14 (0.07,0.22)	0.21 (0.03,0.40)	0.35 (0.16,0.54)	0.15 (0.07,0.23)
PFUnDA	0.22 (0.04,0.41)	0.37 (0.19,0.56)	0.17 (0.09,0.25)	0.21 (0.03,0.40)	0.37 (0.18,0.57)	0.17 (0.10,0.25)
	Mean differences in LDL (β-coefficient ±95% CI, mmol/L), n=626					
∑ PFAS	0.16 (-0.01,0.33)	0.23 (0.07,0.40)	0.02 (0.00,0.04)	0.16 (-0.01,0.33)	0.26 (0.09,0.43)	0.02 (0.00,0.04)
PFHxS	0.04 (-0.14,0.21)	0.03 (-0.14,0.20)	0.03 (-0.04,0.10)	0.06 (-0.11,0.24)	0.05 (-0.12,0.22)	0.03 (-0.04,0.10)
PFHpA [a]	-0.04 (-0.29,0.21)	0.13 (-0.13,0.38)	0.01 (-0.09,0.11)	-0.11 (-0.37,0.15)	0.09 (-0.17,0.36)	0.00 (-0.11,0.11)
PFOS	0.13 (-0.03,0.30)	0.26 (0.10,0.43)	0.12 (0.05,0.19)	0.14 (-0.03,0.31)	0.28 (0.11,0.46)	0.13 (0.06,0.20)
PFOA [a]	-0.02 (-0.27,0.23)	0.10 (-0.15,0.36)	0.03 (-0.07,0.14)	-0.02 (-0.28,0.24)	0.11 (-0.15,0.38)	0.03 (-0.08,0.14)
PFNA	0.15 (-0.01,0.32)	0.25 (0.08,0.42)	0.08 (0.01,0.15)	0.15 (-0.02,0.32)	0.25 (0.08,0.43)	0.09 (0.02,0.16)
PFDA	0.22 (0.05,0.39)	0.25 (0.08,0.42)	0.10 (0.03,0.17)	0.22 (0.05,0.39)	0.27 (0.09,0.44)	0.10 (0.03,0.17)
PFUnDA	0.22 (0.05,0.39)	0.23 (0.07,0.40)	0.12 (0.05,0.19)	0.21 (0.04,0.38)	0.24 (0.07,0.42)	0.12 (0.05,0.19)
	Mean differences in HDL (β-coefficient ±95% CI, mmol/L), n=631					
∑ PFAS	0.06 (-0.01,0.12)	0.16 (0.09,0.22)	0.02 (0.02,0.03)	0.06 (-0.00,0.13)	0.14 (0.07,0.20)	0.02 (0.01,0.03)
PFHxS	0.03 (-0.03,0.10)	0.08 (0.01,0.15)	0.01 (-0.02,0.04)	0.01 (-0.05,0.08)	0.05 (-0.02,0.11)	0.00 (-0.02,0.03)
PFHpA [a]	0.01 (-0.08,0.11)	0.05 (-0.05,0.14)	0.03 (-0.01,0.07)	0.02 (-0.07,0.11)	0.07 (-0.02,0.16)	0.04 (0.00,0.08)
PFOS	0.08 (0.01,0.15)	0.12 (0.05,0.19)	0.05 (0.02,0.08)	0.09 (0.03,0.16)	0.11 (0.04,0.17)	0.05 (0.02,0.08)
PFOA [a]	0.13 (0.04,0.22)	0.18 (0.09,0.28)	0.06 (0.02,0.10)	0.11 (0.03,0.20)	0.15 (0.06,0.24)	0.05 (0.01,0.09)
PFNA	0.01 (-0.05,0.08)	0.12 (0.05,0.18)	0.06 (0.03,0.08)	0.03 (-0.03,0.10)	0.12 (0.06,0.19)	0.06 (0.03,0.08)
PFDA	0.05 (-0.01,0.12)	0.18 (0.11,0.24)	0.09 (0.06,0.11)	0.06 (-0.01,0.12)	0.16 (0.10,0.23)	0.08 (0.06,0.11)
PFUnDA	0.07 (0.01,0.14)	0.23 (0.17,0.30)	0.09 (0.07,0.12)	0.06 (-0.01,0.12)	0.20 (0.14,0.27)	0.08 (0.06,0.11)
	Mean differences in triglycerides (β-coefficient ±95% CI, mmol/L), n=631					
∑ PFAS	-0.20 (-0.35,-0.06)	-0.27 (-0.42,-0.13)	-0.03 (-0.05,-0.02)	-0.21 (-0.35,-0.07)	-0.24 (-0.38,-0.10)	-0.03 (-0.04,-0.01)
PFHxS	-0.13 (-0.28,0.01)	-0.17 (-0.32,-0.03)	-0.03 (-0.09,0.03)	-0.12 (-0.26,0.03)	-0.14 (-0.28,0.00)	-0.02 (-0.08,0.04)
PFHpA [a]	0.07 (-0.18,0.33)	0.01 (-0.25,0.28)	0.00 (-0.10,0.11)	0.01 (-0.25,0.28)	-0.06 (-0.32,0.21)	-0.03 (-0.14,0.08)
PFOS	-0.22 (-0.36,-0.08)	-0.27 (-0.41,-0.12)	-0.12 (-0.18,-0.06)	-0.21 (-0.35,-0.07)	-0.23 (-0.37,-0.08)	-0.11 (-0.17,-0.05)

