Supplementary Online Content

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This supplementary material has been provided by the authors to give readers additional information about their work.

eMethods. Behavioral lifestyle factor definitions in the UK Biobank study

Smoking behavior was defined as ideal if participants had never smoked or stopped more than 12 months ago, intermediate if they had stopped within the last 12 months, or as poor if they were current smokers. Body mass index (BMI) (kg/m^2) was calculated for all participants by UK Biobank based on their measured weight and height. Ideal BMI was defined as BMI <25 and ≥18.5 kg/m^2, thereby excluding participants with underweight according to the World Health Organization definition (N=1,745)[1]. Intermediate BMI was defined as BMI ≥25 and <30 kg/m^2, poor BMI as ≥30 kg/m^2. Physical activity was defined as ideal if participants had ≥150 min/wk moderate or ≥75 min/wk vigorous or 150 min/wk mixed (moderate + vigorous) activity. Intermediate physical activity was defined as 1–149 min/wk moderate or 1–74 min/wk vigorous or 1–149 min/wk mixed activity, and poor physical activity was defined as not performing any moderate or vigorous activity. Duration and intensity of physical activity was ascertained using the answers provided by participants on a range of questions based on the validated International Physical Activity Questionnaire[2]. Similar to a previous study[3], diet was defined as ideal or poor using a more recent definition of ideal intake of healthy and unhealthy dietary components for cardiovascular health[4] than the one used in the American Heart Association guidelines[5]. Ideal diet was defined as adequate intake of at least half of the following dietary components: increased consumption of fruits, vegetables, whole grains, (shell)fish, dairy products and vegetable oils; and reduced or no consumption of refined grains, (un)processed meats and sugar-sweetened beverages.

eTable 1. Single-nucleotide polymorphisms used to build the genetic risk score for coronary artery disease

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs2843152	1	2245570	C	G	0.6865	-0.0781	0.0129	1.54E-09	Nikpay *et al.* 2015 (26343387)	
rs35465346	1	22132518	A	G	0.8414	0.0662	0.0141	2.88E-06	Nikpay *et al.* 2015 (26343387)	
rs28470722	1	38386727	A	G	0.5913	-0.0495	0.0101	9.86E-07	Nikpay *et al.* 2015 (26343387)	
rs11206510	1	55496039	C	T	0.8476	0.0745	0.0133	2.35E-08	Nikpay *et al.* 2015 (26343387)	
rs9970807	1	56965664	T	C	0.9151	0.133	0.0168	2.12E-15	Nikpay *et al.* 2015 (26343387)	
rs61772626	1	57015668	G	A	0.8796	-0.0752	0.0148	3.76E-07	Nikpay *et al.* 2015 (26343387)	
rs7528419	1	109817192	G	A	0.7858	0.0826	0.0151	4.88E-08	Nikpay *et al.* 2015 (26343387)	
rs1277930	1	109822143	G	A	0.7373	0.0736	0.016	4.08E-06	Nikpay *et al.* 2015 (26343387)	
rs11810571	1	151762308	C	G	0.7872	0.0592	0.0116	3.16E-07	Nikpay *et al.* 2015 (26343387)	
rs6689306	1	154395946	A	G	0.5525	-0.056	0.0094	2.61E-09	Nikpay *et al.* 2015 (26343387)	
rs72702224	1	154911689	A	G	0.5985	-0.0796	0.0114	3.11E-12	Nikpay *et al.* 2015 (26343387)	
rs3738591	1	155764808	G	C	0.8806	0.1199	0.0191	3.75E-10	Nikpay *et al.* 2015 (26343387)	
rs2789422	1	159892088	A	G	0.6084	0.0473	0.01	2.46E-06	Nikpay *et al.* 2015 (26343387)	
rs2820315	1	201872264	T	C	0.7163	-0.0467	0.0103	6.09E-06	Nikpay *et al.* 2015 (26343387)	
rs67180937	1	222823743	T	G	0.6631	0.0944	0.0116	3.37E-16	Nikpay *et al.* 2015 (26343387)	
rs75082168	1	223132028	A	T	0.9622	-0.1501	0.0328	4.75E-06	Nikpay *et al.* 2015 (26343387)	
rs16986953	2	19942473	A	G	0.8953	-0.0852	0.015	1.45E-08	Nikpay *et al.* 2015 (26343387)	
rs13420649	2	43463637	C	T	0.7863	-0.0761	0.0134	1.30E-08	Nikpay *et al.* 2015	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
									(26343387)	
rs11126366	2	72554292	G	C	0.8054	0.0894	0.0158	1.50E-08	Nikpay *et al.* 2015 (26343387)	
rs11126387	2	73167944	T	C	0.4543	0.0676	0.0127	1.00E-07	Nikpay *et al.* 2015 (26343387)	
rs7568458	2	85788175	A	T	0.5515	-0.0596	0.0095	3.64E-10	Nikpay *et al.* 2015 (26343387)	
rs11898671	2	144159905	C	A	0.8144	0.0552	0.0123	6.77E-06	Nikpay *et al.* 2015 (26343387)	
rs7564469	2	145258445	C	T	0.7965	-0.0582	0.0124	2.71E-06	Nikpay *et al.* 2015 (26343387)	
rs17678683	2	145286559	G	T	0.9123	-0.0905	0.0167	6.20E-08	Nikpay *et al.* 2015 (26343387)	
rs2252654	2	145801113	A	G	0.6943	-0.0492	0.0103	2.01E-06	Nikpay *et al.* 2015 (26343387)	
rs57759964	2	148410756	G	A	0.7474	-0.0582	0.0129	6.60E-06	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs33998987	2	163284067	C	T	0.6496	0.0563	0.0111	3.79E-07	Nikpay *et al.* 2015 (26343387)	
rs12619842	2	164945044	C	G	0.8142	0.0604	0.0126	1.67E-06	Nikpay *et al.* 2015 (26343387)	
rs7559543	2	202799924	T	C	0.8212	-0.0642	0.0135	2.16E-06	Nikpay *et al.* 2015 (26343387)	
rs3732355	2	216245392	T	C	0.7388	0.0595	0.0121	8.60E-07	Nikpay *et al.* 2015 (26343387)	
rs17517928	2	216291359	T	C	0.7421	0.0804	0.0123	7.63E-11	Nikpay *et al.* 2015 (26343387)	
rs2552527	2	218688596	G	T	0.5937	0.0512	0.0097	1.31E-07	Nikpay *et al.* 2015 (26343387)	
rs10168194	2	228986980	C	G	0.6528	-0.0476	0.0099	1.51E-06	Nikpay *et al.* 2015 (26343387)	
rs143803699	2	236902252	G	C	0.979	-0.1518	0.0325	2.90E-06	Nikpay *et al.* 2015 (26343387)	
rs748431	3	14928077	G	T	0.5937	-0.049	0.0094	2.14E-07	Nikpay *et al.* 2015 (26343387)	
rs7623687	3	49448566	C	A	0.859	0.0693	0.0139	6.53E-07	Nikpay *et al.* 2015 (26343387)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs142695226	3	124475201	G	T	0.8636	-0.0659	0.0135	1.10E-06	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs73222236	3	135888642	G	A	0.6752	-0.0725	0.0108	1.70E-11	Nikpay *et al.* 2015 (26343387)	
rs433903	3	153980130	A	G	0.8572	0.0682	0.0147	3.67E-06	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs1873197	4	38911595	A	G	0.9203	0.1103	0.0187	3.64E-09	Nikpay *et al.* 2015 (26343387)	
rs17087335	4	57838583	T	G	0.7854	-0.0608	0.0111	4.60E-08	Nikpay *et al.* 2015 (26343387)	
rs10857147	4	81181072	T	A	0.7309	-0.0546	0.0109	5.84E-07	Nikpay *et al.* 2015 (26343387)	
rs17626479	4	119129455	A	C	0.8893	0.0744	0.0162	4.51E-06	Nikpay *et al.* 2015 (26343387)	
rs11723436	4	120901336	G	A	0.6945	-0.0641	0.0105	8.54E-10	Nikpay *et al.* 2015 (26343387)	
rs35879803	4	146782837	A	C	0.7016	0.0478	0.0104	4.75E-06	Nikpay *et al.* 2015 (26343387)	
rs4593108	4	148281001	G	C	0.7953	0.0966	0.0121	1.83E-15	Nikpay *et al.* 2015 (26343387)	
rs6842241	4	148400819	A	C	0.8335	-0.0878	0.0128	5.63E-12	Nikpay *et al.* 2015 (26343387)	
rs13140296	4	156408950	A	G	0.529	0.0625	0.0105	2.22E-09	Nikpay *et al.* 2015 (26343387)	
rs1001037	4	156513518	C	T	0.8495	0.073	0.0136	7.72E-08	Nikpay *et al.* 2015 (26343387)	
rs72685791	4	156620217	A	G	0.797	0.076	0.0117	9.81E-11	Nikpay *et al.* 2015 (26343387)	
rs10071096	5	4012694	A	G	0.7052	0.0485	0.0102	2.07E-06	Nikpay *et al.* 2015 (26343387)	
rs6876322	5	53361427	C	T	0.8244	-0.0633	0.0126	5.31E-07	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs288187	5	107344426	T	C	0.8242	0.074	0.0129	1.10E-08	Nikpay *et al.* 2015 (26343387)	
rs11240980	5	107975671	A	G	0.7017	-0.0519	0.0108	1.41E-06	Nikpay *et al.* 2015 (26343387)	
rs421329	6	5090056	T	C	0.7647	0.0698	0.0125	2.43E-08	Nikpay *et al.* 2015	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
									(26343387)	
rs9349379	6	12903957	G	A	0.5684	-0.1768	0.0108	0.00E+00	Nikpay *et al.* 2015 (26343387)	
rs2876643	6	22591525	A	C	0.6789	-0.0509	0.0099	2.63E-07	Nikpay *et al.* 2015 (26343387)	
rs9379774	6	25597043	T	A	0.841	-0.0569	0.0125	5.61E-06	Nikpay *et al.* 2015 (26343387)	
rs4472337	6	34769765	T	C	0.8507	-0.0735	0.0143	2.47E-07	Nikpay *et al.* 2015 (26343387)	
rs4321818	6	35709880	T	C	0.5105	-0.0446	0.0096	3.47E-06	Nikpay *et al.* 2015 (26343387)	
rs57349798	6	37486052	A	G	0.624	0.0603	0.0106	1.27E-08	Nikpay *et al.* 2015 (26343387)	
rs56336142	6	39134099	C	T	0.8073	0.0668	0.0119	1.85E-08	Nikpay *et al.* 2015 (26343387)	
rs194937	6	82442022	A	G	0.8367	-0.06	0.0123	1.11E-06	Nikpay *et al.* 2015 (26343387)	
rs9486719	6	97060124	A	G	0.7998	0.0564	0.0116	1.10E-06	Nikpay *et al.* 2015 (26343387)	
rs1591805	6	126717064	A	G	0.5208	-0.0828	0.0141	4.53E-09	Nikpay *et al.* 2015 (26343387)	
rs12202017	6	134173151	G	A	0.7	0.0637	0.01	1.80E-10	Nikpay *et al.* 2015 (26343387)	
rs2327433	6	134214227	G	A	0.8649	-0.0737	0.0148	6.08E-07	Nikpay *et al.* 2015 (26343387)	
rs2153219	6	149755695	G	A	0.8141	0.0854	0.0135	2.73E-10	Nikpay *et al.* 2015 (26343387)	
rs57938011	6	149964105	A	T	0.6283	-0.0509	0.011	3.37E-06	Nikpay *et al.* 2015 (26343387)	
rs9364537	6	160258733	G	A	0.6751	-0.0909	0.0115	2.63E-15	Nikpay *et al.* 2015 (26343387)	
rs6932293	6	160535878	C	T	0.9629	-0.2164	0.0467	3.59E-06	Nikpay *et al.* 2015 (26343387)	
rs624249	6	160679400	A	C	0.6313	0.0647	0.0112	8.49E-09	Nikpay *et al.* 2015 (26343387)	
rs9457927	6	160910282	G	A	0.9813	-0.4265	0.0422	4.77E-24	Nikpay *et al.* 2015 (26343387)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs55730499	6	161005610	T	C	0.9438	-0.1885	0.0326	7.67E-09	Nikpay *et al.* 2015 (26343387)	
rs12201989	6	161075021	T	A	0.8314	0.0823	0.0169	1.14E-06	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs56393506	6	161089307	T	C	0.8391	-0.1197	0.016	6.77E-14	Nikpay *et al.* 2015 (26343387)	
rs1998043	6	161097871	G	A	0.8422	-0.0885	0.0149	3.19E-09	Nikpay *et al.* 2015 (26343387)	
rs6935921	6	161108536	C	T	0.6512	0.0696	0.011	2.48E-10	Nikpay *et al.* 2015 (26343387)	
rs186696265	6	161111700	T	C	0.9869	-0.3539	0.0513	5.47E-12	Nikpay *et al.* 2015 (26343387)	
rs75176946	6	161178140	T	C	0.9871	-0.2367	0.0508	3.21E-06	Nikpay *et al.* 2015 (26343387)	
rs112215831	6	161182037	A	G	0.8962	0.0956	0.0191	6.00E-07	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs2107595	7	19049388	A	G	0.7995	-0.0734	0.0113	8.08E-11	Nikpay *et al.* 2015 (26343387)	
rs4719608	7	20292134	A	G	0.714	-0.0544	0.0105	2.42E-07	Nikpay *et al.* 2015 (26343387)	
rs68170813	7	107259721	C	T	0.7803	0.0522	0.0115	6.26E-06	Nikpay *et al.* 2015 (26343387)	
rs11556924	7	129663496	T	C	0.6867	0.0726	0.0111	5.37E-11	Nikpay *et al.* 2015 (26343387)	
rs3735352	7	139724555	GT	C	0.7604	0.0581	0.0114	3.24E-07	Nikpay *et al.* 2015 (26343387)	
rs3918226	7	150690176	T	C	0.9355	-0.1333	0.0221	1.70E-09	Nikpay *et al.* 2015 (26343387)	
rs17411031	8	19852310	G	C	0.7446	0.053	0.0109	1.17E-06	Nikpay *et al.* 2015 (26343387)	
rs113756303	8	26102772	T	G	0.8161	-0.0742	0.0139	1.02E-07	Nikpay *et al.* 2015 (26343387)	
rs367948	8	26435116	G	C	0.7486	0.0553	0.0116	2.01E-06	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs56307388	8	26855424	A	C	0.7999	0.0553	0.012	3.98E-06	Nikpay *et al.* 2015 (26343387)	
rs2001846	8	126478450	T	C	0.5198	-0.0461	0.0092	5.94E-07	Nikpay *et al.* 2015	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
									(26343387)	
rs13301437	9	21155973	C	T	0.8596	-0.0802	0.0166	1.37E-06	Nikpay *et al.* 2015 (26343387)	
rs7855162	9	22074793	T	C	0.0389	0.1592	0.0271	4.17E-09	Nikpay *et al.* 2015 (26343387)	
rs1970112	9	22085598	C	T	0.5142	-0.1236	0.0128	4.50E-22	Nikpay *et al.* 2015 (26343387)	
rs62555370	9	22102437	A	G	0.8781	0.0926	0.0178	1.99E-07	Nikpay *et al.* 2015 (26343387)	
rs1333046	9	22124123	A	T	0.5013	-0.1203	0.0123	1.41E-22	Nikpay *et al.* 2015 (26343387)	
rs75657982	9	118826916	A	G	0.9768	-0.1756	0.037	2.07E-06	Nikpay *et al.* 2015 (26343387)	
rs10818576	9	124412948	G	T	0.7489	-0.0547	0.011	7.25E-07	Nikpay *et al.* 2015 (26343387)	
rs2519093	9	136141870	T	C	0.8091	-0.0797	0.0118	1.19E-11	Nikpay *et al.* 2015 (26343387)	
rs7917431	10	30287398	T	C	0.66	0.0504	0.0104	1.24E-06	Nikpay *et al.* 2015 (26343387)	
rs2487928	10	30323892	A	G	0.5818	-0.0618	0.0095	7.83E-11	Nikpay *et al.* 2015 (26343387)	
rs58030109	10	43377793	A	G	0.9802	-0.1699	0.0365	3.14E-06	Nikpay *et al.* 2015 (26343387)	
rs11238720	10	44313122	G	C	0.8694	-0.1029	0.0171	1.71E-09	Nikpay *et al.* 2015 (26343387)	
rs1870634	10	44480811	T	G	0.6375	0.0733	0.0101	4.68E-13	Nikpay *et al.* 2015 (26343387)	
rs1746050	10	44777188	A	C	0.8497	0.1185	0.0147	6.38E-16	Nikpay *et al.* 2015 (26343387)	
rs7901016	10	74637326	C	T	0.906	0.0984	0.0175	1.90E-08	Nikpay *et al.* 2015 (26343387)	
rs7082705	10	82170856	A	G	0.7101	-0.0552	0.0109	3.96E-07	Nikpay *et al.* 2015 (26343387)	
rs17680741	10	82251514	C	T	0.7166	0.0474	0.0103	4.47E-06	Nikpay *et al.* 2015 (26343387)	
rs1412444	10	91002927	T	C	0.6309	-0.0668	0.0097	5.18E-12	Nikpay *et al.* 2015 (26343387)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs11191416	10	104604916	G	T	0.8725	0.0894	0.0137	5.97E-11	Nikpay *et al.* 2015 (26343387)	
rs11813268	10	105682296	T	C	0.8257	0.0684	0.013	1.38E-07	Nikpay *et al.* 2015 (26343387)	
rs4627080	11	9336349	G	T	0.8978	-0.0708	0.015	2.40E-06	Nikpay *et al.* 2015 (26343387)	
rs10840293	11	9751196	G	A	0.5498	0.0564	0.0096	4.74E-09	Nikpay *et al.* 2015 (26343387)	
rs1351525	11	13301548	A	T	0.6745	0.0484	0.01	1.27E-06	Nikpay *et al.* 2015 (26343387)	
rs12801636	11	65391317	A	G	0.7594	0.0499	0.011	5.21E-06	Nikpay *et al.* 2015 (26343387)	
rs2128739	11	103673277	A	C	0.6765	-0.0642	0.0101	1.75E-10	Nikpay *et al.* 2015 (26343387)	
rs10841443	12	20220033	C	G	0.6648	0.0507	0.0101	5.82E-07	Nikpay *et al.* 2015 (26343387)	
rs12826942	12	42796300	G	A	0.7625	-0.0517	0.011	2.62E-06	Nikpay *et al.* 2015 (26343387)	
rs3858602	12	54177548	G	A	0.8804	0.0677	0.0147	3.97E-06	Nikpay *et al.* 2015 (26343387)	
rs11170820	12	54513915	G	C	0.9237	-0.1038	0.0198	1.62E-07	Nikpay *et al.* 2015 (26343387)	
rs808919	12	56647911	G	C	0.8871	0.1085	0.0203	8.93E-08	Nikpay *et al.* 2015 (26343387)	
rs11172113	12	57527283	C	T	0.6017	-0.0436	0.0096	6.28E-06	Nikpay *et al.* 2015 (26343387)	
rs11174220	12	62285075	T	A	0.8159	-0.0924	0.0153	1.68E-09	Nikpay *et al.* 2015 (26343387)	
rs2681472	12	90008959	G	A	0.7987	-0.0741	0.0113	6.20E-11	Nikpay *et al.* 2015 (26343387)	
rs7967514	12	111835545	G	A	0.0603	0.126	0.0258	1.03E-06	Nikpay *et al.* 2015 (26343387)	
rs4766578	12	111904371	T	A	0.567	-0.0904	0.0116	7.39E-15	Nikpay *et al.* 2015 (26343387)	
rs2244608	12	121416988	G	A	0.6515	-0.0476	0.0097	1.02E-06	Nikpay *et al.* 2015 (26343387)	
rs10846744	12	125312425	C	G	0.7953	-0.0721	0.0135	8.88E-08	Nikpay *et al.* 2015	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
									(26343387)	
rs7973725	12	125441159	C	T	0.923	0.1029	0.0213	1.35E-06	Nikpay *et al.* 2015 (26343387)	
rs1924981	13	29022645	T	C	0.6586	-0.0501	0.01	5.11E-07	Nikpay *et al.* 2015 (26343387)	
rs9591012	13	33058333	A	G	0.6785	0.0457	0.0102	7.14E-06	Nikpay *et al.* 2015 (26343387)	
rs9532984	13	42634693	A	G	0.575	0.0561	0.0098	9.12E-09	Nikpay *et al.* 2015 (26343387)	
rs11617955	13	110818102	A	T	0.8936	0.0985	0.0163	1.39E-09	Nikpay *et al.* 2015 (26343387)	
rs4773141	13	110954353	G	C	0.6408	-0.075	0.0118	1.78E-10	Nikpay *et al.* 2015 (26343387)	
rs11838776	13	111040681	A	G	0.7367	-0.0743	0.0115	8.86E-11	Nikpay *et al.* 2015 (26343387)	
rs9515203	13	111049623	C	T	0.7606	0.0671	0.0117	1.08E-08	Nikpay *et al.* 2015 (26343387)	
rs34905765	13	111100780	T	C	0.8982	-0.0807	0.0162	6.41E-07	Nikpay *et al.* 2015 (26343387)	
rs56003851	13	111114176	A	C	0.8035	0.0849	0.0133	1.97E-10	Nikpay *et al.* 2015 (26343387)	
rs61969072	13	111380701	G	T	0.8267	-0.0584	0.0125	2.87E-06	Nikpay *et al.* 2015 (26343387)	
rs10139550	14	100145710	G	C	0.577	-0.0554	0.0098	1.38E-08	Nikpay *et al.* 2015 (26343387)	
rs56062135	15	67455630	T	C	0.7943	0.0697	0.0119	4.54E-09	Nikpay *et al.* 2015 (26343387)	
rs11635330	15	78687353	C	T	0.4011	-0.0497	0.0097	3.30E-07	Nikpay *et al.* 2015 (26343387)	
rs4887109	15	79074294	T	C	0.6758	0.082	0.0125	4.46E-11	Nikpay *et al.* 2015 (26343387)	
rs4468572	15	79124475	T	C	0.5858	0.057	0.0101	1.67E-08	Nikpay *et al.* 2015 (26343387)	
rs8042271	15	89574218	G	A	0.0977	-0.0967	0.0176	3.69E-08	Nikpay *et al.* 2015 (26343387)	
rs2521501	15	91437388	T	A	0.6975	-0.0599	0.011	5.03E-08	Nikpay *et al.* 2015 (26343387)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs17581137	15	96146414	C	A	0.7589	0.0514	0.0109	2.24E-06	Nikpay *et al.* 2015 (26343387)	
rs12899265	15	99219598	C	T	0.8331	-0.0695	0.0143	1.14E-06	Nikpay *et al.* 2015 (26343387)	
rs7500448	16	83045790	G	A	0.7725	0.0555	0.0117	2.11E-06	Nikpay *et al.* 2015 (26343387)	
rs9914266	17	2133250	C	T	0.6456	-0.0485	0.0096	4.57E-07	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs72823056	17	40565926	G	T	0.8408	-0.0659	0.0128	2.90E-07	Nikpay *et al.* 2015 (26343387)	
rs12600562	17	44977040	T	G	0.39	0.0471	0.0098	1.67E-06	Nikpay *et al.* 2015 (26343387)	
rs35895680	17	47060322	A	C	0.7159	0.0679	0.0113	2.17E-09	Nikpay *et al.* 2015 (26343387)	
rs12940887	17	47402807	T	C	0.6759	-0.0562	0.0104	5.72E-08	Nikpay *et al.* 2015 (26343387)	
rs7212798	17	59013488	C	T	0.8535	-0.1006	0.0148	9.51E-12	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs2270114	17	59478776	C	G	0.3511	-0.0574	0.011	2.01E-07	Nikpay *et al.* 2015 (26343387)	
rs3760128	17	73886888	G	A	0.6594	0.0558	0.0103	5.83E-08	Nikpay *et al.* 2015 (26343387)	
rs9907921	17	74256913	T	C	0.6357	0.0477	0.0101	2.32E-06	Nikpay *et al.* 2015 (26343387)	
rs663129	18	57838401	A	G	0.7432	-0.0582	0.0105	3.21E-08	Nikpay *et al.* 2015 (26343387)	
rs12979495	19	10964632	A	G	0.7493	0.0545	0.011	6.97E-07	Nikpay *et al.* 2015 (26343387)	
rs56289821	19	11188247	A	G	0.8996	0.1103	0.0174	2.45E-10	Nikpay *et al.* 2015 (26343387)	
rs6511721	19	11206575	G	A	0.5225	-0.0564	0.0112	4.59E-07	Nikpay *et al.* 2015 (26343387)	
rs8104311	19	15982760	C	T	0.6556	-0.0465	0.0096	1.26E-06	Nikpay *et al.* 2015 (26343387)	
rs6512216	19	17807147	G	T	0.4233	0.0574	0.0127	5.85E-06	Nikpay *et al.* 2015 (26343387)	
rs9630903	19	17854655	A	G	0.5651	-0.0785	0.0129	1.04E-09	Nikpay *et al.* 2015	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
									(26343387)	
rs75041078	19	41877491	A	G	0.7487	-0.0778	0.0122	1.58E-10	Nikpay *et al.* 2015 (26343387)	
rs118147862	19	45319631	A	G	0.9661	0.1702	0.0319	9.84E-08	Nikpay *et al.* 2015 (26343387)	
rs405509	19	45408836	T	G	0.4971	-0.0614	0.0101	1.45E-09	Nikpay *et al.* 2015 (26343387)	
rs4420638	19	45422946	G	A	0.834	-0.0848	0.0142	2.08E-09	Nikpay *et al.* 2015 (26343387)	
rs1964272	19	46190268	A	G	0.5169	0.0462	0.0099	2.92E-06	Nikpay *et al.* 2015 (26343387)	
rs13734	20	17594729	A	G	0.7798	-0.0621	0.0116	8.99E-08	Nikpay *et al.* 2015 (26343387)	
rs6129767	20	39822332	G	T	0.7044	-0.0472	0.0102	3.99E-06	Nikpay *et al.* 2015 (26343387)	
rs763475	20	40964651	C	T	0.8592	-0.0664	0.0144	4.19E-06	Nikpay *et al.* 2015 (26343387)	
rs6095611	20	48315902	A	G	0.4954	-0.0435	0.0097	6.49E-06	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs11911017	21	30567941	T	G	0.8258	-0.1017	0.0141	6.08E-13	Nikpay *et al.* 2015 (26343387)	
rs28451064	21	35593827	A	G	0.8788	-0.1162	0.0167	3.08E-12	Nikpay *et al.* 2015 (26343387)	
rs7280276	21	35659776	A	G	0.7619	-0.0569	0.0116	9.98E-07	Nikpay *et al.* 2015 (26343387)	
rs180803	22	24658858	G	T	0.0293	-0.1809	0.0283	1.65E-10	Nikpay *et al.* 2015 (26343387)	Missing in UK Biobank
rs9608859	22	30667277	T	C	0.5879	0.0481	0.0096	5.37E-07	Nikpay *et al.* 2015 (26343387)	

