SUPPLEMENTAL MATERIAL

Table S1. Baseline characteristics of offspring stratified by examination.

Characteristics	Offspring Exam 2 n = 1795	Offspring Exam 6 n = 1626	Gen 3 Exam 1 n = 2857
Age, years	42 (10)	57 (9)	41 (8)
Women, n (%)	919 (51)	860 (53)	1519 (53)
Body mass index, kg/m2	25.7 (4.4)	27.7 (5.1)	26.9 (5.6)
Systolic blood pressure, mmHg	120 (17)	127 (19)	117 (15)
Diastolic blood pressure, mmHg	78 (10)	76 (10)	76 (10)
Total cholesterol, mg/dL	199 (38)	209 (42)	189 (35)
HDL, mg/dL	49 (13)	52 (16)	54 (16)
Hypertension treatment, n (%)	145 (8)	357 (22)	279 (10)
Diabetes mellitus, n (%)	35 (2)	111 (7)	80 (3)
Smoking, n (%)	701 (39)	252 (16)	480 (17)
Hypercholesterolemia, n (%)	239 (13)	324 (20)	399 (14)
Parental History			
Major CVD, n (%)	895 (50)	1141 (70)	742 (26)
Smoking, n (%)	596 (42)	486 (31)	745 (26)
Hypertension, n (%)	923 (52)	1038 (64)	1720 (60)
Obesity, n (%)	588 (33)	508 (31)	1393 (49)
Diabetes mellitus, n (%)	256 (15)	284 (14)	437 (15)
Hypercholesterolemia, n (%)	675 (38)	511 (31)	1640 (57)

Parental history is dichotomous and represents respective condition in either one of the parents.
Data are shown as mean (SD) or otherwise noted.
Abbreviations: HDL = high-density lipoprotein, CVD = cardiovascular disease.

Table S2. Clinical characteristics by number of parents with CVD history.

Characteristics	0 PHx of CVD n = 3500	1 PHx of CVD n = 2162	2 PHx of CVD n = 616
Age, years	41 (10)	49 (11)	54 (10)
Women, n (%)	1855 (53)	1131 (52)	312 (51)
Body mass index, kg/m2	26.3 (5.2)	27.1 (5.0)	27.8 (5.5)
Systolic blood pressure, mmHg	117 (15)	123.7 (17.5)	129.5 (18.9)
Diastolic blood pressure, mmHg	75 (10)	77.2 (10.1)	78.1 (10.3)
Total cholesterol, mg/dL	191 (36)	204 (41)	207 (37)
High density lipoprotein, mg/dL	53 (15)	51 (16)	49 (15)
Hypertension treatment, n (%)	251 (7)	369 (17)	161 (26)
Diabetes mellitus, n (%)	74 (2)	112 (5)	40 (6)
Smoking, n (%)	744 (21)	531 (25)	158 (26)
Parental History			
Smoking, n (%)	908 (28)	717 (35)	202 (35)
Hypertension, n (%)	1887 (54)	1373 (64)	421 (69)
Obesity, n (%)	1463 (42)	788 (36)	238 (39)
Diabetes mellitus, n (%)	344 (10)	461 (21)	172 (28)

Parental history of risk factors is dichotomous and represents respective condition in either one of the parents.
Parental history of CVD was shown as an ordinal variable (0 = no PHx, 1=PHx from one parent, 2=PHx from both parents).
Data are shown as mean (SD) or otherwise noted.
Abbreviations: CVD = cardiovascular disease, PHx = parental history.
* Between-group differences were compared using Analysis of Covariance (ANCOVA) or Cochran-Mantel-Haenszel (CHM) test as appropriate.

Table S3. Clinical characteristics by maternal vs paternal history of CVD.