PFOA [a]	-0.14 (-0.40,0.12)	-0.24 (-0.50,0.03)	-0.07 (-0.17,0.04)	-0.15 (-0.41,0.11)	-0.22 (-0.48,0.04)	-0.06 (-0.17,0.05)
PFNA	-0.11 (-0.25,0.04)	-0.20 (-0.35,-0.06)	-0.10 (-0.16,-0.04)	-0.11 (-0.26,0.03)	-0.20 (-0.35,-0.06)	-0.09 (-0.15,-0.03)
PFDA	-0.19 (-0.33,-0.04)	-0.32 (-0.47,-0.18)	-0.14 (-0.20,-0.09)	-0.18 (-0.32,-0.04)	-0.30 (-0.44,-0.16)	-0.13 (-0.19,-0.07)
PFUnDA	-0.19 (-0.33,-0.05)	-0.31 (-0.45,-0.16)	-0.15 (-0.21,-0.09)	-0.15 (-0.29,-0.00)	-0.26 (-0.40,-0.11)	-0.12 (-0.18,-0.06)
	Mean differences in apoB (β-coefficient ±95% CI, mmol/L), n=305					
∑ **PFAS** [a]	0.02 (-0.04,0.08)	0.00 (-0.06,0.06)	0.00 (-0.00,0.01)	0.03 (-0.04,0.09)	0.01 (-0.05,0.08)	0.00 (-0.00,0.01)
PFHxS [a]	-0.01 (-0.07,0.05)	-0.03 (-0.09,0.03)	-0.01 (-0.04,0.02)	-0.00 (-0.07,0.06)	-0.02 (-0.08,0.04)	-0.01 (-0.04,0.02)
PFHpA [a]	-0.02 (-0.08,0.04)	0.01 (-0.05,0.07)	-0.01 (-0.03,0.02)	-0.03 (-0.09,0.03)	-0.00 (-0.07,0.06)	-0.01 (-0.04,0.02)
PFOS [a]	0.01 (-0.05,0.07)	0.01 (-0.05,0.07)	0.00 (-0.03,0.03)	0.02 (-0.04,0.08)	0.02 (-0.05,0.08)	0.00 (-0.02,0.03)
PFOA [a]	-0.03 (-0.09,0.03)	-0.01 (-0.07,0.05)	-0.00 (-0.03,0.02)	-0.02 (-0.08,0.04)	0.00 (-0.06,0.06)	-0.00 (-0.03,0.02)
PFNA [a]	0.00 (-0.06,0.06)	0.02 (-0.04,0.08)	0.01 (-0.02,0.03)	0.01 (-0.05,0.07)	0.02 (-0.04,0.09)	0.01 (-0.01,0.04)
PFDA [a]	0.05 (-0.01,0.11)	0.02 (-0.04,0.08)	0.01 (-0.01,0.04)	0.06 (-0.01,0.12)	0.03 (-0.04,0.09)	0.02 (-0.01,0.04)
PFUnDA [a]	0.05 (-0.01,0.11)	0.04 (-0.02,0.10)	0.02 (-0.01,0.04)	0.06 (-0.00,0.12)	0.05 (-0.01,0.11)	0.03 (-0.00,0.05)
	Mean differences in apoA1 (β-coefficient ±95% CI, mmol/L), n=305					
∑ **PFAS** [a]	0.08 (0.01,0.15)	0.14 (0.07,0.21)	0.02 (0.01,0.02)	0.07 (0.01,0.14)	0.11 (0.05,0.18)	0.01 (0.01,0.02)
PFHxS [a]	-0.02 (-0.09,0.04)	0.06 (-0.01,0.13)	0.01 (-0.02,0.04)	-0.04 (-0.11,0.03)	0.03 (-0.04,0.10)	0.01 (-0.02,0.04)
PFHpA [a]	0.02 (-0.05,0.09)	0.05 (-0.02,0.12)	0.03 (0.00,0.06)	0.02 (-0.05,0.08)	0.06 (-0.01,0.13)	0.03 (0.01,0.06)
PFOS [a]	0.05 (-0.02,0.12)	0.13 (0.06,0.20)	0.05 (0.02,0.08)	0.06 (-0.01,0.12)	0.11 (0.04,0.17)	0.04 (0.01,0.07)
PFOA [a]	0.07 (0.00,0.14)	0.11 (0.05,0.18)	0.04 (0.01,0.07)	0.06 (-0.00,0.13)	0.09 (0.03,0.16)	0.03 (0.00,0.06)
PFNA [a]	0.01 (-0.05,0.08)	0.14 (0.07,0.21)	0.06 (0.03,0.09)	0.01 (-0.06,0.07)	0.13 (0.07,0.20)	0.05 (0.02,0.08)
PFDA [a]	0.07 (0.00,0.13)	0.15 (0.08,0.21)	0.07 (0.05,0.10)	0.06 (-0.01,0.12)	0.13 (0.06,0.19)	0.06 (0.04,0.09)
PFUnDA [a]	0.06 (-0.01,0.12)	0.16 (0.10,0.23)	0.07 (0.04,0.09)	0.04 (-0.03,0.10)	0.14 (0.07,0.20)	0.06 (0.03,0.08)

Note: Adjusted β-coefficients (95% CIs) are presented according to PFAS tertiles (using tertile 1 as reference) as well as by 1-SD increment in natural log-transformed plasma PFAS concentrations (ng/mL). Model 1: Adjusted for age, sex and sampling date. Model 2: Additionally adjusted for education, BMI, diabetes, hypertension, family history of CVD, smoking habits, physical activity and healthy diet score. Individual PFAS were standardized (rescaled with mean=0 and SD=1) and summed (**Σ PFAS**).

[a] Estimated from the 60YO cohort alone.

Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Table S6. Results for interactions with BMI in multivariable-adjusted cross-sectional associations in controls between baseline PFAS plasma concentrations and total cholesterol, LDL, HDL and triglycerides of two pooled Swedish cohorts, estimated using linear mixed effects models as well as in multivariable-adjusted prospective associations between baseline PFAS plasma concentrations and cardiovascular disease (CVD) risk of two pooled Swedish cohorts, estimated using conditional logistic regression – PFHpA and PFOA results are from 60YO cohort alone.