Single Nucleotide Polymorphisms (SNPs) were selected from the GCTA results of Nikpay *et al* which included non-European populations.

eTable 2. Single-nucleotide polymorphisms used to build the genetic risk score for atrial fibrillation

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs11264280	1	154862952	C	T	0.31	0.113328685	0.013560234	6.41E-17	Christophersen *et al.* 2017 (28416818)	
rs72700118	1	170194823	C	A	0.12	0.131028262	0.019651454	2.60E-11	Christophersen *et al.* 2017 (28416818)	
rs520525	1	170638333	G	A	0.71	0.113328685	0.014022976	6.39E-16	Christophersen *et al.* 2017 (28416818)	
rs2540949	2	65284231	T	A	0.61	0.076961041	0.012211313	2.93E-10	Christophersen *et al.* 2017 (28416818)	
rs3771537	2	70038792	C	A	0.53	0.086177696	0.012599101	7.92E-12	Christophersen *et al.* 2017 (28416818)	
rs2288327	2	179411665	A	G	0.2	0.086177696	0.015367667	2.05E-08	Christophersen *et al.* 2017 (28416818)	
rs11718898	3	12848822	T	C	0.65	0.076961041	0.014087537	4.68E-08	Christophersen *et al.* 2017 (28416818)	
rs6800541	3	38774832	C	T	0.61	0.076961041	0.01565217	8.79E-07	Christophersen *et al.* 2017 (28416818)	
rs17042171	4	111708287	C	A	0.21	0.496696242	0.015386224	8.31E-227	Christophersen *et al.* 2017 (28416818)	
rs337711	5	113748571	C	T	0.39	0.067658648	0.012200488	2.93E-08	Christophersen *et al.* 2017 (28416818)	
rs2967791	5	137013106	C	T	0.54	0.067658648	0.012173364	2.73E-08	Christophersen *et al.* 2017 (28416818)	
rs4946333	6	118565665	A	G	0.5	0.076961041	0.012811916	1.89E-09	Christophersen *et al.* 2017 (28416818)	
rs12664873	6	122463191	G	T	0.7	0.076961041	0.013499207	1.19E-08	Christophersen *et al.* 2017 (28416818)	
rs1997572	7	116198828	A	G	0.59	0.095310018	0.012233128	6.64E-15	Christophersen *et al.* 2017 (28416818)	
rs7508	8	17913970	G	A	0.72	0.086177696	0.013867956	5.16E-10	Christophersen *et al.* 2017 (28416818)	
rs7026071	9	97492520	C	T	0.4	0.086177696	0.012149257	1.31E-12	Christophersen *et al.* 2017 (28416818)	
rs60632610	10	75415677	T	C	0.85	0.113328685	0.017703848	1.54E-10	Christophersen *et al.* 2017 (28416818)	
rs11598047	10	105342672	A	G	0.16	0.16551	0.016958283	1.67E-22	Christophersen *et al.*	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
						4438			2017 (28416818)	
rs35176054	10	105480387	T	A	0.13	0.13102 8262	0.01919075	8.63E-12	Christophersen *et al.* 2017 (28416818)	
rs75190942	11	128764571	C	A	0.8	0.15700 3749	0.027780613	1.59E-08	Christophersen *et al.* 2017 (28416818)	
rs11047543	12	24788339	A	G	0.86	0.13102 8262	0.018704984	2.47E-12	Christophersen *et al.* 2017 (28416818)	
rs883079	12	114793240	C	T	0.7	0.10436 0015	0.013119783	1.80E-15	Christophersen *et al.* 2017 (28416818)	
rs1152591	14	64680848	G	A	0.46	0.08617 7696	0.013338096	1.04E-10	Christophersen *et al.* 2017 (28416818)	
rs74022964	15	73677264	C	T	0.17	0.11332 8685	0.016962335	2.37E-11	Christophersen *et al.* 2017 (28416818)	
rs2106261	16	73051620	C	T	0.19	0.18232 1557	0.015533156	8.18E-32	Christophersen *et al.* 2017 (28416818)	
rs13376333	1	154814353	C	T	0.23	0.12221 7633	0.017266677	1.46E-12	Christophersen *et al.* 2017 (28416818)	Removed after LD clumping
rs6843082	4	111718067	A	G	0.25	0.37156 3556	0.014000485	3.41E-155	Christophersen *et al.* 2017 (28416818)	Removed after LD clumping
rs89107	6	118578043	A	G	0.58	0.06765 8648	0.013803617	9.51E-07	Christophersen *et al.* 2017 (28416818)	Removed after LD clumping
rs3807989	7	116186241	A	G	0.58	0.08617 7696	0.015947256	6.52E-08	Christophersen *et al.* 2017 (28416818)	Removed after LD clumping
rs7915134	10	75420180	T	C	0.85	0.11332 8685	0.017740696	1.68E-10	Christophersen *et al.* 2017 (28416818)	Removed after LD clumping
rs10151658	14	64612858	A	C	0.49	0.06765 8648	0.013477105	5.16E-07	Christophersen *et al.* 2017 (28416818)	Removed after LD clumping
rs2106261	16	73051620	G	A	0.17	0.19062 036	0.021329426	4.00E-19	Christophersen *et al.* 2017 (28416818)	Removed after LD clumping

Single Nucleotide Polymorphisms (SNPs) were selected from analyses that included both European and non-European populations.

eTable 3. Single-nucleotide polymorphisms used to build the genetic risk score for stroke

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs880315	1	10796866	T	C	0.4	0.04879 0164	0.007782034	3.62E-10	Malik *et al.* 2018 (29531354)	
rs12037987	1	113042822	T	C	0.16	0.06765 8649	0.012173364	2.73E-08	Malik *et al.* 2018 (29531354)	
rs1052053	1	156202173	A	G	0.4	0.05826 8908	0.00765493	2.70E-14	Malik *et al.* 2018 (29531354)	
rs4959130	6	1356916	G	A	0.14	0.07696 1041	0.012714117	1.42E-09	Malik *et al.* 2018 (29531354)	
rs16896398	6	43262704	A	T	0.34	0.04879 0164	0.008580656	1.30E-08	Malik *et al.* 2018 (29531354)	
rs7859727	9	22102165	C	T	0.53	0.04879 0164	0.007811844	4.22E-10	Malik *et al.* 2018 (29531354)	
rs2295786	10	105616482	T	A	0.6	0.04879 0164	0.007650357	1.80E-10	Malik *et al.* 2018 (29531354)	
rs35436	12	115554523	T	C	0.62	0.04879 0164	0.008792307	2.87E-08	Malik *et al.* 2018 (29531354)	
rs9526212	13	47225745	A	G	0.76	0.05826 8908	0.009370755	5.03E-10	Malik *et al.* 2018 (29531354)	
rs12445022	16	87575332	G	A	0.31	0.05826 8908	0.009020553	1.05E-10	Malik *et al.* 2018 (29531354)	
rs8103309	19	11174935	C	T	0.65	0.04879 0164	0.008839627	3.40E-08	Malik *et al.* 2018 (29531354)	
rs12476527	2	26915624	T	G	0.48	0.04879 0164	0.009024966	6.44E-08	Malik *et al.* 2018 (29531354)	Missing in UK Biobank

Single Nucleotide Polymorphisms (SNPs) were selected from analyses that included both European and non-European populations.

eTable 4. Single-nucleotide polymorphisms used to build the genetic risk score for hypertension (based on systolic blood pressure)