Characteristics	Paternal PHx of CVD n = 1605	Maternal PHx of CVD n = 557
Age, years	48 (11)	52 (11)
Women, n (%)	828 (52)	303 (54)
Body mass index, kg/m2	27.0 (5.0)	27.6 (5.2)
Systolic blood pressure, mmHg	122.8 (17.0)	126.6 (18.7)
Diastolic blood pressure, mmHg	77.1 (9.9)	77.7 (10.6)
Total cholesterol, mg/dL	202 (41)	208 (41)
High density lipoprotein, mg/dL	52 (16)	50 (16)
Hypertension treatment, n (%)	246 (15)	123 (22)
Diabetes mellitus, n (%)	70 (4)	42 (8)
Smoking, n (%)	406 (25)	125 (22)
Parental History		
Smoking, n (%)	540 (36)	177 (34)
Hypertension, n (%)	1009 (63)	364 (66)
Obesity, n (%)	580 (36)	208 (37)
Diabetes mellitus, n (%)	307 (19)	154 (28)

Parental history is dichotomous and represents respective condition in either one of the parents.
Data are shown as mean (SD) or otherwise noted.
Abbreviations: CVD = cardiovascular disease, PHx = parental history.
* Between-group differences were compared using Analysis of Covariance (ANCOVA) or Cochran-Mantel-Haenszel (CHM) test as appropriate.

Table S4. **Incidence rates of CV outcomes in offspring based on parental history of CVD and modifiable risk factors.**

		Incidence rate (events per 1000 person-years)					
	Parental History	**+PHx CVD +PHx RF**	**+PHx CVD -PHx RF**	**p-value**	**-PHx CVD +PHx RF**	**-PHx CVD -PHx RF**	**p-value**
CVD n=353	Smoking	7.45	6.64	0.38	2.08	1.68	0.37
	Hypertension	6.50	7.14	0.47	1.70	1.99	0.45
	Diabetes	6.87	6.82	0.95	1.83	1.83	0.99
	Obesity	6.77	6.86	0.47	1.96	1.74	0.45
	Hypercholesterolemia	6.18	7.37	0.16	1.65	1.98	0.38
AF n=264	Smoking	5.17	5.03	0.87	1.15	1.42	0.48
	Hypertension	4.88	5.39	0.50	1.60	1.04	0.09
	Diabetes	3.75	5.50	0.05	1.82	1.30	0.36
	Obesity	4.55	5.42	0.25	1.39	1.33	0.86
	Hypercholesterolemia	4.29	5.77	0.04	1.16	1.51	0.29
HF n=90	Smoking	2.00	1.90	0.82	0.38	0.29	0.63
	Hypertension	1.65	2.38	0.12	0.37	0.26	0.49
	Diabetes	1.91	1.88	0.96	0.20	0.33	0.63
	Obesity	1.72	1.99	0.56	0.33	0.30	0.86
	Hypercholesterolemia	1.63	2.10	0.30	0.27	0.36	0.56
MI n=181	Smoking	3.75	3.49	0.71	0.54	0.97	0.15
	Hypertension	3.38	3.75	0.55	0.74	1.04	0.26
	Diabetes	4.09	3.38	0.32	1.01	0.86	0.73
	Obesity	3.49	3.57	0.89	0.81	0.92	0.69
	Hypercholesterolemia	3.21	3.73	0.39	0.84	0.89	0.84

* p-value was calculated for incidence rate ratios using Poisson regression.
Abbreviations: CVD = cardiovascular disease, AF= atrial fibrillation, HF = heart failure, MI = myocardial infarction, PHx = parental history.

Table S5. Age-adjusted incidence rates of CV outcomes in offspring.

	Parental History	Incidence rate (events per 1000 person-years)					
		+PHx CVD +PHx RF	+PHx CVD -PHx RF	p-value	-PHx CVD +PHx RF	-PHx CVD -PHx RF	p-value
CVD n=353	Smoking	4.20	3.16	0.03	2.33	1.68	0.17
	Hypertension	3.41	3.40	0.98	1.70	2.13	0.28
	Diabetes	3.64	3.46	0.73	1.94	1.88	0.93
	Obesity	3.86	3.24	0.18	2.24	1.66	0.15
	Hypercholesterolemia	3.60	3.41	0.67	1.88	1.88	1
AF n=264	Smoking	2.46	2.00	0.18	1.24	1.33	0.81
	Hypertension	2.09	2.05	0.90	1.51	1.00	0.11
	Diabetes	1.61	2.27	0.07	1.79	1.24	0.31
	Obesity	2.16	2.08	0.79	1.51	1.17	0.29
	Hypercholesterolemia	2.09	2.15	0.85	1.30	1.30	0.99
HF n=90	Smoking	0.84	0.64	0.29	0.39	0.26	0.44
	Hypertension	0.61	0.75	0.36	0.33	0.23	0.49
	Diabetes	0.70	0.65	0.77	0.19	0.29	0.67
	Obesity	0.70	0.63	0.65	0.34	0.25	0.52
	Hypercholesterolemia	0.68	0.65	0.85	0.29	0.28	0.96
MI n=181	Smoking	2.71	2.25	0.31	0.61	1.05	0.2
	Hypertension	2.33	2.45	0.77	0.77	1.19	0.16
	Diabetes	2.81	2.27	0.27	1.11	0.94	0.72
	Obesity	2.54	2.30	0.58	0.94	0.96	0.95
	Hypercholesterolemia	2.39	2.39	>0.99	0.97	0.94	0.91