	Estimates (95% Confidence Intervals), P-values for interactions with BMI				
	Total cholesterol	**LDL**	**HDL**	**Triglycerides**	**CVD**
∑ **PFAS**	0.06 (0.02, 0.1), 0.006	0.05 (0.01, 0.09), 0.008	0.01 (-0.00, 0.03), 0.106	-0.02 (-0.05, 0.01), 0.291	1.01 (0.95, 1.08), 0.736
PFHxS	0.05 (-0.11, 0.21), 0.520	0.04 (-0.10, 0.18), 0.538	0.02 (-0.04, 0.07), 0.530	-0.01 (-0.13, 0.11), 0.859	1.16 (0.91, 1.48), 0.236
PFHpA [a]	0.05 (-0.20, 0.30), 0.699	0.09 (-0.13, 0.32), 0.402	-0.03 (-0.11, 0.05), 0.426	0.00 (-0.21, 0.23), 0.941	1.15 (0.83, 1.61), 0.404
PFOS	0.22 (0.07, 0.37), 0.005	0.19 (0.05, 0.33), 0.007	0.06 (0.01, 0.11), 0.031	-0.09 (-0.20, 0.03), 0.137	1.01 (0.80, 1.27), 0.924
PFOA [a]	0.25 (0.00, 0.49), 0.050	0.21 (-0.01, 0.43), 0.059	0.02 (-0.06, 0.10), 0.664	-0.01 (-0.23, 0.21), 0.929	1.22 (0.88, 1.70), 0.239
PFNA	0.27 (0.12, 0.43), 0.000	0.23 (0.09, 0.37), 0.001	0.07 (0.02, 0.12), 0.011	-0.08 (-0.20, 0.04), 0.188	0.92 (0.73, 1.16), 0.474
PFDA	0.22 (0.07, 0.37), 0.005	0.19 (0.05, 0.33), 0.008	0.05 (-0.00, 0.10), 0.057	-0.07 (-0.19, 0.04), 0.223	0.95 (0.75, 1.19), 0.636
PFUnDA	0.19 (0.04, 0.34), 0.016	0.16 (0.03, 0.3), 0.020	0.03 (-0.02, 0.08), 0.284	-0.02 (-0.14, 0.09), 0.700	0.94 (0.74, 1.19), 0.607

Note: Estimates (95% Confidence Intervals), P-values for interactions of 1-SD increment in natural log-transformed plasma PFAS concentrations (ng/mL) with BMI are presented. Models are adjusted for matching factors (sex, age, sampling date), education, diabetes, hypertension, family history of CVD, smoking habits, physical activity and healthy diet score. Individual PFAS were standardized (rescaled with mean=0 and SD=1) and summed (**Σ PFAS**).

[a] Estimated from the 60YO cohort alone.

Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Table S7. Multivariable-adjusted prospective associations between baseline PFAS plasma concentrations and subsequent risk of cardiovascular disease (CVD), estimated in SMC-C and 60YO cohorts using conditional logistic regression – PFHpA and PFOA results are from 60YO cohort alone.

	SMC-C cohort (n=742)				**60YO cohort (n=786)**			
	n ca /co	**Median (IQR)**	**OR (±95% CI) Model 1**	**OR (±95% CI) Model 2**	**n ca /co**	**Median (IQR)**	**OR (±95% CI) Model 1**	**OR (±95% CI) Model 2**
∑ PFAS								
T1	116/146	-2.91 (-3.62,-2.23)	1.00	1.00	154/132	-3.13 (-3.92,-2.42)	1.00	1.00
T2	108/145	-0.53 (-1.23,0.12)	0.91 (0.63,1.30)	1.03 (0.70,1.52)	145/130	-0.58 (-1.22,0.08)	0.97 (0.70,1.34)	1.00 (0.69,1.44)
T3	82 /145	3.00 (1.73,5.12)	0.67 (0.46,0.97)	0.79 (0.52,1.19)	94 /131	3.71 (2.59,6.98)	0.61 (0.43,0.87)	0.63 (0.42,0.95)
1-SD log			0.96 (0.92,1.00)	0.98 (0.93,1.02)			0.95 (0.91,0.99)	0.96 (0.91,1.00)
PFHxS								
T1	108/146	1.84 (1.51,2.08)	1.00	1.00	136/131	1.66 (1.38,1.86)	1.00	1.00
T2	113/145	2.74 (2.49,3.15)	1.05 (0.73,1.51)	1.11 (0.75,1.64)	124/131	2.34 (2.19,2.53)	0.91 (0.65,1.29)	0.82 (0.56,1.21)
T3	85 /145	9.61 (5.56,17.32)	0.76 (0.52,1.12)	0.88 (0.58,1.35)	133/131	3.26 (2.92,4.37)	0.98 (0.68,1.40)	1.07 (0.72,1.61)
1-SD log			0.86 (0.73,1.00)	0.89 (0.75,1.06)			1.00 (0.87,1.15)	1.00 (0.86,1.18)
PFHpA [a]								
T1					153/132	0.03 (0.02,0.03)	1.00	1.00
T2					120/130	0.06 (0.05,0.07)	0.79 (0.56,1.12)	0.69 (0.46,1.03)
T3					120/131	0.12 (0.10,0.18)	0.78 (0.55,1.11)	0.75 (0.50,1.11)
1-SD log							0.93 (0.81,1.08)	0.95 (0.81,1.12)
PFOS								
T1	111/147	10.88 (8.81,12.51)	1.00	1.00	139/131	17.17 (14.10,19.15)	1.00	1.00
T2	84 /144	16.84 (15.40,17.97)	0.75 (0.52,1.10)	0.79 (0.52,1.19)	144/132	25.37 (23.41,27.62)	1.02 (0.73,1.43)	1.03 (0.71,1.50)
T3	111/145	25.01 (21.73,30.16)	0.96 (0.66,1.39)	1.01 (0.67,1.51)	110/130	37.42 (33.56,44.34)	0.77 (0.53,1.12)	0.81 (0.53,1.22)
1-SD log			0.89 (0.76,1.05)	0.92 (0.77,1.10)			0.89 (0.76,1.03)	0.90 (0.76,1.07)
PFOA [a]								
T1					135/131	3.41 (2.66,3.94)	1.00	1.00
T2					142/131	5.25 (4.82,5.69)	1.05 (0.76,1.45)	1.14 (0.78,1.65)
T3					116/131	7.63 (6.88,9.18)	0.84 (0.58,1.20)	0.90 (0.60,1.37)
1-SD log							0.90 (0.77,1.04)	0.91 (0.77,1.08)
PFNA								
T1	115/147	0.61 (0.51,0.71)	1.00	1.00	145/132	0.44 (0.35,0.51)	1.00	1.00
T2	91 /145	0.95 (0.87,1.02)	0.79 (0.56,1.12)	0.75 (0.51,1.09)	143/131	0.72 (0.65,0.78)	1.00 (0.72,1.39)	1.01 (0.70,1.46)
T3	100/144	1.40 (1.21,1.71)	0.86 (0.61,1.23)	1.00 (0.68,1.47)	105/130	1.13 (0.98,1.43)	0.73 (0.51,1.04)	0.85 (0.57,1.27)
1-SD log			0.91 (0.78,1.05)	0.95 (0.81,1.11)			0.84 (0.72,0.97)	0.87 (0.73,1.03)