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs880315	1	10796866	C	T	0.641	-0.475	0.062	2.09E-14	Ehret *et al.* 2016 (27618452)	
rs17037390	1	11860843	G	A	0.155	-0.908	0.081	5.95E-29	Ehret *et al.* 2016 (27618452)	
rs7515635	1	42408070	C	T	0.468	0.336	0.057	4.54E-09	Ehret *et al.* 2016 (27618452)	Removed after LD clumping
rs1620668	1	113023980	G	A	0.822	-0.535	0.076	1.45E-12	Ehret *et al.* 2016 (27618452)	
rs2493134	1	230849359	C	T	0.579	-0.413	0.058	9.65E-13	Ehret *et al.* 2016 (27618452)	
rs2586886	2	26932031	C	T	0.599	-0.404	0.059	5.94E-12	Ehret *et al.* 2016 (27618452)	
rs1371182	2	165099215	C	T	0.443	-0.444	0.058	1.89E-14	Ehret *et al.* 2016 (27618452)	
rs2594992	3	11360997	C	A	0.607	-0.334	0.06	2.31E-08	Ehret *et al.* 2016 (27618452)	
rs11128722	3	14958126	G	A	0.563	-0.383	0.061	4.44E-10	Ehret *et al.* 2016 (27618452)	
rs711737	3	27543655	C	A	0.604	0.334	0.058	9.93E-09	Ehret *et al.* 2016 (27618452)	
rs6442101	3	48130893	C	T	0.692	0.396	0.062	1.62E-10	Ehret *et al.* 2016 (27618452)	
rs6779380	3	169111915	C	T	0.539	-0.439	0.06	1.85E-13	Ehret *et al.* 2016 (27618452)	
rs2291435	4	38387395	C	T	0.524	-0.378	0.059	1.03E-10	Ehret *et al.* 2016 (27618452)	
rs1458038	4	81164723	C	T	0.3	0.659	0.065	5.36E-24	Ehret *et al.* 2016 (27618452)	
rs17010957	4	86719165	C	T	0.857	-0.498	0.082	1.51E-09	Ehret *et al.* 2016 (27618452)	Removed after LD clumping
rs13107325	4	103188709	C	T	0.07	-0.837	0.127	4.69E-11	Ehret *et al.* 2016 (27618452)	
rs4691707	4	156441314	G	A	0.652	-0.349	0.06	7.10E-09	Ehret *et al.* 2016	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
									(27618452)	
rs12656497	5	32831939	C	T	0.403	-0.487	0.06	3.85E-16	Ehret *et al.* 2016 (27618452)	
rs10077885	5	114390121	C	A	0.501	-0.261	0.058	5.50E-06	Ehret *et al.* 2016 (27618452)	Removed after LD clumping
rs11953630	5	157845402	C	T	0.366	-0.38	0.065	3.91E-09	Ehret *et al.* 2016 (27618452)	Removed after LD clumping
rs1799945	6	26091179	G	C	0.857	-0.598	0.086	3.28E-12	Ehret *et al.* 2016 (27618452)	
rs6919440	6	43352898	G	A	0.57	-0.337	0.058	4.92E-09	Ehret *et al.* 2016 (27618452)	Removed after LD clumping
rs1361831	6	127181089	C	T	0.541	-0.482	0.058	7.38E-17	Ehret *et al.* 2016 (27618452)	
rs2969070	7	2512545	G	A	0.639	-0.315	0.061	1.93E-07	Ehret *et al.* 2016 (27618452)	
rs3735533	7	27245893	C	T	0.081	-0.798	0.106	6.48E-14	Ehret *et al.* 2016 (27618452)	
rs12705390	7	106410777	G	A	0.227	0.619	0.069	2.69E-19	Ehret *et al.* 2016 (27618452)	
rs11556924	7	129663496	C	T	0.384	-0.336	0.062	6.05E-08	Ehret *et al.* 2016 (27618452)	
rs2898290	8	11433909	C	T	0.491	0.377	0.058	8.85E-11	Ehret *et al.* 2016 (27618452)	
rs10760117	9	123586737	G	T	0.415	0.334	0.06	2.54E-08	Ehret *et al.* 2016 (27618452)	
rs6271	9	136522274	C	T	0.072	-0.567	0.122	3.60E-06	Ehret *et al.* 2016 (27618452)	
rs12243859	10	18740632	C	T	0.326	-0.402	0.061	6.13E-11	Ehret *et al.* 2016 (27618452)	
rs7076398	10	63533663	T	A	0.188	-0.563	0.076	1.72E-13	Ehret *et al.* 2016 (27618452)	
rs12247028	10	75410052	G	A	0.611	-0.364	0.063	8.16E-09	Ehret *et al.* 2016 (27618452)	
rs932764	10	95895940	G	A	0.554	-0.495	0.059	6.88E-17	Ehret *et al.* 2016	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
									(27618452)	
rs943037	10	104835919	C	T	0.087	-1.133	0.105	2.35E-27	Ehret *et al.* 2016 (27618452)	
rs740746	10	115792787	G	A	0.73	0.486	0.067	4.59E-13	Ehret *et al.* 2016 (27618452)	
rs592373	11	1890990	G	A	0.64	0.484	0.063	2.02E-14	Ehret *et al.* 2016 (27618452)	
rs1450271	11	10356115	C	T	0.468	0.413	0.059	3.40E-12	Ehret *et al.* 2016 (27618452)	
rs1156725	11	16307700	C	T	0.804	-0.447	0.072	5.65E-10	Ehret *et al.* 2016 (27618452)	
rs7103648	11	47461783	G	A	0.614	-0.267	0.061	1.09E-05	Ehret *et al.* 2016 (27618452)	Removed after LD clumping
rs751984	11	61278246	C	T	0.879	0.341	0.088	1.11E-04	Ehret *et al.* 2016 (27618452)	
rs3741378	11	65408937	C	T	0.137	-0.486	0.084	8.04E-09	Ehret *et al.* 2016 (27618452)	
rs633185	11	100593538	G	C	0.715	0.522	0.067	6.97E-15	Ehret *et al.* 2016 (27618452)	
rs11105354	12	90026523	G	A	0.84	0.909	0.081	3.88E-29	Ehret *et al.* 2016 (27618452)	
rs3184504	12	111884608	C	T	0.475	0.498	0.062	9.97E-16	Ehret *et al.* 2016 (27618452)	
rs936226	15	75069282	C	T	0.722	-0.549	0.067	3.06E-16	Ehret *et al.* 2016 (27618452)	
rs2521501	15	91437388	T	A	0.684	-0.639	0.069	3.35E-20	Ehret *et al.* 2016 (27618452)	
rs7213273	17	43155914	G	A	0.658	-0.413	0.066	4.71E-10	Ehret *et al.* 2016 (27618452)	
rs17608766	17	45013271	C	T	0.854	-0.658	0.083	2.27E-15	Ehret *et al.* 2016 (27618452)	
rs12958173	18	42141977	C	A	0.306	0.386	0.063	1.19E-09	Ehret *et al.* 2016 (27618452)	Removed after LD clumping
rs4247374	19	7252756	C	T	0.143	-0.446	0.091	1.05E-06	Ehret *et al.* 2016 (27618452)	Removed after LD

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
										clumping
rs1327235	20	10969030	G	A	0.542	-0.395	0.059	2.23E-11	Ehret *et al.* 2016 (27618452)	
rs6026748	20	57745815	G	A	0.125	0.867	0.089	3.15E-22	Ehret *et al.* 2016 (27618452)	
rs12627651	21	44760603	G	A	0.288	0.503	0.068	1.97E-13	Ehret *et al.* 2016 (27618452)	
rs783621	1	42368035	G	A	NA	0.329	NA	4.20E-12	Hoffman *et al.* 2017 (27841878)	
rs2404715	1	57008778	T	C	NA	0.313	NA	1.60E-04	Hoffman *et al.* 2017 (27841878)	
rs60199046	1	59663341	G	A	NA	0.165	NA	2.50E-03	Hoffman *et al.* 2017 (27841878)	
rs2761436	1	207919748	T	C	NA	-0.279	NA	8.40E-09	Hoffman *et al.* 2017 (27841878)	
rs13403122	2	43078758	T	C	NA	0.29	NA	1.20E-07	Hoffman *et al.* 2017 (27841878)	
rs6434404	2	191494411	G	A	NA	0.346	NA	2.90E-10	Hoffman *et al.* 2017 (27841878)	
rs1250247	2	216299629	G	C	NA	0.252	NA	4.30E-06	Hoffman *et al.* 2017 (27841878)	
rs12630213	3	14954411	T	C	NA	0.307	NA	8.70E-10	Hoffman *et al.* 2017 (27841878)	Removed after LD clumping
rs75305034	3	133886705	C	T	NA	0.331	NA	3.40E-10	Hoffman *et al.* 2017 (27841878)	
rs2178452	3	160370160	A	G	NA	0.304	NA	1.30E-09	Hoffman *et al.* 2017 (27841878)	
rs13104866	4	38402183	A	G	NA	0.292	NA	1.20E-09	Hoffman *et al.* 2017 (27841878)	Removed after LD clumping
rs4292285	4	145271954	A	T	NA	0.25	NA	2.30E-07	Hoffman *et al.* 2017 (27841878)	
rs4475250	5	114375552	A	G	NA	0.297	NA	5.30E-10	Hoffman *et al.* 2017 (27841878)	
rs35410524	6	96885405	T	C	NA	-0.359	NA	4.00E-09	Hoffman *et al.* 2017 (27841878)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs10818775	9	125755571	T	C	NA	0.333	NA	1.50E-06	Hoffman *et al.* 2017 (27841878)	
rs34872471	10	114754071	C	T	NA	-0.257	NA	1.40E-06	Hoffman *et al.* 2017 (27841878)	
rs360158	11	9753601	A	G	NA	-0.291	NA	2.90E-09	Hoffman *et al.* 2017 (27841878)	Removed after LD clumping
rs7107356	11	47676170	G	A	NA	-0.281	NA	3.50E-09	Hoffman *et al.* 2017 (27841878)	
rs61448762	11	48923756	A	G	NA	0.439	NA	2.10E-08	Hoffman *et al.* 2017 (27841878)	Removed after LD clumping
rs7927515	11	76125330	A	C	NA	-0.249	NA	6.50E-07	Hoffman *et al.* 2017 (27841878)	
rs2289125	11	89224453	C	A	NA	-0.207	NA	2.30E-04	Hoffman *et al.* 2017 (27841878)	
rs7977389	12	49981722	C	T	NA	0.322	NA	2.00E-05	Hoffman *et al.* 2017 (27841878)	
rs10747570	12	50509937	G	A	NA	0.302	NA	1.40E-09	Hoffman *et al.* 2017 (27841878)	
rs63418562	13	30146201	T	C	NA	0.312	NA	8.90E-09	Hoffman *et al.* 2017 (27841878)	
rs3011549	13	113634937	C	A	NA	0.347	NA	3.90E-08	Hoffman *et al.* 2017 (27841878)	
rs2759308	15	81016227	A	G	NA	-0.302	NA	6.90E-10	Hoffman *et al.* 2017 (27841878)	
rs12596053	16	4946794	C	A	NA	-0.318	NA	7.40E-11	Hoffman *et al.* 2017 (27841878)	
rs35261357	16	75444572	T	C	NA	-0.184	NA	1.50E-04	Hoffman *et al.* 2017 (27841878)	
rs460105	16	89682006	C	T	NA	0.327	NA	8.10E-09	Hoffman *et al.* 2017 (27841878)	
rs12606620	18	42008097	T	G	NA	0.319	NA	5.20E-10	Hoffman *et al.* 2017 (27841878)	
rs2193635	18	43096236	T	C	NA	-0.269	NA	6.70E-06	Hoffman *et al.* 2017 (27841878)	
rs10427021	19	7259346	G	T	NA	0.375	NA	1.60E-07	Hoffman *et al.* 2017 (27841878)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs8105753	19	31927547	C	A	NA	0.298	NA	1.60E-09	Hoffman *et al.* 2017 (27841878)	
rs141216986	23	127728549	T	C	NA	0.818	NA	1.70E-08	Hoffman *et al.* 2017 (27841878)	Removed after LD clumping
rs2014912	4	86715670	C	T	0.165	0.620	0.074	5.37E-17	Kato *et al.* 2015 (26390057)	
rs13359291	5	122476457	G	A	0.273	0.534	0.066	8.88E-16	Kato *et al.* 2015 (26390057)	
rs1563788	6	43308363	C	T	0.309	0.511	0.062	2.22E-16	Kato *et al.* 2015 (26390057)	
rs2493292	1	3328659	C	T	0.151	0.37	0.07	1.40E-08	Liu *et al.* 2016 (27618448)	
rs2270860	6	43270151	C	T	0.367	0.32	0.05	2.90E-11	Liu *et al.* 2016 (27618448)	Removed after LD clumping
rs5219	11	17409572	C	T	0.32	0.32	0.05	4.90E-12	Liu *et al.* 2016 (27618448)	
rs11639856	16	24788645	T	A	0.193	-0.34	0.06	1.30E-08	Liu *et al.* 2016 (27618448)	
rs4823006	22	29451671	A	G	0.424	-0.26	0.05	7.90E-09	Liu *et al.* 2016 (27618448)	
rs35529250	4	40428091	C	T	0.0097	-15.511	NA	2.42E-08	Surendran *et al.* 2016 (27618447)	
rs1008058	5	122435627	G	A	0.1325	0.5535	NA	2.99E-10	Surendran *et al.* 2016 (27618447)	Removed after LD clumping
rs9349379	6	12903957	G	A	0.5686	0.289	NA	8.84E-10	Surendran *et al.* 2016 (27618447)	
rs4728142	7	128573967	G	A	0.4341	-0.2416	NA	3.45E-08	Surendran *et al.* 2016 (27618447)	
rs34591516	8	142367087	C	T	0.0539	0.6358	NA	6.10E-10	Surendran *et al.* 2016 (27618447)	
rs4387287	10	105677897	C	A	0.1556	0.361	NA	9.12E-10	Surendran *et al.* 2016 (27618447)	
rs11229457	11	58207203	C	T	0.2332	-0.312	NA	2.70E-08	Surendran *et al.* 2016 (27618447)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs7406910	17	46688256	C	T	0.1136	-0.4563	NA	3.80E-08	Surendran *et al.* 2016 (27618447)	
rs139385870	1	1685921	TCCCTGGGACCGAAGTCGCCCCA	T	NA	-0.31	0.07	1.00E-05	Warren *et al.* 2017 (28135244)	Missing in UK Biobank
rs3820068	1	15798197	G	A	NA	0.367	0.08	5.30E-06	Warren *et al.* 2017 (28135244)	
rs10922502	1	89360158	G	A	NA	-0.307	0.06	2.00E-06	Warren *et al.* 2017 (28135244)	
rs7562	2	28635740	C	T	NA	0.182	0.06	3.70E-03	Warren *et al.* 2017 (28135244)	
rs13420463	2	37517566	G	A	NA	0.244	0.07	7.30E-04	Warren *et al.* 2017 (28135244)	
rs55780018	2	208526140	C	T	NA	-0.36	0.07	5.10E-08	Warren *et al.* 2017 (28135244)	
rs9859176	3	134000025	C	T	NA	0.248	0.06	9.60E-05	Warren *et al.* 2017 (28135244)	Removed after LD clumping
rs13112725	4	106911742	G	C	NA	0.45	0.08	9.40E-09	Warren *et al.* 2017 (28135244)	
rs10059921	5	87514515	G	T	NA	-0.417	0.12	7.90E-04	Warren *et al.* 2017 (28135244)	
rs6595838	5	127868199	G	A	NA	0.236	0.07	4.50E-04	Warren *et al.* 2017 (28135244)	
rs6911827	6	22130601	C	T	NA	0.19	0.06	2.10E-03	Warren *et al.* 2017 (28135244)	
rs78648104	6	50683009	C	T	NA	-0.329	0.11	4.00E-03	Warren *et al.* 2017 (28135244)	
rs13238550	7	131059056	G	A	NA	0.212	0.06	7.10E-04	Warren *et al.* 2017 (28135244)	
rs1011018	7	139463264	G	A	NA	-0.244	0.08	1.60E-03	Warren *et al.* 2017 (28135244)	Missing in UK Biobank
rs894344	8	135612745	G	A	NA	-0.163	0.06	8.20E-03	Warren *et al.* 2017 (28135244)	
rs112184198	10	102604514	G	A	NA	-0.532	0.1	1.30E-07	Warren *et al.* 2017 (28135244)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs6487543	12	26438189	G	A	NA	0.279	0.06	2.10E-06	Warren *et al.* 2017 (28135244)	
rs9549328	13	113636156	C	T	NA	0.218	0.08	3.90E-03	Warren *et al.* 2017 (28135244)	Removed after LD clumping
rs9888615	14	53377540	C	T	NA	-0.236	0.07	4.30E-04	Warren *et al.* 2017 (28135244)	
rs8016306	14	63928546	G	A	NA	0.25	0.07	7.90E-04	Warren *et al.* 2017 (28135244)	
rs35199222	15	81013037	G	A	NA	0.298	0.06	1.70E-06	Warren *et al.* 2017 (28135244)	Removed after LD clumping
rs11643209	16	75331044	G	T	NA	-0.222	0.06	6.30E-04	Warren *et al.* 2017 (28135244)	Removed after LD clumping
rs12941318	17	1333598	C	T	NA	-0.226	0.07	6.90E-04	Warren *et al.* 2017 (28135244)	
rs2467099	17	73949045	C	T	NA	-0.216	0.07	3.60E-03	Warren *et al.* 2017 (28135244)	

For Single Nucleotide Polymorphisms (SNPs) found by Ehret *et al.* the Beta, standard error and *P* value from the Stage 4 meta-analysis for the novel loci, rather than the results that include UK Biobank data were used. For SNPs found by Hoffman *et al.* we used betas, standard error and *P* value from the GRA+ICBP cohort if the SNP had a *P* value<$5E^{-8}$. For SNPs found by Warren *et al.* we used the Beta, standard error and *P* values that did not include UK Biobank data, but which were found in the combined GWAS with a *P* value < $5E^{-8}$. SNPs found by Hoffman *et al.*, Surendran *et al,* Kato *et al.*, and Liu *et al.* include SNPs from analyses that included both European and non-European populations.