* p-value was calculated for incidence rate ratios using Poisson regression.
Abbreviations: CVD = cardiovascular disease, AF= atrial fibrillation, HF = heart failure, MI = myocardial infarction, PHx = parental history.

Table S6. Number of events stratified by parental history in 0, 1, or 2 parents.

	Parental history exposure	Incident CVD offspring		
		N (%)	HR (95% CI)	p-value
CVD	PHx of CVD = 0 (n = 3500)	92(3)	REF	
	PHx of CVD = 1 (n = 2162)	164(8)	1.51 (1.15, 1.98)	0.003
	PHx of CVD = 2 (n = 616)	97 (16)	2.37 (1.74, 3.23)	<0.001
Smoking	PHx of smoking = 0 (n = 3434)	155 (5)	REF	
	PHx of smoking = 1 (n = 1265)	80 (6)	1.29 (0.98, 1.69)	0.07
	PHx of smoking = 2 (n = 325)	22 (7)	1.60 (1.02, 2.51)	0.04
Obesity	PHx of obesity = 0 (n = 3791)	216 (6)	REF	
	PHx of obesity = 1 (n = 2048)	116 (6)	1.30 (1.03, 1.63)	0.03
	PHx of obesity = 2 (n = 439)	21 (5)	1.49 (0.95, 2.34)	0.08

Parental history was shown as ordinal variables (0 = no PHx, 1=PHx from one parent, 2=PHx from both parents).
Abbreviations: CVD = cardiovascular disease, PHx = parental history.
* HRs and 95% CIs were calculated using Cox proportional hazard regression models adjusted for age and sex.

Table S7. Baseline echocardiographic characteristics of offspring.

Characteristics	Total n = 6278	PHx of HF n = 1003	No PHx of HF n = 5275	p-value
LVEDD, cm	4.9 (0.4)	4.9 (0.5)	4.9 (0.4)	0.19
LVEDS, cm	3.1 (0.4)	3.1 (0.4)	3.1 (0.4)	0.97
LAD, cm	3.3 (0.7)	3.7 (0.7)	3.3 (0.7)	<0.001
FS, %	36.4 (4.1)	37.0 (4.8)	36.3 (4.0)	0.01
LVWT, cm	1.8 (0.3)	1.9 (0.3)	1.8 (0.3)	<0.001
GLS, %	-20.2 (3.2)	-20.1 (3.2)	-20.2 (3.2)	0.008
LV Mass, g	157.1 (45.0)	165.4 (47.8)	155.6 (44.3)	<0.001
		PHx of CVD **n = 1775**	**No PHx of CVD** **n = 4503**	
CAC Score	0 (0, 33.6)	3.7 (0, 115.8)	0 (0, 2.3)	<0.001

Data shown as mean (SD) or median (Q1, Q3).
Data on coronary artery calcification not available for exam 2.
Abbreviations: LVEDD = left ventricular end-diastolic dimension, LVEDS = left ventricular end-systolic dimension, LAD = left atrial diameter, FS = fractional shortening, LVWT = left ventricular wall thickness, GLS = global longitudinal strain, LV Mass = left ventricular mass, CAC = coronary artery calcification, PHx = parental history, HF = heart failure, CVD = cardiovascular disease.