PFDA								
T1	125/152	0.26 (0.21,0.29)	1.00	1.00	131/133	0.16 (0.12,0.19)	1.00	1.00
T2	102/140	0.39 (0.35,0.42)	0.87 (0.62,1.23)	0.99 (0.68,1.44)	152/129	0.25 (0.23,0.28)	1.18 (0.85,1.63)	1.36 (0.94,1.98)
T3	79 /144	0.60 (0.52,0.74)	0.63 (0.43,0.92)	0.69 (0.46,1.04)	110/131	0.45 (0.37,0.55)	0.84 (0.59,1.20)	0.99 (0.66,1.49)
1-SD log			0.82 (0.70,0.95)	0.87 (0.74,1.03)			0.85 (0.73,0.99)	0.91 (0.77,1.08)
PFUnDA								
T1	143/161	0.19 (0.15,0.23)	1.00	1.00	145/133	0.14 (0.11,0.17)	1.00	1.00
T2	78 /130	0.31 (0.29,0.34)	0.68 (0.47,0.97)	0.81 (0.55,1.20)	158/130	0.24 (0.21,0.27)	1.07 (0.77,1.50)	1.14 (0.78,1.65)
T3	85 /145	0.52 (0.44,0.66)	0.64 (0.45,0.92)	0.81 (0.55,1.21)	90 /130	0.43 (0.36,0.56)	0.60 (0.41,0.88)	0.73 (0.47,1.14)
1-SD log			0.80 (0.68,0.93)	0.87 (0.74,1.03)			0.78 (0.66,0.91)	0.84 (0.70,1.01)

Note: Adjusted ORs (95% CIs) of incident stroke are presented according to the PFAS tertiles as well as by 1-SD increment in natural log-transformed plasma PFAS concentrations (ng/mL). Model 1: Crude model adjusted for matching factors (sex, age, sampling date). Model 2: Additionally adjusted for education, BMI, diabetes, hypertension, family history of CVD, smoking habits, physical activity and healthy diet score. Individual PFAS were standardized (rescaled with mean=0 and SD=1) and summed (**Σ PFAS**).

[a] Estimated from the 60YO cohort alone.

Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Table S8. Multivariable-adjusted prospective associations between baseline PFAS plasma concentrations and subsequent risk of myocardial infarction (MI), estimated in SMC-C and 60YO cohorts using conditional logistic regression – PFHpA and PFOA results are from 60YO cohort alone.

	SMC-C cohort (n=398)				60YO cohort (n=422)			
	n ca /co	**Median (IQR)**	**OR (±95% CI) Model 1**	**OR (±95% CI) Model 2**	**n ca /co**	**Median (IQR)**	**OR (±95% CI) Model 1**	**OR (±95% CI) Model 2**
∑ PFAS								
T1	61 /93	-2.95 (-3.85,-2.25)	1.00	1.00	80 /74	-3.02 (-3.82,-2.32)	1.00	1.00
T2	44 /85	-0.49 (-1.22,0.17)	0.82 (0.49,1.37)	0.91 (0.51,1.61)	84 /70	-0.58 (-1.26,0.08)	1.10 (0.71,1.70)	1.13 (0.67,1.91)
T3	29 /86	2.80 (1.83,4.92)	0.52 (0.31,0.89)	0.56 (0.31,1.00)	47 /67	3.73 (2.40,6.48)	0.60 (0.36,1.01)	0.65 (0.34,1.22)
1-SD log			0.91 (0.85,0.97)	0.91 (0.85,0.98)			0.94 (0.89,1.00)	0.96 (0.89,1.03)
PFHxS								
T1	52 /88	1.77 (1.48,2.05)	1.00	1.00	64 /68	1.68 (1.43,1.87)	1.00	1.00
T2	54 /86	2.74 (2.50,3.14)	1.05 (0.64,1.74)	1.14 (0.66,1.99)	70 /74	2.34 (2.19,2.52)	1.02 (0.64,1.63)	0.92 (0.52,1.60)
T3	28 /90	10.71 (5.89,17.88)	0.51 (0.29,0.91)	0.54 (0.28,1.03)	77 /69	3.22 (2.92,4.49)	1.21 (0.74,1.99)	1.45 (0.78,2.70)
1-SD log			0.74 (0.59,0.93)	0.74 (0.58,0.95)			1.07 (0.86,1.33)	1.05 (0.80,1.38)
PFHpA [a]								
T1					89 /67	0.03 (0.02,0.03)	1.00	1.00
T2					62 /78	0.06 (0.05,0.07)	0.60 (0.38,0.95)	0.49 (0.27,0.89)
T3					60 /66	0.13 (0.10,0.18)	0.68 (0.42,1.10)	0.61 (0.33,1.12)
1-SD log							0.86 (0.71,1.06)	0.86 (0.66,1.10)
PFOS								
T1	58 /89	10.61 (8.13,12.49)	1.00	1.00	66 /71	17.26 (14.60,19.19)	1.00	1.00
T2	39 /84	17.09 (15.97,18.21)	0.74 (0.45,1.21)	0.71 (0.41,1.23)	83 /75	25.23 (23.80,27.48)	1.19 (0.75,1.88)	1.27 (0.72,2.22)
T3	37 /91	24.30 (21.70,29.14)	0.60 (0.35,1.03)	0.55 (0.31,0.99)	62 /65	37.01 (33.46,45.12)	1.01 (0.60,1.71)	1.21 (0.64,2.29)
1-SD log			0.77 (0.61,0.96)	0.74 (0.58,0.95)			0.91 (0.73,1.14)	0.96 (0.73,1.26)
PFOA [a]								
T1					69 /69	3.46 (2.79,3.92)	1.00	1.00
T2					84 /74	5.27 (4.81,5.72)	1.12 (0.73,1.72)	1.35 (0.79,2.32)
T3					58 /68	7.73 (6.92,9.54)	0.81 (0.49,1.35)	1.12 (0.59,2.14)
1-SD log							0.90 (0.73,1.12)	1.00 (0.75,1.33)
PFNA								
T1	57 /91	0.59 (0.50,0.69)	1.00	1.00	71 /71	0.43 (0.35,0.52)	1.00	1.00
T2	42 /81	0.93 (0.86,1.02)	0.83 (0.51,1.35)	0.78 (0.46,1.32)	89 /74	0.71 (0.65,0.78)	1.20 (0.78,1.86)	1.16 (0.69,1.96)
T3	35 /92	1.35 (1.20,1.64)	0.62 (0.38,1.02)	0.69 (0.40,1.19)	51 /66	1.13 (0.98,1.44)	0.76 (0.47,1.24)	0.89 (0.49,1.62)
1-SD log			0.78 (0.64,0.95)	0.79 (0.63,0.99)			0.84 (0.69,1.03)	0.90 (0.69,1.16)