eTable 5. Single-nucleotide polymorphisms used to build the genetic risk score for type 2 diabetes

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs340874	1	214159256	T	C	0.52	0.06765 8648	0.010980642	7.20E-10	Dupuis *et al.* 2010 (20081858)	
rs780094	2	27741237	T	C	0.62	0.05826 8908	0.009603609	1.30E-09	Dupuis *et al.* 2010 (20081858)	
rs11708067	3	123065778	G	A	0.78	0.11332 8685	0.012137449	9.90E-21	Dupuis *et al.* 2010 (20081858)	
rs2191349	7	15064309	G	T	0.52	0.05826 8908	0.010196602	1.10E-08	Dupuis *et al.* 2010 (20081858)	
rs13266634	8	118184783	T	C	0.29	0.13976 1942	0.024686104	1.50E-08	Dupuis *et al.* 2010 (20081858)	
rs7903146	10	114758349	C	T	0.31	0.33647 2237	0.022312808	2.20E-51	Dupuis *et al.* 2010 (20081858)	
rs10830963	11	92708710	C	G	0.3	0.08617 7696	0.012034049	8.00E-13	Dupuis *et al.* 2010 (20081858)	Removed after LD clumping
rs13389219	2	165528876	T	C	0.6	0.06765 8648	0.01180629	1.00E-08	Morris *et al.* 2012 (22885922)	
rs459193	5	55806751	A	G	0.7	0.07696 1041	0.013230917	6.00E-09	Morris *et al.* 2012 (22885922)	
rs516946	8	41519248	T	C	0.76	0.08617 7696	0.013620661	2.50E-10	Morris *et al.* 2012 (22885922)	
rs2796441	9	84308948	A	G	0.57	0.06765 8648	0.0115966	5.40E-09	Morris *et al.* 2012 (22885922)	
rs12571751	10	80942631	G	A	0.52	0.07696 1041	0.011900669	1.00E-10	Morris *et al.* 2012 (22885922)	
rs10842994	12	27965150	T	C	0.8	0.09531 018	0.015402856	6.10E-10	Morris *et al.* 2012 (22885922)	
rs7177055	15	77832762	G	A	0.68	0.07696 1041	0.013130972	4.60E-09	Morris *et al.* 2012 (22885922)	
rs7202877	16	75247245	G	T	0.89	0.11332 8685	0.020551461	3.50E-08	Morris *et al.* 2012 (22885922)	
rs12970134	18	57884750	G	A	0.27	0.07696 1041	0.013502586	1.20E-08	Morris *et al.* 2012 (22885922)	
rs10401969	19	19407718	T	C	0.08	0.12221 7633	0.021105029	7.00E-09	Morris *et al.* 2012 (22885922)	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
rs243021	2	60584819	G	A	0.46	0.07696 1041	0.009747906	2.90E-15	Voight *et al.* 2011 (20581827)	
rs7578326	2	227020653	G	A	0.64	0.10436 0015	0.011398349	5.40E-20	Voight *et al.* 2011 (20581827)	
rs4457053	5	76424949	A	G	0.26	0.07696 1041	0.011014239	2.80E-12	Voight *et al.* 2011 (20581827)	
rs972283	7	130466854	A	G	0.55	0.06765 8648	0.010660466	2.20E-10	Voight *et al.* 2011 (20581827)	
rs896854	8	95960511	C	T	0.48	0.05826 8908	0.009535064	9.90E-10	Voight *et al.* 2011 (20581827)	
rs13292136	9	81952128	T	C	0.93	0.10436 0015	0.018791744	2.80E-08	Voight *et al.* 2011 (20581827)	
rs231362	11	2691471	A	G	0.52	0.07696 1041	0.010537295	2.80E-13	Voight *et al.* 2011 (20581827)	
rs1552224	11	72433098	C	A	0.88	0.13102 8262	0.013400364	1.40E-22	Voight *et al.* 2011 (20581827)	
rs1387153	11	92673828	C	T	0.28	0.08617 7696	0.011089957	7.80E-15	Voight *et al.* 2011 (20581827)	
rs1531343	12	66174894	G	C	0.1	0.09531 018	0.016149897	3.60E-09	Voight *et al.* 2011 (20581827)	
rs7957197	12	121460686	A	T	0.85	0.06765 8648	0.01212439	2.40E-08	Voight *et al.* 2011 (20581827)	
rs11634397	15	80432222	A	G	0.6	0.05826 8908	0.009763358	2.40E-09	Voight *et al.* 2011 (20581827)	
rs8042680	15	91521337	C	A	0.22	0.06765 8648	0.010683031	2.40E-10	Voight *et al.* 2011 (20581827)	
rs10923931	1	120517959	G	T	0.106	0.12221 7633	0.022276108	4.10E-08	Zeggini *et al.* 2008 (18372903)	
rs7578597	2	43732823	C	T	0.902	0.13976 1942	0.022933676	1.10E-09	Zeggini *et al.* 2008 (18372903)	
rs17036101	3	12277845	A	G	0.927	0.13976 1942	0.026880721	2.00E-07	Zeggini *et al.* 2008 (18372903)	
rs4607103	3	64711904	T	C	0.761	0.08617 7696	0.01511962	1.20E-08	Zeggini *et al.* 2008 (18372903)	
rs9472138	6	43811762	C	T	0.282	0.05826 8908	0.012635887	4.00E-06	Zeggini *et al.* 2008 (18372903)	
rs864745	7	28180556	C	T	0.501	0.09531	0.01265417	5.00E-14	Zeggini *et al.* 2008	

SNP rsID	Chr.	hg19 position	NEFAL	EFAL	EF Frequency	Beta	Standard Error	*P* value	Study, year (PMID)	Comment
						018			(18372903)	
rs12779790	10	12328010	A	G	0.183	0.10436 0015	0.016206651	1.20E-10	Zeggini *et al.* 2008 (18372903)	
rs1153188	12	55098996	T	A	0.733	0.07696 1041	0.014746634	1.80E-07	Zeggini *et al.* 2008 (18372903)	
rs7961581	12	71663102	T	C	0.269	0.08617 7696	0.014140984	1.10E-09	Zeggini *et al.* 2008 (18372903)	
rs2641348	1	120437884	A	G	0.107	0.09531 018	0.018802717	4.00E-07	Zeggini *et al.* 2008 (18372903)	Removed after LD clumping
rs10490072	2	60669931	C	T	0.724	0.04879 0164	0.012540551	1.00E-04	Zeggini *et al.* 2008 (18372903)	Removed after LD clumping

Single Nucleotide Polymorphisms (SNPs) were selected from analyses that included European ancestry populations, except those found by Morris *et al.* which included both European and non-European populations.

eTable 6. Diet component definitions used in the UK Biobank study

Diet component	Intake goal	Field IDs	Amount per serving
Fruit	3 servings/day	1309 (pieces fresh fruit/day) 1319 (pieces dried fruit/day)	1309 – 1 piece 1319 – 5 pieces
Vegetable	3 servings/day	1289 (tablespoons cooked vegetables/day) 1299 (salad/raw vegetables/day)	3 heaped tablespoons
Whole grains	3 servings/day	1438, 1448 (wholemeal/wholegrain bread slices/week) 1458, 1468 (bran/oat/muesli cereal bowls/week)	1438/1448 – 1 slice/day 1458/1468 – 1 bowl/day
(Shell)fish	≥2 servings/week	1329 (oily fish/week) 1339 (non-oily fish/week)	Once/week
Dairy	2 servings/day	1408 (cheese/week) 1418 (milk type)	1408 – 1 piece/day 1418 – 1 glass/day if consumption of any type of milk
Vegetable oils	2 servings/day	1428 (Flora Pro-Active/Benecol spread) 2654 (Flora Pro-Active/Benecol, soft margarine -, olive oil based -, polyunsaturated/sunflower oil based -, other low/reduced fat spread) 1438 (bread slices/week)	1 serving/day if in combination with eating at least 2 slices of bread (ID 1438)
Refined grains	≤2 servings/day	1438, 1448 (white, brown, other bread slices/week) 1458, 1468 (biscuit, other cereals/week)	1438/1448 – 1 slice/day 1458/1468 – 1 bowl/day
Processed meats	≤1 serving/week	1349 (processed meat/week or daily) 3680 (age when last ate meat)	1349 – 1 piece/day 3680 – 0 pieces/day if indicated having never eaten meat
Unprocessed meats	≤2 serving/wk	1359 (poultry/week or day) 1369 (beef/week or day) 1379 (lamb or mutton/week or day) 1389 (pork/week or day) 3680 (age when last ate meat)	1359-1389 – once/week 3680 – 0 pieces/day if indicated having never eaten meat
Sugar-sweetened beverages	Don't drink	6144 (never consumes drinks containing sugar)	Only 0 servings were possible here.

Field IDs and serving sizes used per diet component in UK Biobank with available data from the general baseline questionnaire. If participants achieved the intake goal they were considered to have an adequate intake of the diet component. Adequate intake of at least half of all diet components was considered as an ideal diet, less than half was considered a poor diet.

eTable 7. Disease definitions used in the UK Biobank study

Variable	ICD-9	ICD-10	OPCS-4	Self-reported fields
Coronary Artery Disease	410, 412, 414	I21-25, Z951, Z955	K40-K46, K49, K50, K75	6150(1), 3894, 20004(1070, 1095, 1523)
Atrial Fibrillation	4273	I48	K621-K623	20002(1471, 1483)
Stroke	3361, 36231, 36232, 430, 431, 4329, 43301, 43311, 43321, 43331, 43381, 43391, 434, 436	I60, I61, I629, I63, I64, I678, I690, I693, G951, H341, H342, S066	A052-A054, L351, L353, L343	6150(3), 4056, 20002(1081, 1491, 1583, 1086)
Hypertension	401-405	I10-I13, I15, O10		2966, 6150(4), 6153(2), 6177(2), 20002(1065, 1072)
Diabetes Mellitus Type 2	250	E10-E14		2443(1), 2976, 6153(3), 6177(3), 20002(1220, 1222, 1223)

Variable definitions constructed using ICD-9, ICD-10 and OPCS-4 codes as well as self-reported data fields with choice-, disease- or procedure-specific codes between brackets are shown. Abbreviations: ICD, International Classification of Diseases; OPCS, Office of Population, Censuses and Surveys: Classification of interventions and Procedures

eTable 8. Baseline characteristics per lifestyle category and genetic risk group of coronary artery disease

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)
N total	13,648	49,079	3,264	40,632	145,208	9,869	13,113	47,144	3,176
Age, y	56.16±8.11	56.95±7.96	56.57±7.77	56.07±8.13	56.85±7.96	56.15±7.82	55.95±8.08	56.62±7.98	55.83±7.75
Female	8,795 (64.4)	25,279 (51.5)	1,789 (54.8)	26,479 (65.2)	75,261 (51.8)	5,467 (55.4)	8,572 (65.4)	25,047 (53.1)	1,806 (56.9)
Systolic blood pressure, mm Hg	128.9±17.6	134.2±17.7	135.2±17.5	129.5±18.0	134.7±17.8	135.6±17.5	130.1±17.9	135.1±17.9	136.1±17.9
Diastolic blood pressure, mm Hg	79.4±8.2	82.7±8.5	84.2±8.6	79.6±8.3	82.8±8.4	84.5±8.4	79.8±8.2	83.0±8.5	84.7±8.6
Smoking									
Ideal (never or stopped >1 year ago)	12,462 (91.3)	23,340 (47.6)	881 (27.0)	37,174 (91.5)	69,286 (47.7)	2,541 (25.7)	12,009 (91.6)	22,392 (47.5)	821 (25.9)
Intermediate (stopped <1 year ago)	980 (7.2)	21,220 (43.2)	647 (19.8)	2904 (7.1)	62,531 (43.1)	1,887 (19.1)	894 (6.8)	20,364 (43.2)	656 (20.7)
Poor (current smoker)	206 (1.5)	4,519 (9.2)	1,736 (53.2)	554 (1.4)	13,391 (9.2)	5,441 (55.1)	210 (1.6)	4388 (9.3)	1,699 (53.5)
Body Mass Index, kg/m^2	23.73±3.00	27.96±4.33	33.17±5.34	23.76±3.02	27.97±4.35	33.10±5.26	23.77±3.00	27.99±4.34	33.27±5.27
Ideal (18.5 – 24.9)	11,588 (84.9)	10,390 (21.2)	214 (6.6)	34,377 (84.6)	30,495 (21.0)	641 (6.5)	11,168 (85.2)	9902 (21.0)	191 (6.0)
Intermediate (25 - 29.9)	1,494 (10.9)	26,651 (54.3)	251 (7.7)	4,435 (10.9)	78,738 (54.2)	831 (8.4)	1,361 (10.4)	25,480 (54.0)	256 (8.1)
Poor (≥30)	566 (4.1)	12,038 (24.5)	2,799 (85.8)	1,820 (4.5)	35,975 (24.8)	8,397 (85.1)	584 (4.5)	11,762 (24.9)	2,729 (85.9)
Physical activity									
Ideal (regular physical activity)	13,261 (97.2)	31,036 (63.2)	627 (19.2)	39,436 (97.1)	91,678 (63.1)	2,006 (20.3)	12,746 (97.2)	29,709 (63.0)	596 (18.8)
Intermediate (some physical activity)	319 (2.3)	15,619 (31.8)	413 (12.7)	1,015 (2.5)	46,248 (31.8)	1,234 (12.5)	318 (2.4)	15,028 (31.9)	413 (13.0)
Poor (no regular physical activity)	68 (0.5)	2,424 (4.9)	2,224 (68.1)	181 (0.4)	7,282 (5.0)	6,629 (67.2)	49 (0.4)	2,407 (5.1)	2,167 (68.2)
Diet									
Ideal	5,402 (39.6)	3,720 (7.6)	27 (0.8)	16,134 (39.7)	11,029 (7.6)	56 (0.6)	5,084 (38.8)	3,749 (8.0)	20 (0.6)

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**
Poor	8,246 (60.4)	45,359 (92.4)	3,237 (99.2)	24,498 (60.3)	134,179 (92.4)	9,813 (99.4)	8,029 (61.2)	43,395 (92.0)	3,156 (99.4)
Years in education	15.96±4.56	14.68±4.79	12.41±4.69	15.91±4.56	14.67±4.77	12.46±4.67	15.94±4.55	14.68±4.77	12.52±4.73
Income, £									
<18,000	1,923 (14.1)	9,041 (18.4)	951 (29.1)	5,978 (14.7)	26,658 (18.4)	3,091 (31.3)	1,889 (14.4)	8,620 (18.3)	950 (29.9)
18,000 – 30,999	2,929 (21.5)	11,102 (22.6)	711 (21.8)	8,556 (21.1)	32,562 (22.4)	2,029 (20.6)	2,809 (21.4)	10,636 (22.6)	677 (21.3)
31,000 – 51,999	3,183 (23.3)	11,323 (23.1)	573 (17.6)	9,774 (24.1)	33,956 (23.4)	1,726 (17.5)	3,176 (24.2)	11,176 (23.7)	542 (17.1)
52,000 – 100,000	2,903 (21.3)	8,844 (18.0)	329 (10.1)	8,447 (20.8)	26,387 (18.2)	1,011 (10.2)	2,758 (21.0)	8,486 (18.0)	315 (9.9)
>100,000	895 (6.6)	2,240 (4.6)	53 (1.6)	2,580 (6.3)	6,544 (4.5)	197 (2.0)	796 (6.1)	2,143 (4.5)	54 (1.7)
Unknown	1,815 (13.3)	6,529 (13.3)	647 (19.8)	5,297 (13.0)	19,101 (13.2)	1,815 (18.4)	1,685 (12.8)	6,083 (12.9)	638 (20.1)

Lifestyle was defined as ideal if 3 or more ideal lifestyle factors were present, poor if 3 or more poor lifestyle factors were present, or as intermediate (all other combinations. Ideal diet was defined as adequate intake of at least 5 dietary components. Poor diet was defined as inadequate intake of at least 5 dietary components.

eTable 9. Baseline characteristics per lifestyle category and genetic risk group of atrial fibrillation

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)
N total	13,496	49,804	3,466	41,154	150,668	10,527	13,302	47,830	3,390
Age, y	56.21±8.15	56.99±8.01	56.39±7.65	56.08±8.10	57.00±7.94	56.40±7.81	56.14±8.17	56.91±7.96	56.56±7.85
Female	8,729 (64.7)	25,347 (50.9)	1,864 (53.8)	26,657 (64.8)	76,880 (51.0)	5,622 (53.4)	8,575 (64.5)	24,610 (51.5)	1,870 (55.2)
Systolic blood pressure, mm Hg	129.7±18.1	134.9±17.8	135.7±17.3	129.6±17.8	134.8±17.8	135.5±17.6	129.4±18.1	134.5±17.7	135.6±17.9
Diastolic blood pressure, mm Hg	79.6±8.3	82.8±8.5	84.3±8.5	79.6±8.2	82.7±8.4	84.1±8.6	79.5±8.3	82.6±8.4	84.1±8.7
Smoking									
Ideal (never or stopped >1 year ago)	12,365 (91.6)	23,532 (47.2)	883 (25.5)	37,592 (91.3)	70,889 (47.0)	2,670 (25.4)	12,172 (91.5)	22,447 (46.9)	828 (24.4)
Intermediate (stopped <1 year ago)	927 (6.9)	21,747 (43.7)	732 (21.1)	2,977 (7.2)	65,931 (43.8)	2,123 (20.2)	941 (7.1)	20,770 (43.4)	694 (20.5)
Poor (current smoker)	204 (1.5)	4,525 (9.1)	1,851 (53.4)	585 (1.4)	13,848 (9.2)	5,734 (54.5)	189 (1.4)	4,613 (9.6)	1,868 (55.1)
Body Mass Index, kg/m^2	23.79±3.06	28.04±4.36	33.20±5.25	23.78±3.04	28.02±4.34	33.20±5.31	23.72±2.94	27.97±4.33	32.93±5.22
Ideal (18.5 – 24.9)	11,370 (84.2)	10,215 (20.5)	214 (6.2)	34,821 (84.6)	31,224 (20.7)	678 (6.4)	11,303 (85.0)	10,079 (21.1)	226 (6.7)
Intermediate (25 - 29.9)	1,497 (11.1)	27,116 (54.4)	286 (8.3)	4,470 (10.9)	81,459 (54.1)	849 (8.1)	1,454 (10.9)	25,946 (54.2)	308 (9.1)
Poor (≥30)	629 (4.7)	12,473 (25.0)	2,966 (85.6)	1,863 (4.5)	37,985 (25.2)	9,000 (85.5)	545 (4.1)	11,805 (24.7)	2,856 (84.2)
Physical activity									
Ideal (regular physical activity)	13,137 (97.3)	31,328 (62.9)	682 (19.7)	39,903 (97.0)	95,255 (63.2)	2,054 (19.5)	12,946 (97.3)	30,064 (62.9)	648 (19.1)
Intermediate (some physical activity)	309 (2.3)	15,918 (32.0)	424 (12.2)	1,055 (2.6)	47,819 (31.7)	1,347 (12.8)	304 (2.3)	15,347 (32.1)	421 (12.4)
Poor (no regular physical activity)	50 (0.4)	2,558 (5.1)	2,360 (68.1)	196 (0.5)	7,594 (5.0)	7,126 (67.7)	52 (0.4)	2,419 (5.1)	2,321 (68.5)
Diet									
Ideal	5,356 (39.7)	3,941 (7.9)	27 (0.8)	16,377 (39.8)	11,701 (7.8)	60 (0.6)	5,244 (39.4)	3,671 (7.7)	27 (0.8)

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**
Poor	8,140 (60.3)	45,863 (92.1)	3,439 (99.2)	24,777 (60.2)	138,967 (92.2)	10,467 (99.4)	8,058 (60.6)	44,159 (92.3)	3,363 (99.2)
Years in education	15.94±4.57	14.64±4.80	12.53±4.67	15.89±4.57	14.61±4.79	12.34±4.70	15.95±4.57	14.60±4.79	12.25±4.67
Income, £									
<18,000	2,062 (15.3)	9,318 (18.7)	1,076 (31.0)	5,972 (14.5)	28,497 (18.9)	3,349 (31.8)	1,930 (14.5)	8,997 (18.8)	1,090 (32.2)
18,000 – 30,999	2,859 (21.2)	11,264 (22.6)	742 (21.4)	8,772 (21.3)	33,987 (22.6)	2,162 (20.5)	2,809 (21.1)	10,783 (22.5)	704 (20.8)
31,000 – 51,999	3,152 (23.4)	11,445 (23.0)	573 (16.5)	9,862 (24.0)	34,956 (23.2)	1,791 (17.0)	3,174 (23.9)	11,090 (23.2)	574 (16.9)
52,000 – 100,000	2,795 (20.7)	8,947 (18.0)	355 (10.2)	8,605 (20.9)	26,751 (17.8)	1,039 (9.9)	2,776 (20.9)	8,537 (17.8)	298 (8.8)
>100,000	864 (6.4)	2,202 (4.4)	65 (1.9)	2,564 (6.2)	6,667 (4.4)	178 (1.7)	853 (6.4)	2,111 (4.4)	75 (2.2)
Unknown	1,764 (13.1)	6,628 (13.3)	655 (18.9)	5,379 (13.1)	19,810 (13.1)	2,008 (19.1)	1,760 (13.2)	6,312 (13.2)	649 (19.1)

Lifestyle was defined as ideal if 3 or more ideal lifestyle factors were present, poor if 3 or more poor lifestyle factors were present, or as intermediate (all other combinations. Ideal diet was defined as adequate intake of at least 5 dietary components. Poor diet was defined as inadequate intake of at least 5 dietary components.

eTable 10. Baseline characteristics per lifestyle category and genetic risk group of stroke

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)
N total	15,135	55,864	3,839	39,126	142,751	9,803	13,727	49,325	3,401
Age, y	56.21±8.17	57.01±7.94	56.42±7.93	56.12±8.12	57.01±7.96	56.43±7.78	56.08±8.11	56.95±7.99	56.38±7.77
Female	9,744 (64.4)	28,285 (50.6)	2,055 (53.5)	25,247 (64.5)	72,675 (50.9)	5,240 (53.5)	8,873 (64.6)	25,235 (51.2)	1,852 (54.5)
Systolic blood pressure, mm Hg	129.4±17.9	134.5±17.7	135.2±17.5	129.6±17.9	134.7±17.8	135.5±17.5	129.6±17.9	135.0±17.9	135.6±17.9
Diastolic blood pressure, mm Hg	79.5±8.1	82.7±8.4	84.1±8.6	79.6±8.3	82.7±8.45	84.2±8.6	79.6±8.3	82.8±8.5	84.1±8.7
Smoking									
Ideal (never or stopped >1 year ago)	13,835 (91.4)	26,422 (47.3)	928 (24.2)	35,751 (91.4)	67,181 (47.1)	2,528 (25.8)	12,586 (91.7)	23,236 (47.1)	876 (25.8)
Intermediate (stopped <1 year ago)	1,083 (7.2)	24,426 (43.7)	798 (20.8)	2,813 (7.2)	62,433 (43.7)	2,032 (20.7)	952 (6.9)	21,520 (43.6)	680 (20.0)
Poor (current smoker)	217 (1.4)	5,016 (9.0)	2,113 (55.0)	562 (1.4)	13,137 (9.2)	5,243 (53.5)	189 (1.4)	4,569 (9.3)	1,845 (54.2)
Body Mass Index, kg/m^2	23.78±3.07	28.04±4.33	33.09±5.12	23.78±3.01	28.01±4.35	33.23±5.28	23.76±3.03	28.00±4.36	33.24±5.44
Ideal (18.5 – 24.9)	12,833 (84.8)	11,392 (20.4)	251 (6.5)	33,060 (84.5)	29,716 (20.8)	611 (6.2)	11,631 (84.7)	10,258 (20.8)	206 (6.1)
Intermediate (25 - 29.9)	1,633 (10.8)	30,380 (54.4)	296 (7.7)	4,318 (11.0)	77,198 (54.1)	764 (7.8)	1,483 (10.8)	26,753 (54.2)	314 (9.2)
Poor (≥30)	669 (4.4)	14,092 (25.2)	3,292 (85.8)	1,748 (4.5)	35,837 (25.1)	8,428 (86.0)	613 (4.5)	12,314 (25.0)	2,881 (84.7)
Physical activity									
Ideal (regular physical activity)	14,692 (97.1)	35,274 (63.1)	787 (20.5)	38,020 (97.2)	90,193 (63.2)	1,898 (19.4)	13,312 (97.0)	31,197 (63.2)	659 (19.4)
Intermediate (some physical activity)	387 (2.6)	17,723 (31.7)	491 (12.8)	928 (2.4)	45,401 (31.8)	1,237 (12.6)	348 (2.5)	15,730 (31.9)	430 (12.6)
Poor (no regular physical activity)	56 (0.4)	2,867 (5.1)	2,561 (66.7)	178 (0.5)	7,157 (5.0)	6,668 (68.0)	67 (0.5)	2,398 (4.9)	2,312 (68.0)
Diet									
Ideal	5,973 (39.5)	4,389 (7.9)	22 (0.6)	15,580 (39.8)	10,940 (7.7)	64 (0.7)	5,435 (39.6)	3,940 (8.0)	23 (0.7)

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**
Poor	9,162 (60.5)	51,475 (92.1)	3,817 (99.4)	23,546 (60.2)	131,811 (92.3)	9,739 (99.3)	8,292 (60.4)	45,385 (92.0)	3,378 (99.3)
Years in education	15.91±4.56	14.60±4.78	12.34±4.73	15.93±4.56	14.64±4.79	12.38±4.68	15.89±4.58	14.64±4.79	12.47±4.65
Income, £									
<18,000	2,279 (15.1)	10,346 (18.5)	1,198 (31.2)	5,647 (14.4)	26,799 (18.8)	3,049 (31.1)	1,998 (14.6)	9,221 (18.7)	1,078 (31.7)
18,000 – 30,999	3,222 (21.3)	12,482 (22.3)	823 (21.4)	8,294 (21.2)	32,371 (22.7)	2,056 (21.0)	2,937 (21.4)	11,134 (22.6)	696 (20.5)
31,000 – 51,999	3,615 (23.9)	12,997 (23.3)	653 (17.0)	9,374 (24.0)	33,128 (23.2)	1,639 (16.7)	3,253 (23.7)	11,451 (23.2)	625 (18.4)
52,000 – 100,000	3,113 (20.6)	10,066 (18.0)	365 (9.5)	8,196 (20.9)	25,474 (17.8)	1,004 (10.2)	2,874 (20.9)	8,786 (17.8)	313 (9.2)
>100,000	892 (5.9)	2,482 (4.4)	72 (1.9)	2,495 (6.4)	6,359 (4.5)	180 (1.8)	908 (6.6)	2,195 (4.5)	65 (1.9)
Unknown	2,014 (13.3)	7,491 (13.4)	728 (19.0)	5,120 (13.1)	18,620 (13.0)	1,875 (19.1)	1,757 (12.8)	6,538 (13.3)	624 (18.3)

Lifestyle was defined as ideal if 3 or more ideal lifestyle factors were present, poor if 3 or more poor lifestyle factors were present, or as intermediate (all other combinations. Ideal diet was defined as adequate intake of at least 5 dietary components. Poor diet was defined as inadequate intake of at least 5 dietary components.

eTable 11. Baseline characteristics per lifestyle category and genetic risk group of hypertension

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)	Mean±SD or No. (%)
N total	11,323	36,193	2,046	33,583	102,563	5,607	10,666	31,045	1,625
Age, y	55.54±8.09	55.95±8.04	54.82±7.92	55.26±8.14	55.66±8.06	54.62±7.86	54.97±8.11	55.28±8.09	54.25±7.89
Female	7,369 (65.1)	19,385 (53.6)	1,186 (58.0)	22,040 (65.6)	55,151 (53.8)	3,205 (57.2)	7,011 (65.7)	16,804 (54.1)	938 (57.7)
Systolic blood pressure, mm Hg	124.4±16.3	129.3±16.6	130.5±16.8	127.0±16.7	131.5±16.9	132.4±17.0	129.3±16.9	133.6±17.2	134.1±16.9
Diastolic blood pressure, mm Hg	77.6±7.7	80.7±8.0	82.8±8.1	78.6±7.7	81.7±8.1	83.5±8.1	79.7±7.9	82.6±8.2	84.5±8.4
Smoking									
Ideal (never or stopped >1 year ago)	10,372 (91.6)	17,580 (48.6)	459 (22.4)	30,711 (91.4)	48,963 (47.7)	1,236 (22.0)	9,748 (91.4)	14,858 (47.9)	348 (21.4)
Intermediate (stopped <1 year ago)	783 (6.9)	15,010 (41.5)	372 (18.2)	2,385 (7.1)	42,972 (41.9)	859 (15.3)	760 (7.1)	12,815 (41.3)	264 (16.2)
Poor (current smoker)	168 (1.5)	3,603 (10.0)	1,215 (59.4)	487 (1.5)	10,628 (10.4)	3,512 (62.6)	158 (1.5)	3,372 (10.9)	1,013 (62.3)
Body Mass Index, kg/m^2	23.56±2.69	27.55±4.07	32.49±4.98	23.48±2.66	27.34±3.96	32.19±5.01	23.39±2.63	27.16±3.89	32.11±5.13
Ideal (18.5 – 24.9)	9,854 (87.0)	8,422 (23.3)	150 (7.3)	29,348 (87.4)	25,254 (24.6)	504 (9.0)	9,439 (88.5)	8,063 (26.0)	152 (9.4)
Intermediate (25 - 29.9)	1,111 (9.8)	20,110 (55.6)	192 (9.4)	3,265 (9.7)	57,198 (55.8)	556 (9.9)	941 (8.8)	17,285 (55.7)	161 (9.9)
Poor (≥30)	358 (3.2)	7,661 (21.2)	1,704 (83.3)	970 (2.9)	20,111 (19.6)	4,547 (81.1)	286 (2.7)	5,697 (18.4)	1,312 (80.7)
Physical activity									
Ideal (regular physical activity)	10,960 (96.8)	23,004 (63.6)	443 (21.7)	32,643 (97.2)	65,591 (64.0)	1,298 (23.1)	10,384 (97.4)	19,959 (64.3)	346 (21.3)
Intermediate (some physical activity)	313 (2.8)	11,434 (31.6)	280 (13.7)	797 (2.4)	32,121 (31.3)	754 (13.4)	240 (2.3)	9,701 (31.2)	229 (14.1)
Poor (no regular physical activity)	50 (0.4)	1,755 (4.8)	1,323 (64.7)	143 (0.4)	4,851 (4.7)	3,555 (63.4)	42 (0.4)	1,385 (4.5)	1,050 (64.6)
Diet									
Ideal	4,267 (37.7)	2,535 (7.0)	11 (0.5)	12,514 (37.3)	7,025 (6.8)	34 (0.6)	3,835 (36.0)	2,076 (6.7)	11 (0.7)

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**
Poor	7,056 (62.3)	33,658 (93.0)	2,035 (99.5)	21,069 (62.7)	95,538 (93.2)	5,573 (99.4)	6,831 (64.0)	28,969 (93.3)	1,614 (99.3)
Years in education	16.10±4.49	14.94±4.72	12.86±4.63	16.09±4.46	14.94±4.68	12.70±4.62	16.16±4.44	14.98±4.67	12.64±4.72
Income, £									
<18,000	1,573 (13.9)	6,009 (16.6)	576 (28.2)	4,460 (13.3)	16,645 (16.2)	1,571 (28.0)	1,387 (13.0)	4,993 (16.1)	452 (27.8)
18,000 – 30,999	2,314 (20.4)	7,884 (21.8)	426 (20.8)	6,894 (20.5)	22,262 (21.7)	1,204 (21.5)	2,175 (20.4)	6,649 (21.4)	348 (21.4)
31,000 – 51,999	2,711 (23.9)	8,689 (24.0)	371 (18.1)	8,295 (24.7)	24,991 (24.4)	1,076 (19.2)	2,602 (24.4)	7,636 (24.6)	296 (18.2)
52,000 – 100,000	2,559 (22.6)	7,120 (19.7)	258 (12.6)	7,416 (22.1)	20,599 (20.1)	632 (11.3)	2,421 (22.7)	6,356 (20.5)	189 (11.6)
>100,000	775 (6.8)	1,905 (5.3)	46 (2.2)	2,272 (6.8)	5,163 (5.0)	118 (2.1)	767 (7.2)	1,611 (5.2)	37 (2.3)
Unknown	1,391 (12.3)	4,586 (12.7)	369 (18.0)	4,246 (12.6)	12,903 (12.6)	1,006 (17.9)	1,314 (12.3)	3,800 (12.2)	303 (18.6)

Lifestyle was defined as ideal if 3 or more ideal lifestyle factors were present, poor if 3 or more poor lifestyle factors were present, or as intermediate (all other combinations. Ideal diet was defined as adequate intake of at least 5 dietary components. Poor diet was defined as inadequate intake of at least 5 dietary components.

eTable 12. Baseline characteristics per lifestyle category and genetic risk group of type 2 diabetes