PFDA								
T1	61 /94	0.25 (0.20,0.29)	1.00	1.00	68 /73	0.16 (0.12,0.19)	1.00	1.00
T2	40 /89	0.38 (0.35,0.42)	0.71 (0.43,1.17)	0.80 (0.46,1.37)	86 /70	0.25 (0.23,0.28)	1.28 (0.83,1.98)	1.57 (0.92,2.67)
T3	33 /81	0.59 (0.51,0.74)	0.64 (0.39,1.07)	0.68 (0.38,1.19)	57 /68	0.45 (0.36,0.54)	0.85 (0.52,1.41)	1.14 (0.60,2.16)
1-SD log			0.73 (0.59,0.91)	0.75 (0.60,0.95)			0.84 (0.68,1.04)	0.98 (0.74,1.28)
PFUnDA								
T1	68 /103	0.18 (0.14,0.22)	1.00	1.00	82 /71	0.14 (0.12,0.17)	1.00	1.00
T2	37 /74	0.32 (0.29,0.35)	0.77 (0.46,1.28)	0.91 (0.52,1.60)	87 /74	0.24 (0.22,0.27)	0.97 (0.63,1.49)	1.09 (0.64,1.86)
T3	29 /87	0.50 (0.43,0.62)	0.52 (0.31,0.87)	0.62 (0.35,1.10)	42 /66	0.44 (0.36,0.56)	0.50 (0.29,0.86)	0.68 (0.34,1.34)
1-SD log			0.74 (0.60,0.92)	0.76 (0.60,0.96)			0.76 (0.60,0.95)	0.87 (0.65,1.15)

Note: Adjusted ORs (95% CIs) of incident MI are presented according to the PFAS tertiles as well as by 1-SD increment in natural log-transformed plasma PFAS concentrations (ng/mL). Model 1: Crude model adjusted for matching factors (sex, age, sampling date). Model 2: Additionally adjusted for education, BMI, diabetes, hypertension, family history of CVD, smoking habits, physical activity and healthy diet score. Individual PFAS were standardized (rescaled with mean=0 and SD=1) and summed (**Σ PFAS**).

[a] Estimated from the 60YO cohort alone.

Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Table S9. Multivariable-adjusted prospective associations between baseline PFAS plasma concentrations and subsequent risk of stroke, estimated in SMC-C and 60YO cohorts using conditional logistic regression – PFHpA and PFOA results are from 60YO cohort alone.

	SMC-C cohort (n=344)				**60YO cohort (n=364)**			
	n ca /co	**Median (IQR)**	**OR (±95% CI) Model 1**	**OR (±95% CI) Model 2**	**n ca /co**	**Median (IQR)**	**OR (±95% CI) Model 1**	**OR (±95% CI) Model 2**
∑ PFAS								
Tertile 1	55 /53	-2.89 (-3.43,-2.23)	1.00	1.00	74 /58	-3.23 (-4.01,-2.60)	1.00	1.00
Tertile 2	64 /60	-0.61 (-1.30,0.11)	1.03 (0.63,1.69)	1.11 (0.63,1.94)	61 /60	-0.49 (-1.19,0.09)	0.81 (0.49,1.33)	0.78 (0.44,1.38)
Tertile 3	53 /59	3.33 (1.71,5.37)	0.86 (0.51,1.46)	1.14 (0.62,2.11)	47 /64	3.71 (2.69,7.05)	0.60 (0.36,0.98)	0.62 (0.36,1.08)
1-SD log			0.99 (0.94,1.05)	1.03 (0.97,1.10)			0.95 (0.90,1.00)	0.96 (0.90,1.02)
PFHxS								
Tertile 1	56 /58	1.94 (1.52,2.12)	1.00	1.00	72 /63	1.65 (1.33,1.84)	1.00	1.00
Tertile 2	59 /59	2.76 (2.46,3.16)	1.04 (0.61,1.77)	1.09 (0.62,1.93)	54 /57	2.34 (2.20,2.55)	0.82 (0.49,1.37)	0.75 (0.42,1.34)
Tertile 3	57 /55	8.90 (5.51,17.18)	1.08 (0.63,1.84)	1.27 (0.70,2.31)	56 /62	3.30 (2.91,4.13)	0.77 (0.46,1.30)	0.79 (0.44,1.42)
1-SD log			1.00 (0.80,1.26)	1.08 (0.84,1.39)			0.95 (0.79,1.15)	0.99 (0.81,1.20)
PFHpA [a]								
Tertile 1					64 /65	0.03 (0.02,0.03)	1.00	1.00
Tertile 2					58 /52	0.06 (0.05,0.07)	1.14 (0.67,1.93)	1.03 (0.55,1.90)
Tertile 3					60 /65	0.12 (0.10,0.17)	0.94 (0.57,1.56)	0.89 (0.50,1.57)
1-SD log							1.02 (0.82,1.25)	1.05 (0.83,1.33)
PFOS								
Tertile 1	53 /58	11.05 (8.84,12.54)	1.00	1.00	73 /60	16.75 (13.78,19.10)	1.00	1.00
Tertile 2	45 /60	16.44 (15.26,17.84)	0.87 (0.48,1.55)	0.98 (0.50,1.92)	61 /57	25.61 (23.14,27.99)	0.86 (0.52,1.41)	0.85 (0.49,1.48)
Tertile 3	74 /54	25.52 (21.93,30.69)	1.51 (0.87,2.64)	1.97 (1.03,3.76)	48 /65	37.58 (33.58,44.05)	0.59 (0.35,1.00)	0.59 (0.33,1.06)
1-SD log			1.06 (0.84,1.35)	1.20 (0.92,1.57)			0.87 (0.71,1.07)	0.87 (0.69,1.10)
PFOA [a]								
Tertile 1					66 /62	3.35 (2.61,3.96)	1.00	1.00
Tertile 2					58 /57	5.22 (4.82,5.67)	0.96 (0.58,1.58)	1.04 (0.59,1.85)
Tertile 3					58 /63	7.52 (6.86,8.89)	0.86 (0.51,1.43)	0.82 (0.46,1.46)
1-SD log							0.89 (0.73,1.09)	0.89 (0.71,1.11)
PFNA								
Tertile 1	58 /56	0.62 (0.53,0.71)	1.00	1.00	74 /61	0.44 (0.36,0.51)	1.00	1.00
Tertile 2	49 /64	0.95 (0.87,1.02)	0.77 (0.47,1.25)	0.67 (0.39,1.16)	54 /57	0.72 (0.66,0.79)	0.78 (0.47,1.29)	0.80 (0.46,1.41)
Tertile 3	65 /52	1.43 (1.25,1.81)	1.26 (0.75,2.12)	1.56 (0.87,2.80)	54 /64	1.13 (0.98,1.37)	0.69 (0.42,1.14)	0.80 (0.45,1.43)
1-SD log			1.11 (0.88,1.40)	1.21 (0.94,1.57)			0.83 (0.68,1.02)	0.84 (0.66,1.06)