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	**Intermediate lifestyle**	**Poor lifestyle**	**Ideal lifestyle**	**Intermediate lifestyle**	**Poor lifestyle**	**Ideal lifestyle**	**Intermediate lifestyle**	**Poor lifestyle**
Characteristics	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**
N total	14,074	50,521	3,439	40,339	144,261	9,339	12,609	44,670	2,762
Age, y	56.13±8.15	56.98±7.95	56.16±7.89	56.09±8.13	56.91±7.97	56.32±7.80	56.10±8.09	56.77±8.00	55.84±7.87
Female	9,039 (64.2)	25,681 (50.8)	1,917 (55.7)	26,127 (64.8)	74,391 (51.6)	5,080 (54.4)	8,218 (65.2)	23,165 (51.9)	1,512 (54.7)
Systolic blood pressure, mm Hg	129.5±17.9	134.5±17.9	134.9±17.5	129.4±17.9	134.6±17.8	135.7±17.7	129.5±17.8	134.7±17.9	135.2±17.7
Diastolic blood pressure, mm Hg	79.6±8.3	82.8±8.5	84.3±8.4	79.6±8.2	82.8±8.4	84.5±8.6	79.6±8.2	82.8±8.5	84.5±8.6
Smoking									
Ideal (never or stopped >1 year ago)	12,855 (91.3)	23,686 (46.9)	887 (25.8)	36,895 (91.5)	68,493 (47.5)	2,303 (24.7)	11,524 (91.4)	21,116 (47.3)	680 (24.6)
Intermediate (stopped <1 year ago)	1,007 (7.2)	22,180 (43.9)	665 (19.3)	2,882 (7.1)	62,206 (43.1)	1,817 (19.5)	898 (7.1)	19,403 (43.4)	519 (18.8)
Poor (current smoker)	212 (1.5)	4,655 (9.2)	1,887 (54.9)	562 (1.4)	13,562 (9.4)	5,219 (55.9)	187 (1.5)	4,151 (9.3)	1,563 (56.6)
Body Mass Index, kg/m^2	23.70±2.91	27.95±4.31	33.12±5.24	23.71±2.93	27.86±4.22	32.80±5.21	23.68±2.84	27.72±4.05	32.49±4.85
Ideal (18.5 – 24.9)	12,024 (85.4)	10,651 (21.1)	221 (6.4)	34,332 (85.1)	30,796 (21.3)	677 (7.2)	10,781 (85.5)	9,660 (21.6)	198 (7.2)
Intermediate (25 - 29.9)	1,497 (10.6)	27,407 (54.2)	273 (7.9)	4,358 (10.8)	79,082 (54.8)	840 (9.0)	1,336 (10.6)	24,935 (55.8)	261 (9.4)
Poor (≥30)	553 (3.9)	12,463 (24.7)	2,945 (85.6)	1,649 (4.1)	34,383 (23.8)	7,822 (83.8)	492 (3.9)	10,075 (22.6)	2,303 (83.4)
Physical activity									
Ideal (regular physical activity)	13,673 (97.2)	32,055 (63.4)	705 (20.5)	39,157 (97.1)	91,488 (63.4)	1,851 (19.8)	12,259 (97.2)	28,325 (63.4)	565 (20.5)
Intermediate (some physical activity)	330 (2.3)	15,965 (31.6)	431 (12.5)	1,015 (2.5)	45,652 (31.6)	1,177 (12.6)	296 (2.3)	14,047 (31.4)	352 (12.7)
Poor (no regular physical activity)	71 (0.5)	2,501 (5.0)	2,303 (67.0)	167 (0.4)	7,121 (4.9)	6,311 (67.6)	54 (0.4)	2,298 (5.1)	1,845 (66.8)
Diet									
Ideal	5,487 (39.0)	3,695 (7.3)	13 (0.4)	15,792 (39.1)	10,695 (7.4)	63 (0.7)	4,908 (38.9)	3,280 (7.3)	15 (0.5)

	Low Genetic Risk			Intermediate Genetic Risk			High Genetic risk		
	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle	Ideal lifestyle	Intermediate lifestyle	Poor lifestyle
Characteristics	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**	**Mean±SD or No. (%)**
Poor	8,587 (61.0)	46,826 (92.7)	3,426 (99.6)	24,547 (60.9)	133,566 (92.6)	9,276 (99.3)	7,701 (61.1)	41,390 (92.7)	2,747 (99.5)
Years in education	15.93±4.58	14.65±4.79	12.56±4.71	15.94±4.55	14.66±4.78	12.37±4.67	15.90±4.57	14.64±4.77	12.36±4.68
Income, £									
<18,000	2,063 (14.7)	93,66 (18.5)	1,064 (30.9)	5,889 (14.6)	26,562 (18.4)	2,857 (30.6)	1,779 (14.1)	8,212 (18.4)	841 (30.4)
18,000 – 30,999	2,976 (21.1)	11,326 (22.4)	714 (20.8)	8,638 (21.4)	32,333 (22.4)	1,982 (21.2)	2,628 (20.8)	10,167 (22.8)	552 (20.0)
31,000 – 51,999	3,389 (24.1)	11,796 (23.3)	633 (18.4)	9,609 (23.8)	33,679 (23.3)	1,562 (16.7)	3,036 (24.1)	10,440 (23.4)	513 (18.6)
52,000 – 100,000	2,934 (20.8)	8,962 (17.7)	349 (10.1)	8,432 (20.9)	26,289 (18.2)	956 (10.2)	2,691 (21.3)	7,989 (17.9)	267 (9.7)
>100,000	878 (6.2)	2,317 (4.6)	68 (2.0)	2,582 (6.4)	6,501 (4.5)	172 (1.8)	798 (6.3)	2,021 (4.5)	55 (2.0)
Unknown	1,834 (13.0)	6,754 (13.4)	611 (17.8)	5,189 (12.9)	18,897 (13.1)	1,810 (19.4)	1,677 (13.3)	5,841 (13.1)	534 (19.3)

Lifestyle was defined as ideal if 3 or more ideal lifestyle factors were present, poor if 3 or more poor lifestyle factors were present, or as intermediate (all other combinations. Ideal diet was defined as adequate intake of at least 5 dietary components. Poor diet was defined as inadequate intake of at least 5 dietary components.

eTable 13. Genetic risk of cardiovascular diseases and diabetes

Outcome	Genetic risk	Total No.	No. events (%)	Person-time at risk (years)	AR	HR (95% CI)	*P* value
Coronary Artery Disease	Low	65,991	1,502 (2.28)	400,014	2.28	1	Reference
	Intermediate	195,709	5,733 (2.93)	1,184,293	2.93	1.31 (1.24-1.38)	$<1.0x10^{-6}$
	High	63,433	2,536 (4.00)	381,934	4.00	1.86 (1.74-1.98)	$<1.0x10^{-6}$
Atrial Fibrillation	Low	65,804	962 (1.44)	406,973	1.44	1	Reference
	Intermediate	198,312	4,037 (2.00)	1,231,234	2.00	1.40 (1.31-1.50)	$<1.0x10^{-6}$
	High	62,426	2,096 (3.25)	390,063	3.25	2.33 (2.16-2.52)	$<1.0x10^{-6}$
Stroke	Low	74,838	641 (0.86)	457,230	0.86	1	Reference
	Intermediate	191,680	1,804 (0.94)	1,171,263	0.94	1.10 (1.01-1.21)	$3.3x10^{-2}$
	High	66,453	700 (1.05)	406,128	1.05	1.24 (1.12-1.38)	$6.9x10^{-5}$
Hypertension	Low	49,562	2,012 (4.06)	298,699	4.06	1	Reference
	Intermediate	141,753	6,972 (4.92)	850,690	4.92	1.24 (1.18-1.31)	$<1.0x10^{-6}$
	High	43,336	2,374 (5.48)	259,282	5.48	1.44 (1.36-1.53)	$<1.0x10^{-6}$
Diabetes Mellitus	Low	68,034	677 (1.00)	416,049	1.00	1	Reference
	Intermediate	193,939	2,597 (1.34)	1,183,801	1.34	1.36 (1.25-1.48)	$<1.0x10^{-6}$
	High	60,041	1,105 (1.84)	365,707	1.84	1.91 (1.74-2.10)	$<1.0x10^{-6}$

Shown are absolute risks (AR) and hazard ratios (HR) with 95% Confidence Intervals of new-onset events during 6.2 year follow-up associated with intermediate or high genetic risk of the specific endpoint. Genetic risk scores were calculated and divided into quintiles. Individuals in the lowest quintile were considered at low genetic risk, individuals in quintiles 2-4 at intermediate risk, and those in the highest quintile at high risk. Person-times at risk are provided in years per genetic risk group of each outcome. The genetic risk score of coronary artery disease included 169 single nucleotide polymorphisms (SNPs), atrial fibrillation 25 SNPs, stroke 11 SNPs, hypertension 107 SNPs, and diabetes mellitus 38 SNPs.

eTable 14. Associations of individual lifestyle factors with cardiovascular diseases and diabetes across genetic risk groups

			Coronary Artery Disease		Atrial Fibrillation		Stroke		Hypertension		Diabetes Mellitus Type 2	
Lifestyle Factor	**Genetic risk**	**Lifestyle Factor category**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**
Smoking	Low	Ideal	1	Reference	1	Reference	1	Reference	1	Reference	1	Reference
		Intermediate	1.22 (1.09 - 1.37)	$3.8x10^{-4}$	1.14 (0.99 - 1.30)	$6.4x10^{-2}$	1.06 (0.89 - 1.26)	$4.9x10^{-1}$	1.32 (1.20 - 1.45)	$<1.0x10^{-6}$	1.31 (1.11 - 1.54)	$1.3x10^{-3}$
		Poor	1.83 (1.58 - 2.12)	$<1.0x10^{-6}$	1.30 (1.05 - 1.60)	$1.7x10^{-2}$	2.11 (1.70 - 2.62)	$<1.0x10^{-6}$	1.55 (1.35 - 1.77)	$<1.0x10^{-6}$	1.49 (1.18 - 1.87)	$8.2x10^{-4}$
	Intermediate	Ideal	1.29 (1.18 - 1.41)	$<1.0x10^{-6}$	1.38 (1.24 - 1.53)	$<1.0x10^{-6}$	1.11 (0.97 - 1.28)	$1.2x10^{-1}$	1.31 (1.22 - 1.41)	$<1.0x10^{-6}$	1.34 (1.18 - 1.53)	$9.6x10^{-6}$
		Intermediate	1.63 (1.49 - 1.78)	$<1.0x10^{-6}$	1.64 (1.47 - 1.82)	$<1.0x10^{-6}$	1.22 (1.06 - 1.40)	$4.9x10^{-3}$	1.55 (1.44 - 1.67)	$<1.0x10^{-6}$	1.75 (1.54 - 2.00)	$<1.0x10^{-6}$
		Poor	2.35 (2.12 - 2.61)	$<1.0x10^{-6}$	1.72 (1.50 - 1.96)	$<1.0x10^{-6}$	2.08 (1.76 - 2.45)	$<1.0x10^{-6}$	1.81 (1.65 - 1.98)	$<1.0x10^{-6}$	2.19 (1.88 - 2.56)	$<1.0x10^{-6}$
	High	Ideal	1.90 (1.72 - 2.09)	$<1.0x10^{-6}$	2.30 (2.05 - 2.58)	$<1.0x10^{-6}$	1.29 (1.10 - 1.52)	$1.6x10^{-3}$	1.53 (1.40 - 1.66)	$<1.0x10^{-6}$	1.86 (1.60 - 2.15)	$<1.0x10^{-6}$
		Intermediate	2.21 (2.00 - 2.44)	$<1.0x10^{-6}$	2.75 (2.45 - 3.08)	$<1.0x10^{-6}$	1.39 (1.18 - 1.64)	$9.7x10^{-5}$	1.80 (1.64 - 1.97)	$<1.0x10^{-6}$	2.54 (2.19 - 2.94)	$<1.0x10^{-6}$
		Poor	3.39 (2.99 - 3.84)	$<1.0x10^{-6}$	2.69 (2.28 - 3.17)	$<1.0x10^{-6}$	2.06 (1.64 - 2.60)	$<1.0x10^{-6}$	1.95 (1.71 - 2.22)	$<1.0x10^{-6}$	2.72 (2.23 - 3.32)	$<1.0x10^{-6}$
BMI	Low	Ideal	1	Reference	1	Reference	1	Reference	1	Reference	1	Reference
		Intermediate	1.20 (1.05 - 1.37)	$6.8x10^{-3}$	1.14 (0.96 - 1.34)	$1.3x10^{-1}$	1.15 (0.95 - 1.39)	$1.6x10^{-1}$	1.47 (1.31 - 1.64)	$<1.0x10^{-6}$	2.19 (1.64 - 2.93)	$<1.0x10^{-6}$
		Poor	1.82 (1.59 - 2.09)	$<1.0x10^{-6}$	1.84 (1.55 - 2.18)	$<1.0x10^{-6}$	1.21 (0.97 - 1.49)	$8.7x10^{-2}$	2.58 (2.29 - 2.91)	$<1.0x10^{-6}$	8.45 (6.43 - 11.10)	$<1.0x10^{-6}$
	Intermediate	Ideal	1.24 (1.09 - 1.40)	$6.6x10^{-4}$	1.41 (1.21 - 1.64)	$7.1x10^{-6}$	1.19 (1.00 - 1.42)	$5.5x10^{-2}$	1.26 (1.14 - 1.40)	$1.2x10^{-5}$	1.34 (1.00 - 1.78)	$4.7x10^{-2}$
		Intermediate	1.64 (1.46 - 1.84)	$<1.0x10^{-6}$	1.60 (1.38 - 1.85)	$<1.0x10^{-6}$	1.13 (0.96 - 1.34)	$1.5x10^{-1}$	1.87 (1.69 - 2.06)	$<1.0x10^{-6}$	3.39 (2.60 - 4.42)	$<1.0x10^{-6}$
		Poor	2.34 (2.08 - 2.63)	$<1.0x10^{-6}$	2.56 (2.21 - 2.96)	$<1.0x10^{-6}$	1.47 (1.24 - 1.75)	$1.6x10^{-5}$	3.22 (2.91 - 3.57)	$<1.0x10^{-6}$	11.12 (8.57 - 14.43)	$<1.0x10^{-6}$
	High	Ideal	1.83 (1.60	$<1.0x10^{-6}$	2.27 (1.93	$<1.0x10^{-6}$	1.27 (1.03	$2.8x10^{-2}$	1.36 (1.20	$1.3x10^{-6}$	1.95 (1.41	$4.6x10^{-5}$

			Coronary Artery Disease		Atrial Fibrillation		Stroke		Hypertension		Diabetes Mellitus Type 2	
Lifestyle Factor	**Genetic risk**	**Lifestyle Factor category**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**
			- 2.10)		- 2.67)		- 1.56)		- 1.54)		- 2.68)	
		Intermediate	2.40 (2.12 - 2.71)	$<1.0x10^{-6}$	2.67 (2.30 - 3.11)	$<1.0x10^{-6}$	1.36 (1.13 - 1.65)	$1.4x10^{-3}$	2.23 (2.00 - 2.49)	$<1.0x10^{-6}$	5.11 (3.89 - 6.71)	$<1.0x10^{-6}$
		Poor	3.07 (2.70 - 3.49)	$<1.0x10^{-6}$	4.37 (3.75 - 5.10)	$<1.0x10^{-6}$	1.59 (1.29 - 1.95)	$1.3x10^{-5}$	3.86 (3.43 - 4.35)	$<1.0x10^{-6}$	15.43 (11.80 - 20.17)	$<1.0x10^{-6}$
Physical Activity	Low	Ideal	1	Reference	1	Reference	1	Reference	1	Reference	1	Reference
		Intermediate	1.22 (1.09 - 1.38)	$8.4x10^{-4}$	1.10 (0.95 - 1.28)	$2.0x10^{-1}$	1.19 (1.00 - 1.43)	$5.4x10^{-2}$	1.18 (1.06 - 1.31)	$1.8x10^{-3}$	1.48 (1.24 - 1.76)	$1.3x10^{-5}$
		Poor	1.78 (1.52 - 2.08)	$<1.0x10^{-6}$	1.58 (1.29 - 1.94)	$9.5x10^{-6}$	1.57 (1.23 - 2.01)	$3.5x10^{-4}$	1.74 (1.50 - 2.01)	$<1.0x10^{-6}$	2.85 (2.32 - 3.49)	$<1.0x10^{-6}$
	Intermediate	Ideal	1.33 (1.24 - 1.43)	$<1.0x10^{-6}$	1.39 (1.27 - 1.52)	$<1.0x10^{-6}$	1.12 (1.00 - 1.25)	$5.4x10^{-2}$	1.24 (1.17 - 1.32)	$<1.0x10^{-6}$	1.36 (1.21 - 1.52)	$<1.0x10^{-6}$
		Intermediate	1.53 (1.41 - 1.66)	$<1.0x10^{-6}$	1.63 (1.47 - 1.80)	$<1.0x10^{-6}$	1.26 (1.11 - 1.45)	$6.4x10^{-4}$	1.50 (1.40 - 1.62)	$<1.0x10^{-6}$	2.25 (1.99 - 2.55)	$<1.0x10^{-6}$
		Poor	2.31 (2.10 - 2.55)	$<1.0x10^{-6}$	2.06 (1.82 - 2.33)	$<1.0x10^{-6}$	1.75 (1.48 - 2.08)	$<1.0x10^{-6}$	2.00 (1.82 - 2.20)	$<1.0x10^{-6}$	3.23 (2.80 - 3.73)	$<1.0x10^{-6}$
	High	Ideal	1.82 (1.68 - 1.98)	$<1.0x10^{-6}$	2.30 (2.09 - 2.53)	$<1.0x10^{-6}$	1.25 (1.09 - 1.44)	$1.2x10^{-3}$	1.45 (1.35 - 1.56)	$<1.0x10^{-6}$	1.98 (1.74 - 2.25)	$<1.0x10^{-6}$
		Intermediate	2.44 (2.21 - 2.69)	$<1.0x10^{-6}$	2.73 (2.44 - 3.07)	$<1.0x10^{-6}$	1.47 (1.24 - 1.75)	$1.4x10^{-5}$	1.72 (1.56 - 1.90)	$<1.0x10^{-6}$	2.99 (2.58 - 3.48)	$<1.0x10^{-6}$
		Poor	3.05 (2.67 - 3.48)	$<1.0x10^{-6}$	3.39 (2.90 - 3.95)	$<1.0x10^{-6}$	1.90 (1.49 - 2.42)	$<1.0x10^{-6}$	2.15 (1.86 - 2.49)	$<1.0x10^{-6}$	4.14 (3.43 - 5.00)	$<1.0x10^{-6}$
Diet	Low	Ideal	1	Reference	1	Reference	1	Reference	1	Reference	1	Reference
		Poor	1.02 (0.88 - 1.18)	$8.3x10^{-1}$	0.94 (0.79 - 1.12)	$4.9x10^{-1}$	1.11 (0.89 - 1.40)	$3.6x10^{-1}$	1.16 (1.02 - 1.32)	$2.7x10^{-2}$	1.23 (0.97 - 1.56)	$8.8x10^{-2}$
	Intermediate	Ideal	1.30 (1.12 - 1.52)	$7.4x10^{-4}$	1.38 (1.15 - 1.65)	$4.7x10^{-4}$	1.21 (0.95 - 1.55)	$1.2x10^{-1}$	1.35 (1.17 - 1.55)	$2.4x10^{-5}$	1.38 (1.07 - 1.78)	$1.2x10^{-2}$
		Poor	1.33 (1.16 - 1.53)	$6.7x10^{-5}$	1.32 (1.12 - 1.56)	$8.2x10^{-4}$	1.21 (0.97 - 1.50)	$8.7x10^{-2}$	1.42 (1.25 - 1.61)	$<1.0x10^{-6}$	1.67 (1.33 - 2.10)	$1.1x10^{-5}$

			Coronary Artery Disease		Atrial Fibrillation		Stroke		Hypertension		Diabetes Mellitus Type 2	
Lifestyle Factor	**Genetic risk**	**Lifestyle Factor category**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**	**HR (95% CI)**	***P* value**
	High	Ideal	1.81 (1.52 - 2.15)	$<1.0x10^{-6}$	2.49 (2.05 - 3.02)	$<1.0x10^{-6}$	1.54 (1.17 - 2.04)	$2.3x10^{-3}$	1.53 (1.30 - 1.80)	$<1.0x10^{-6}$	1.91 (1.44 - 2.54)	$8.2x10^{-6}$
		Poor	1.89 (1.64 - 2.18)	$<1.0x10^{-6}$	2.16 (1.83 - 2.56)	$<1.0x10^{-6}$	1.33 (1.06 - 1.67)	$1.4x10^{-2}$	1.64 (1.44 - 1.87)	$<1.0x10^{-6}$	2.32 (1.84 - 2.93)	$<1.0x10^{-6}$

Shown are hazard ratios (HR) with 95% Confidence Intervals of new-onset events during 6.2 year follow-up associated with individual lifestyle factor categories in low, intermediate and high genetic risk groups. Individuals in the lowest quintile were considered at low genetic risk, individuals in quintiles 2-4 at intermediate risk, and those in the highest quintile at high risk. The genetic risk score of coronary artery disease included 169 single nucleotide polymorphisms (SNPs), atrial fibrillation 25 SNPs, stroke 11 SNPs, hypertension 107 SNPs, and diabetes mellitus 38 SNPs

eTable 15. Genetic and lifestyle risk of hypertension in individuals with baseline systolic blood pressure less than 130 mm Hg and/or diastolic blood pressure less than 80 mm Hg

Outcome	Genetic risk	Lifestyle	Total No.	No. events (%)	Incidence rate	Person-time at risk (years)
Hypertension	Low	Ideal	6,244	56 (0.9)	1.47	38,063
		Intermediate	14,134	227 (1.6)	2.64	85,929
		Poor	641	32 (4.8)	8.34	3,839
	Intermediate	Ideal	16,153	133 (0.8)	1.35	98,431
		Intermediate	34,962	560 (1.6)	2.64	212,228
		Poor	1,522	72 (4.5)	7.84	9,179
	High	Ideal	4,508	35 (0.8)	1.28	27,408
		Intermediate	9,068	125 (1.4)	2.26	55,204
		Poor	382	15 (3.8)	6.42	2,335

Shown are the total number of participants and new-onset hypertension events per group during 6.2 year follow-up. The incidence rate is provided per 1000 person-years. Individuals with baseline systolic blood pressure (SBP) ≥130 mm Hg or diastolic blood pressure (DBP) ≥80 mm Hg were excluded from the analyses. The genetic risk score of hypertension included 107 single nucleotide polymorphisms.

eTable 16. Genetic and lifestyle risk of cardiovascular diseases and diabetes in equally sized tertiles of genetic risk

Outcome	Genetic risk	Lifestyle	Total No.	No. events (%)	Incidence rate	Person-time at risk (years)	AR	HR (95% CI)	*P* value
Coronary Artery Disease	Low	Ideal	22,705	305 (1.3)	2.21	138,093	1.34	1	Reference
		Intermediate	81,630	2,035 (2.5)	4.12	494,507	2.49	1.48 (1.31-1.67)	$<1.0x10^{-6}$
		Poor	5,475	272 (5.0)	8.24	33,022	4.97	2.83 (2.40-3.33)	$<1.0x10^{-6}$
	Intermediate	Ideal	22,471	367 (1.6)	2.68	136,703	1.63	1.23 (1.06-1.43)	$7.2x10^{-3}$
		Intermediate	80,826	2,480 (3.1)	5.07	488,879	3.07	1.84 (1.63-2.07)	$<1.0x10^{-6}$
		Poor	5,491	308 (5.6)	9.31	33,075	5.61	3.30 (2.81-3.87)	$<1.0x10^{-6}$
	High	Ideal	22,217	454 (2.0)	3.37	134,754	2.04	1.56 (1.35-1.80)	$<1.0x10^{-6}$
		Intermediate	78,975	3,168 (4.0)	6.67	475,283	4.01	2.49 (2.21-2.80)	$<1.0x10^{-6}$
		Poor	5,343	382 (7.1)	11.97	31,924	7.15	4.38 (3.76-5.10)	$<1.0x10^{-6}$
Atrial Fibrillation	Low	Ideal	22,610	214 (0.9)	1.55	137,840	0.95	1	Reference
		Intermediate	83,462	1,353 (1.6)	2.66	508,299	1.62	1.40 (1.21-1.61)	$5.9x10^{-6}$
		Poor	5,779	145 (2.5)	4.09	35,471	2.51	2.25 (1.82-2.78)	$<1.0x10^{-6}$
	Intermediate	Ideal	23,037	301 (1.3)	2.14	140,539	1.31	1.39 (1.16-1.65)	$2.6x10^{-4}$
		Intermediate	83,907	1,728 (2.1)	3.39	510,309	2.06	1.79 (1.56-2.07)	$<1.0x10^{-6}$
		Poor	5,811	185 (3.2)	5.23	35,405	3.18	2.88 (2.36-3.52)	$<1.0x10^{-6}$
	High	Ideal	22,305	451 (2.0)	3.33	135,349	2.02	2.17 (1.84-2.55)	$<1.0x10^{-6}$
		Intermediate	80,933	2,440 (3.0)	4.98	490,057	3.01	2.66 (2.31-3.06)	$<1.0x10^{-6}$
		Poor	5,793	278 (4.8)	7.94	35,002	4.80	4.46 (3.72-5.34)	$<1.0x10^{-6}$
Stroke	Low	Ideal	22,835	138 (0.6)	0.99	139,448	0.60	1	Reference
		Intermediate	83,823	767 (0.9)	1.50	511,875	0.92	1.27 1.06-1.52)	$1.1x10^{-2}$
		Poor	5,717	93 (1.6)	2.65	35,045	1.63	2.16 1.66-2.82)	$<1.0x10^{-6}$
	Intermediate	Ideal	22,919	160 (0.7)	1.14	140,048	0.70	1.16 0.92-1.46)	$2.0x10^{-1}$
		Intermediate	83,098	801 (1.0)	1.58	507,660	0.96	1.34 1.12-1.61)	$1.5x10^{-3}$
		Poor	5,743	100 (1.7)	2.83	35,344	1.74	2.27 1.75-2.95)	$<1.0x10^{-6}$
	High	Ideal	22,234	166 (0.7)	1.22	135,826	0.75	1.24 0.99-1.55)	$6.7x10^{-2}$
		Intermediate	81,019	829 (1.0)	1.67	495,107	1.02	1.43 1.19-1.71)	$1.1x10^{-4}$
		Poor	5,583	91 (1.6)	2.66	34,267	1.63	2.16 1.65-2.82)	$<1.0x10^{-6}$
Hypertension	Low	Ideal	18,872	452 (2.4)	3.95	114,467	2.40	1	Reference
		Intermediate	59,667	2,767 (4.6)	7.71	358,767	4.64	1.75 (1.58-1.93)	$<1.0x10^{-6}$
		Poor	3,336	290 (8.7)	14.65	19,789	8.69	3.30 (2.84-3.82)	$<1.0x10^{-6}$

Outcome	Genetic risk	Lifestyle	Total No.	No. events (%)	Incidence rate	Person-time at risk (years)	AR	HR (95% CI)	*P* value
		Intermediate	57,054	3,038 (5.3)	8.89	341,734	5.32	2.03 (1.84-2.24)	$<1.0\times10^{-6}$
		Poor	3,125	304 (9.7)	16.45	18,486	9.73	3.80 (3.28-4.39)	$<1.0\times10^{-6}$
	High	Ideal	18,054	567 (3.1)	5.20	108,943	3.14	1.36 (1.20-1.54)	1.0×10^{-6}
		Intermediate	53,080	3,120 (5.9)	9.84	317,074	5.88	2.31 (2.09-2.54)	$<1.0\times10^{-6}$
		Poor	2,817	299 (10.6)	17.99	16,619	10.61	4.12 (3.55-4.77)	$<1.0\times10^{-6}$
Diabetes Mellitus type 2	Low	Ideal	23,120	72 (0.3)	0.51	141,526	0.31	1	Reference
		Intermediate	83,492	877 (1.1)	1.72	510,364	1.05	2.81 (2.21-3.57)	$<1.0\times10^{-6}$
		Poor	5,563	213 (3.8)	6.28	33,925	3.83	9.22 (7.05-12.07)	$<1.0\times10^{-6}$
	Intermediate	Ideal	22,577	80 (0.4)	0.58	138,087	0.35	1.15 (0.84-1.58)	3.8×10^{-1}
		Intermediate	80,109	1,163 (1.5)	2.38	488,688	1.45	3.92 (3.09-4.98)	$<1.0\times10^{-6}$
		Poor	5,212	221 (4.2)	6.97	31,726	4.24	9.95 (7.61-13.01)	$<1.0\times10^{-6}$
	High	Ideal	21,325	94 (0.4)	0.72	130,400	0.44	1.43 (1.06-1.95)	2.1×10^{-2}
		Intermediate	75,851	1,387 (1.8)	3.00	461,952	1.83	4.98 (3.93-6.32)	$<1.0\times10^{-6}$
		Poor	4,765	272 (5.7)	9.42	28,889	5.71	13.81 (10.63-17.94)	$<1.0\times10^{-6}$

Shown are absolute risks (AR) and hazard ratios (HR) with 95% Confidence Intervals of new-onset events during 6.2 year follow-up associated with lifestyle categories in low, intermediate and high genetic risk groups. Genetic risk scores were calculated and divided into tertiles. Individuals in the lowest tertile were considered at low genetic risk, individuals in the middle tertile at intermediate risk, and those in the highest tertile at high risk. Person-times at risk are provided in years per genetic risk group of each outcome. Incidence rates are provided per 1000 person-years. The genetic risk score of coronary artery disease included 169 single nucleotide polymorphisms (SNPs), atrial fibrillation 25 SNPs, stroke 11 SNPs, hypertension 107 SNPs, and diabetes mellitus 38 SNPs.

eTable 17. Correlations between individual lifestyle factors and covariates

	Smoking	Body Mass Index	Physical Activity	Diet	Years in education	Income	TDI
Smoking	1						
Body Mass Index	0.065	1					
Physical Activity	0.064	0.217	1				
Diet	0.022	0.078	0.119	1			
Years in education	-0.147	-0.149	-0.145	-0.050	1		
Income	-0.141	-0.107	-0.131	0.034	0.445	1	
TDI	0.171	0.076	0.103	-0.022	-0.134	-0.238	1

Correlations between individual lifestyle factors and covariates are presented. Ideal, intermediate and poor smoking, body mass index and activity were coded as 0, 1 and 2 respectively. Ideal and poor diet were coded as 0 and 1 respectively.
Abbreviations: TDI, Townsend Deprivation Index

eTable 18. Genetic risk × lifestyle interactions

	GR x Intermediate lifestyle		GR x Poor lifestyle	
Outcome	**Coefficient**	***P* value**	**Coefficient**	***P* value**
Coronary Artery Disease	1.011	0.83	0.930	0.32
Atrial Fibrillation	0.886	0.17	0.919	0.52
Stroke	1.085	0.86	0.879	0.85
Hypertension	1.000	0.98	0.987	0.44
Diabetes Mellitus	1.055	0.75	0.815	0.29

Interaction between the quantitative genetic risk (GR) and lifestyle for each endpoint. Shown are the interaction effects between GR and intermediate or poor lifestyle compared to ideal lifestyle.

eTable 19. Minimal detectable interaction effect between genetic risk × lifestyle

Outcome	GR x Intermediate lifestyle	GR x Poor lifestyle
Coronary Artery Disease	1.21	1.50
Atrial Fibrillation	1.25	1.59
Stroke	1.40	1.95
Hypertension	1.19	1.53
Diabetes Mellitus	1.34	1.84

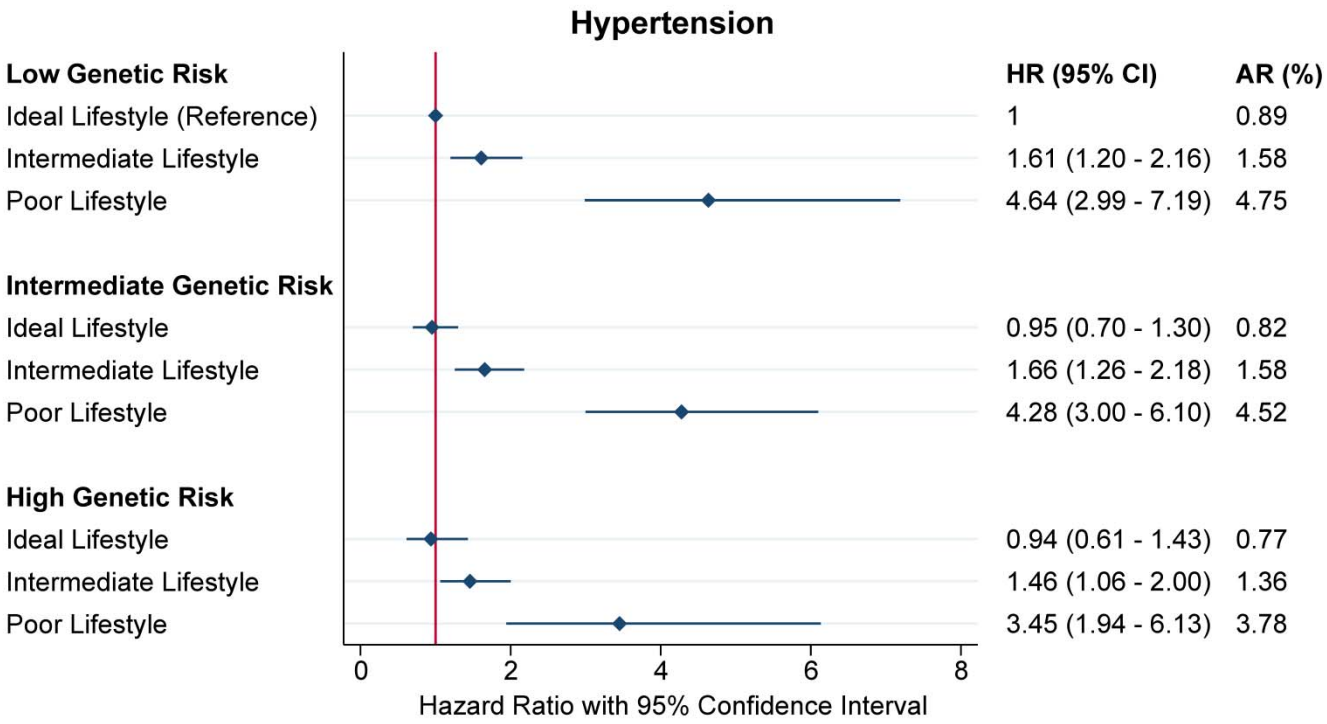
The minimal detectable interaction effects that would have been detected with 80% power and alpha set at 0.005 in our study population for each outcome.

eTable 20. Population-attributable fraction per behavioral lifestyle group

	Non-ideal to ideal lifestyle		Intermediate to ideal lifestyle		Poor to ideal lifestyle	
Outcome	**PAF (%) (95% CI)**	***P* value**	**PAF (%) (95% CI)**	***P* value**	**PAF (%) (95% CI)**	***P* value**
Coronary Artery Disease	37.3 (33.3 - 41.1)	<0.001	34.3 (30.0 - 38.3)	<0.001	64.5 (60.9 - 67.7)	<0.001
Atrial Fibrillation	24.6 (19.3 - 29.6)	<0.001	21.8 (16.2 - 27.1)	<0.001	53.6 (48.0 - 58.6)	<0.001
Stroke	18.8 (10.3 - 26.5)	<0.001	15.9 (6.9 - 23.9)	<0.01	50.8 (41.9 - 58.3)	<0.001
Hypertension	43.6 (40.4 - 46.6)	<0.001	41.3 (38.0 - 44.4)	<0.001	70.0 (67.1 - 72.7)	<0.001
Diabetes Mellitus Type 2	72.1 (68.2 - 75.5)	<0.001	68.9 (64.6 - 72.7)	<0.001	89.7 (87.9 - 91.2)	<0.001