PFDA								
Tertile 1	64 /58	0.27 (0.24,0.29)	1.00	1.00	63 /60	0.16 (0.12,0.19)	1.00	1.00
Tertile 2	62 /51	0.39 (0.36,0.42)	1.05 (0.64,1.73)	1.22 (0.71,2.10)	66 /59	0.26 (0.23,0.28)	1.05 (0.64,1.72)	1.10 (0.62,1.96)
Tertile 3	46 /63	0.61 (0.53,0.74)	0.63 (0.36,1.10)	0.73 (0.39,1.36)	53 /63	0.45 (0.38,0.56)	0.81 (0.49,1.35)	0.92 (0.51,1.64)
1-SD log			0.92 (0.74,1.15)	1.05 (0.82,1.35)			0.86 (0.70,1.06)	0.88 (0.69,1.11)
PFUnDA								
Tertile 1	75 /58	0.19 (0.16,0.23)	1.00	1.00	63 /62	0.14 (0.10,0.16)	1.00	1.00
Tertile 2	41 /56	0.31 (0.28,0.34)	0.58 (0.34,0.99)	0.68 (0.38,1.21)	71 /56	0.24 (0.21,0.27)	1.24 (0.74,2.08)	1.31 (0.73,2.36)
Tertile 3	56 /58	0.54 (0.45,0.69)	0.80 (0.48,1.33)	1.07 (0.59,1.91)	48 /64	0.42 (0.36,0.54)	0.72 (0.42,1.25)	0.80 (0.43,1.50)
1-SD log			0.86 (0.69,1.07)	1.01 (0.78,1.31)			0.80 (0.64,0.99)	0.82 (0.64,1.05)

Note: Adjusted ORs (95% CIs) of incident stroke are presented according to the PFAS tertiles (using tertile 1 as reference) as well as by 1-SD increment in natural log-transformed plasma PFAS concentrations (ng/mL). Model 1: Crude model adjusted for matching factors (sex, age, sampling date). Model 2: Additionally adjusted for education, BMI, diabetes, hypertension, family history of CVD, smoking habits, physical activity and healthy diet score. Individual PFAS were standardized (rescaled with mean=0 and SD=1) and summed (**Σ PFAS**).

[a] Estimated from the 60YO cohort alone.

Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

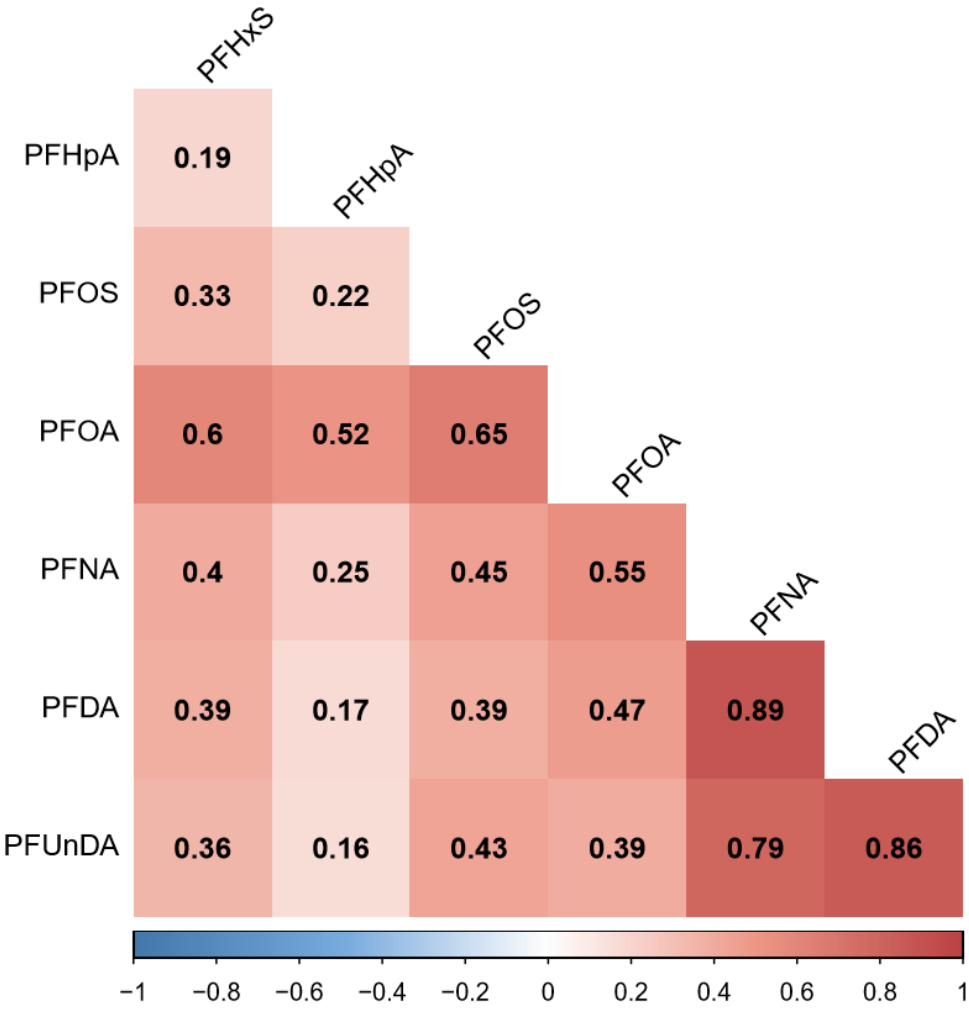


Figure S1. Pairwise Spearman's rank correlations between different PFAS at baseline using both cohorts (SMC-C and 60YO), except for PFHpA and PFOA which were derived using the 60YO cohort alone. Abbreviations: **PFHxS**, perfluorohexane sulfonic acid; **PFHpA**, perfluoroheptanoic acid; **PFOS**, perfluorooctane sulfonate; **PFOA**, perfluorooctanoic acid; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

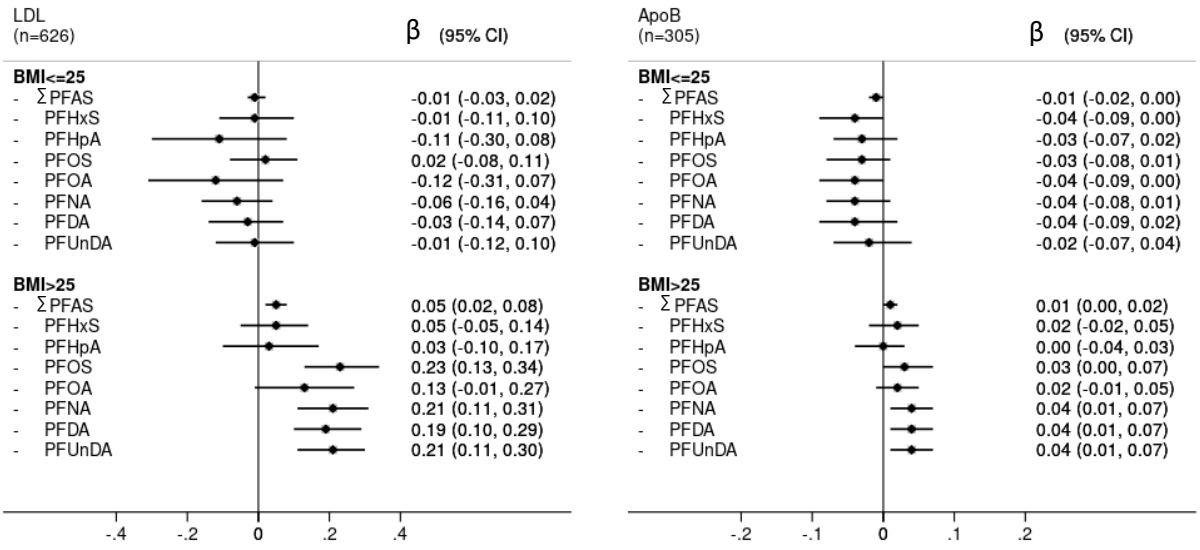


Figure S2. Multivariable-adjusted cross-sectional associations in controls of two Swedish pooled cohorts (SMC-C baseline: 2003-2009 and 60YO baseline: 1997-1999) between baseline PFAS plasma concentrations and a) LDL in pooled cohorts, estimated using linear mixed effects models stratified by BMI (lean: n=253, overweight: n=373) and b) apoB in the 60YO, estimated using a linear regression stratified by BMI (lean: n=105, overweight: n=200). PFHpA and PFOA are from 60YO cohort alone. Adjusted β-coefficients (±95% CIs, mmol/L) of blood lipids are presented by 1-SD increment in natural log-transformed plasma PFAS concentrations (ng/mL). Models are adjusted for age, sex, sampling date, education, diabetes, hypertension, family history of CVD, smoking habits, physical activity and healthy diet score. Individual PFAS were standardized (rescaled with mean=0 and SD=1) and summed (**Σ PFAS**). PFHpA and PFOA which were derived using the 60YO cohort alone. Abbreviations: **PFOS**, perfluorooctane sulfonate; **PFNA**, perfluorononanoic acid; **PFDA**, perfluorodecanoic acid; **PFUnDA**, perfluoroundecanoic acid.

Appendix S1. Certificate quality control PFAS measurements (University of Erlangen-Nuremberg, Germany).

Prof. Dr. med. H. Drexler
Institute and Outpatient Clinic for Occupational, Social and Environmental Medicine of the University of Erlangen-Nuremberg
Henkestr. 9-11, D-91054 Erlangen

Intercomparison programme 64, 2019 for toxicological analyses in biological materials

Arbets- och miljomedicin Syd, v 3
Medicon Village, Byggn 402A
Scheelevaegen 8
22185 Lund
Sweden