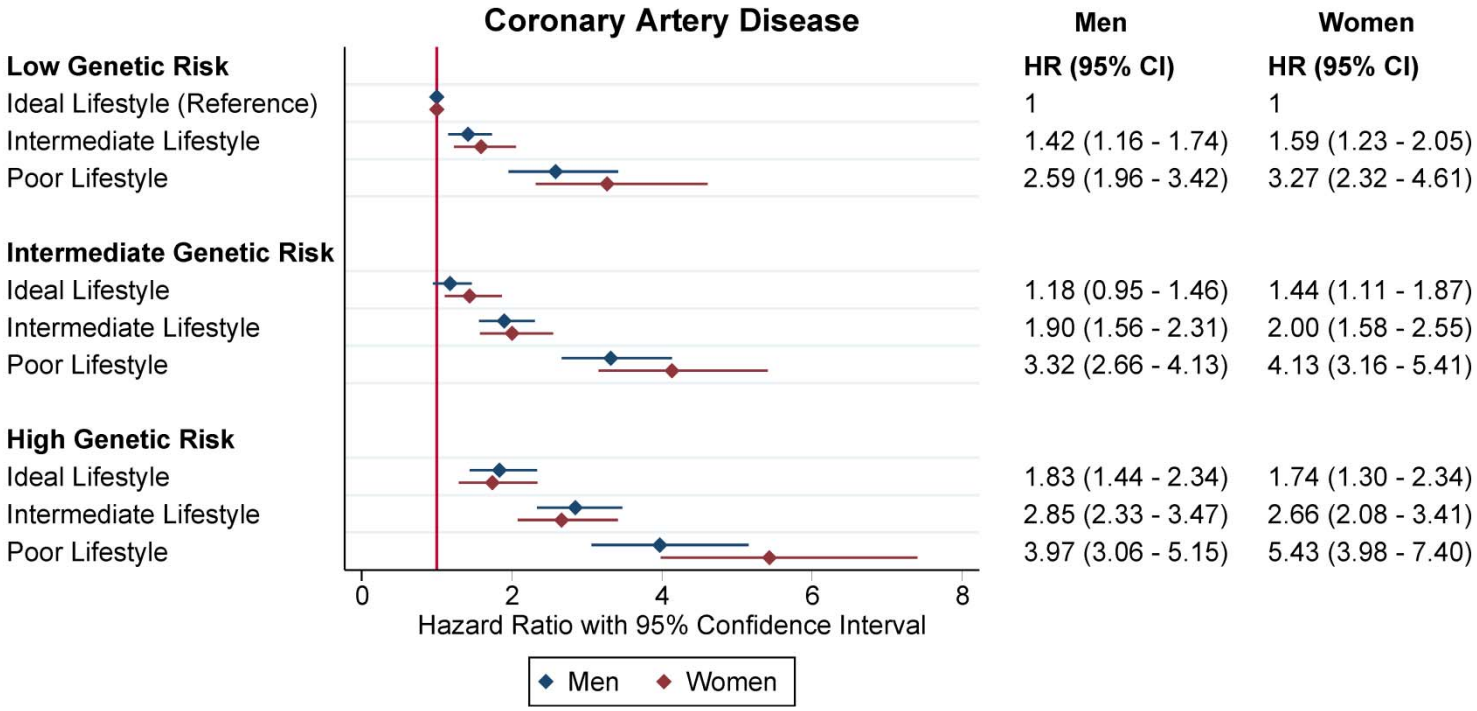
Abbreviations: PAF, Population Attributable Fraction; CI, Confidence Interval

eFigure 1. Risk of incident hypertension in individuals with baseline systolic blood pressure less than 130 mm Hg and/or diastolic blood pressure less than 80 mm Hg



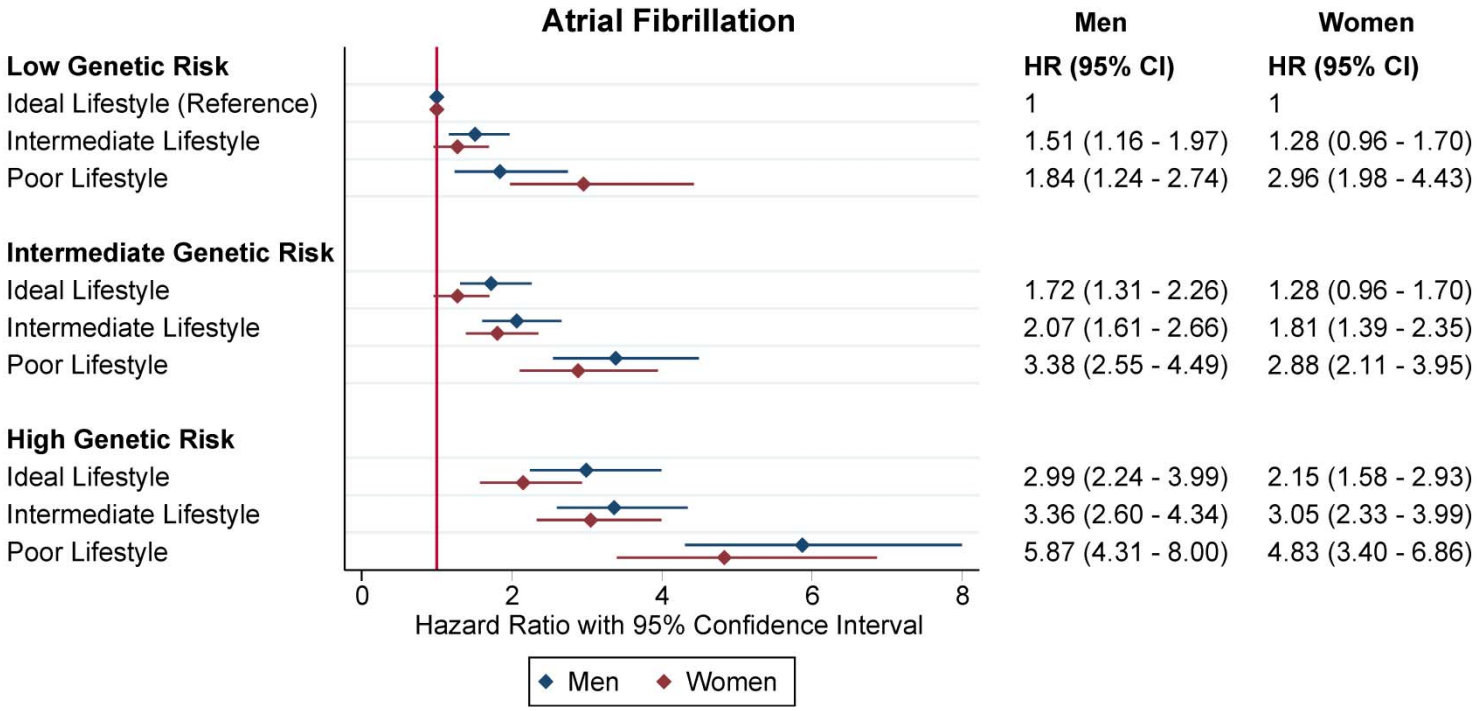
Hazard ratios (HR) with 95% confidence intervals and absolute risks (AR) are provided for new-onset hypertension in individuals with baseline systolic blood pressure (SBP) <130 and/or diastolic blood pressure (DBP) <80 mm Hg. A total of 87,741 individuals were included in the analyses, of which 1,255 (1.43%) developed hypertension

eFigure 2. Risk of incident coronary artery disease associated with genetic risk and lifestyle stratified by sex



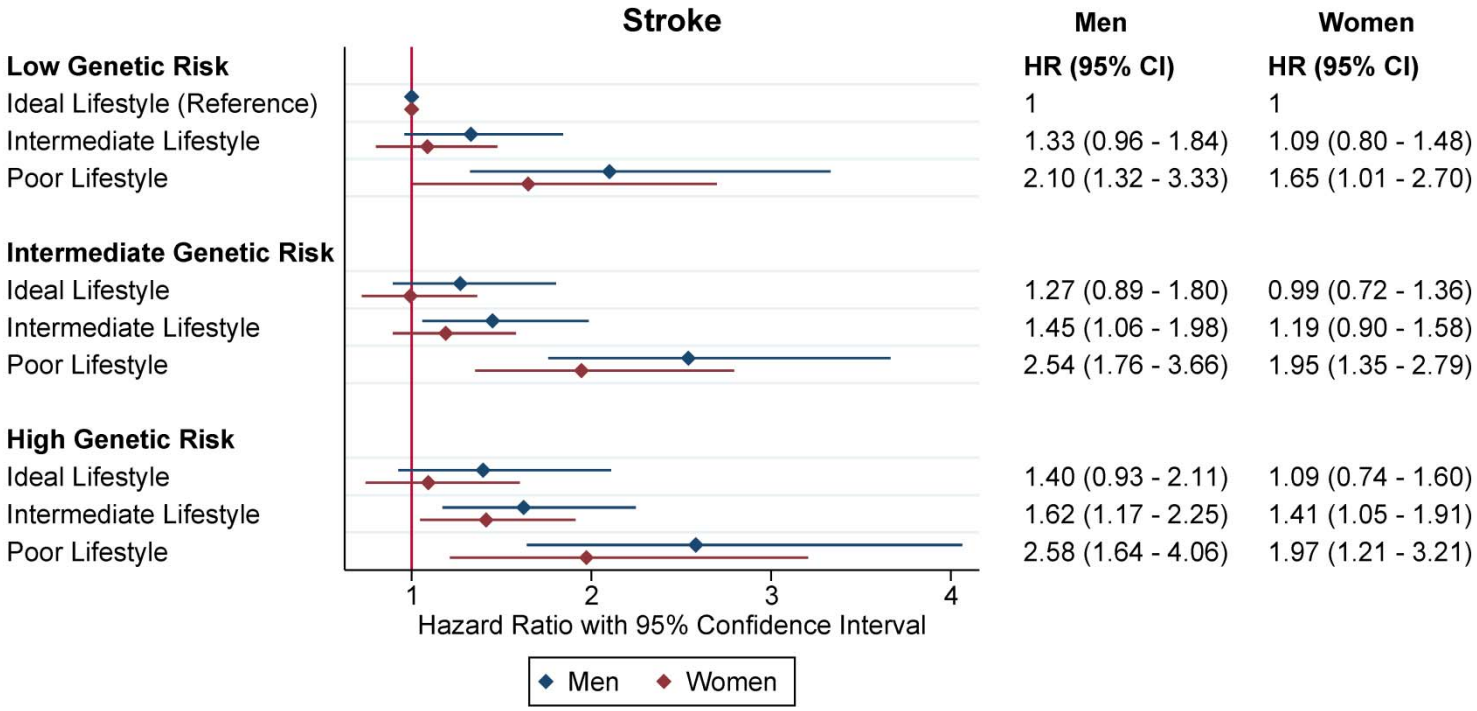
Shown are hazard ratios (HR) with 95% confidence intervals (95% CI) for men and women separately

eFigure 3. Risk of incident atrial fibrillation associated with genetic risk and lifestyle stratified by sex



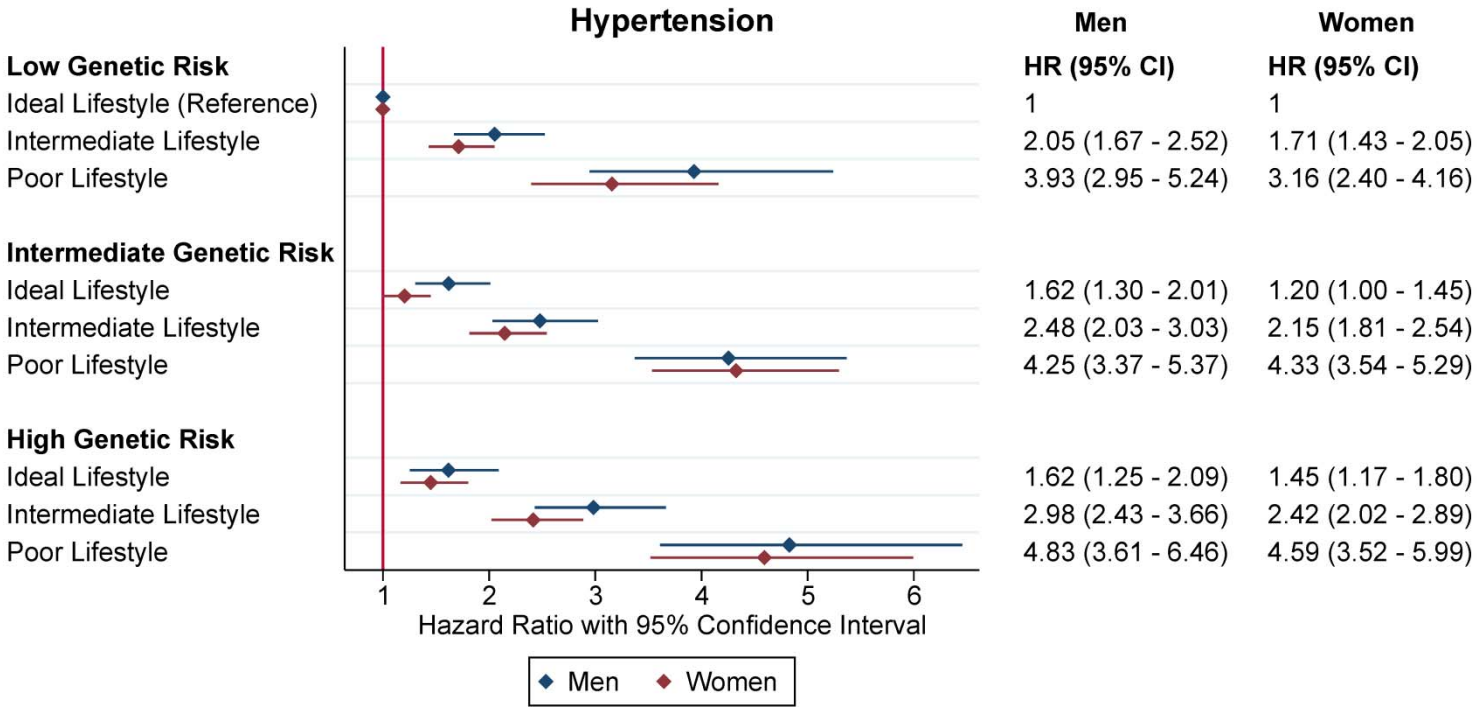
Shown are hazard ratios (HR) with 95% confidence intervals (95% CI) for men and women separately

eFigure 4. Risk of incident stroke associated with genetic risk and lifestyle stratified by sex



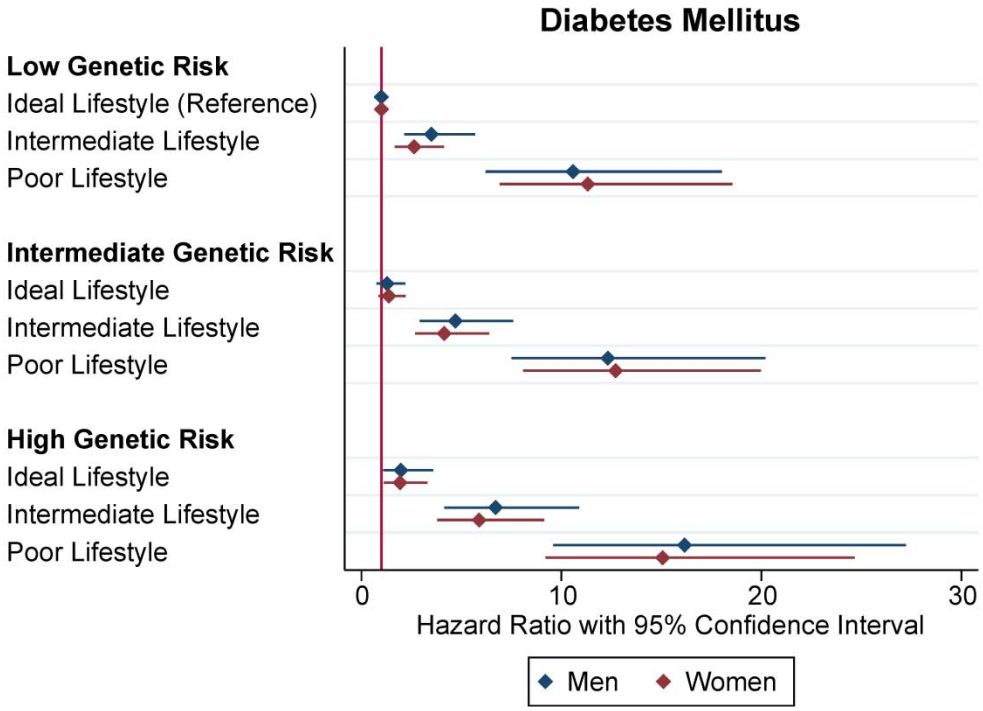
Shown are hazard ratios (HR) with 95% confidence intervals (95% CI) for men and women separately

eFigure 5. Risk of incident hypertension associated with genetic risk and lifestyle stratified by sex



Shown are hazard ratios (HR) with 95% confidence intervals (95% CI) for men and women separately

eFigure 6. Risk of incident diabetes associated with genetic risk and lifestyle stratified by sex



	Men	Women
	HR (95% CI)	**HR (95% CI)**
Ideal Lifestyle (Reference)	1	1
Intermediate Lifestyle	3.49 (2.14 - 5.69)	2.63 (1.67 - 4.14)
Poor Lifestyle	10.58 (6.21 - 18.03)	11.32 (6.91 - 18.56)
Ideal Lifestyle	1.28 (0.75 - 2.19)	1.37 (0.85 - 2.21)
Intermediate Lifestyle	4.70 (2.91 - 7.59)	4.14 (2.68 - 6.39)
Poor Lifestyle	12.32 (7.51 - 20.20)	12.71 (8.08 - 19.98)
Ideal Lifestyle	1.97 (1.08 - 3.59)	1.93 (1.12 - 3.30)
Intermediate Lifestyle	6.71 (4.14 - 10.88)	5.89 (3.79 - 9.15)
Poor Lifestyle	16.16 (9.59 - 27.23)	15.07 (9.20 - 24.66)

Shown are hazard ratios (HR) with 95% confidence intervals (95% CI) for men and women separately

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