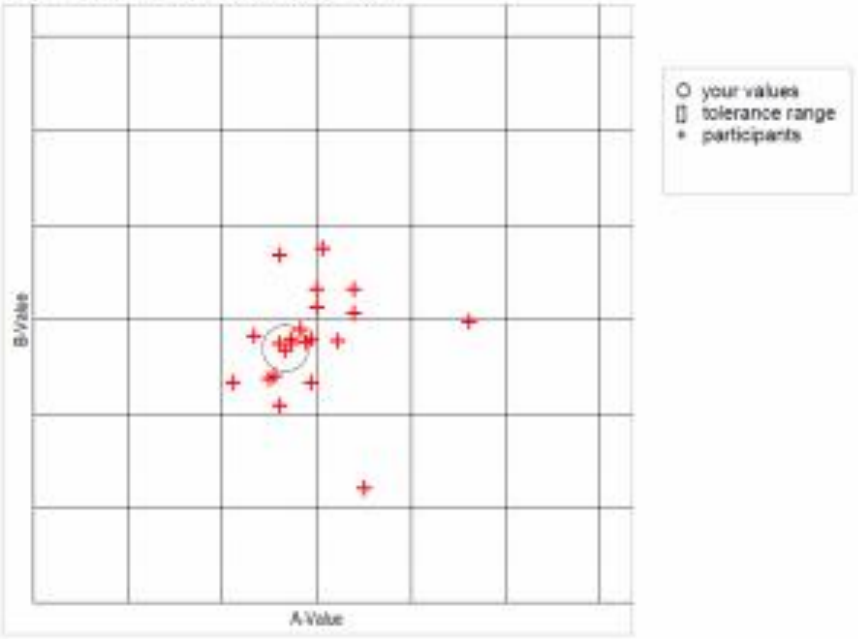
Labor: 336

Erlangen, 2020/01/28

Youden Plot

No.	parameter	evaluation	your results	ref. value	tolerance range	unit
120	PFOA in serum	A: +	0.75	0.81	0.63 - 0.99	µg/l
		B: +	7.58	7.91	6.83 - 8.99	µg/l

PFOA in serum (Environmental medical field)



	A	B
number of participants	24	24
within 3-fold tolerance range	24	22
mean of 3-fold tolerance range	0.82	7.68
standard deviation 3-fold tolerance range	0.09	0.58
both values within tolerance range		20 Labs; (83.3%)

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22185 Lund
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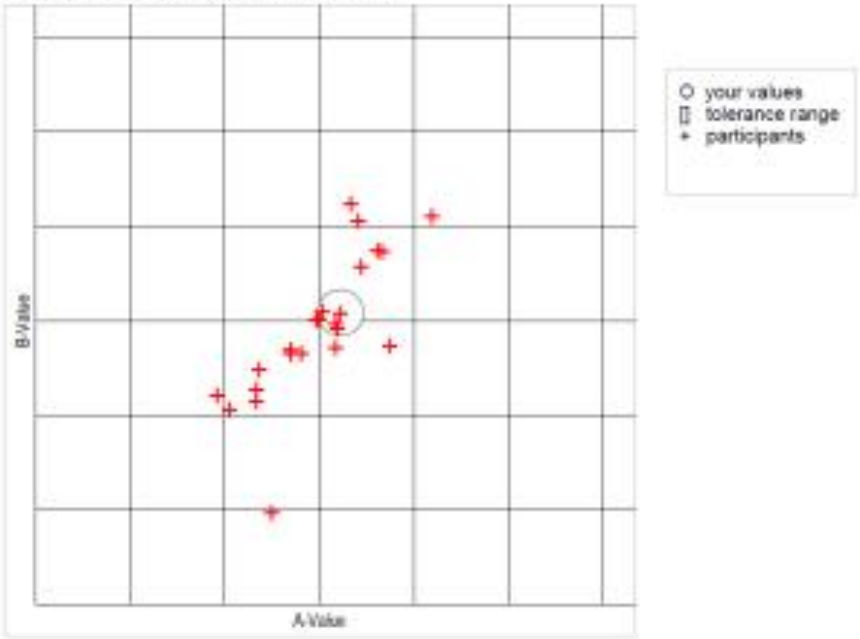
Labor: 336

Erlangen, 2020/01/28

Youden Plot

No.	parameter	evaluation	your results	ref. value	tolerance range	unit
121	PFOS in serum	A: +	1.42	1.34	0.98 - 1.70	µg/l
		B: +	14.43	14.15	10.97 - 17.33	µg/l

PFOS in serum (Environmental medical field)



	A	B
number of participants	24	24
within 3-fold tolerance range	24	23
mean of 3-fold tolerance range	1.33	13.94
standard deviation 3-fold tolerance range	0.20	2.37
both values within tolerance range		18 Labs; (75.0%)

German External Quality Assessment Scheme

Intercomparison programme 64, 2019
for toxicological analyses in biological materials

Prof. Dr. med. H. Drexler
on behalf of the German Society for Occupational and Environmental Medicine .e.V

Henkestr. 9-11, D-91054 Erlangen

External Quality Control acc. to the Guidelines of the German Federal Medical Council

Teilnehmer: Arbets- och miljomedicin Syd, v 3 — 336
Medicon Village, Byggn 402A
Scheelevaegen 8
22185 Lund
Sweden

Certificate

valid until January 31, 2021

This is to certify you participated in the intercomparison programme 64 / 2019 for occupational / environmental medical - toxicological analyses. In accordance with the guidelines issued by the German Federal Medical Council (Bundesärztekammer) of September 19th, 2014 on implementation of intercomparison programmes in the medical field you have fulfilled the requirements for the following parameters:

Environmental medical field

Pb in blood	Cd in blood	Hg in blood
Cd in urine	Ni in urine	Hg in urine
Pt in urine	1-HP in urine	3-PBA in urine
Cotinine in urine	5-OH-MEHP in urine	5-carboxy-MEPP in urine
MEHP in urine	PFOA in serum	PFOS in serum
MBzP in urine	As total in urine	Cu in urine
Sr in urine	Zn in urine	Trichloropyridinol in urine
Mo in urine	TCS in urine	Glyphosat in urine
Benzophenone-3 in urine		

Erlangen, 2020/01/28

Prof. Dr. med. H. Drexler

Prof. Dr. rer. nat. Th. Göen

Appendix S2. Certificate quality control PFAS measurements (HBM4EU).

CERTIFICATE OF PARTICIPATION

This is to certify that

Occupational and enviromental medicine. Laboratory medicine

has participated in the HBM4EU QA/QC programme and its successful performance has resulted in its qualification as HBM4EU laboratory for the analysis of:

PFPeA, PFHpA, PFOA, PFNA, PFDA, PFUnDA, PFDoDA, PFBS, PFHxS, PFHpS and PFOS in human serum

Institute and Outpatient Clinic of Occupational, Social and Environmental Medicine (IPASUM)

Organiser of the per- and polyfluoroalkyl substances (PFAS) exercise

Argelia Castaño
Marta Esteban López

WP9 leaders

Thomas Göen

Task 9.4 leader

On behalf of the
HBM4EU Quality Assurance Unit