

Supplemental Materials

List of contents

Table S1. Baseline characteristics by remnant cholesterol groups.

Table S2. Baseline characteristics by high-sensitivity C-reactive protein groups.

Table S3. Baseline characteristics by joint categories of remnant cholesterol and high-sensitivity C-reactive protein groups.

Table S4. Risk of incident coronary heart disease for per unit increase in remnant cholesterol.

Table S5. Risk of coronary heart disease associated with tertiles of remnant cholesterol.

Table S6. Risk of incident coronary heart disease associated with remnant cholesterol stratified by age.

Table S7. Risk of incident coronary heart disease associated with remnant cholesterol stratified by gender.

Table S8. Risk of incident coronary heart disease associated with remnant cholesterol stratified by estimated glomerular filtration rate.

Table S9. Sensitivity analyses for the association between remnant cholesterol and coronary heart disease.

Table S10. Risk of coronary heart disease associated with per unit increase in other lipid profiles.

Table S11. Risk of coronary heart disease associated with high-sensitivity C-reactive protein.

Table S12. Risk of coronary heart disease associated with tertiles of high-sensitivity C-reactive protein.

Table S13. Predictive ability of remnant cholesterol and high-sensitivity C-reactive protein for CHD.

Table S14. Mediation analyses of incident coronary heart disease.

Table S15. Joint analyses of remnant cholesterol and high-sensitivity C-reactive protein stratified by age.

Table S16. Joint analyses of remnant cholesterol and high-sensitivity C-reactive protein stratified by gender.

Table S17. Joint analyses of remnant cholesterol and high-sensitivity C-reactive protein stratified by estimated glomerular filtration rate.

Table S18. Sensitivity analyses for the joint associations of remnant cholesterol and high-sensitivity C-reactive protein with coronary heart disease.

Table S19. Joint associations of remnant cholesterol and high-sensitivity C-reactive protein with coronary heart disease based on other categories.

Table S20. Joint analyses for the tertiles of remnant cholesterol and high-sensitivity C-reactive protein.

Figure S1. Flowchart of study participants included and excluded in the analyses.

Figure S2. Kaplan-Meier plots of cumulative incidence of incident coronary heart disease based on remnant cholesterol groups.

Figure S3. Cumulative incidence curves for coronary heart disease based on categories of remnant cholesterol with age as the timescale.

Figure S4. Dose-response association between high-sensitivity C-reactive protein and risk of incident coronary heart disease.

Figure S5. Kaplan-Meier plots of cumulative incidence of incident coronary heart disease based on categories of remnant cholesterol and high-sensitivity C-reactive protein.

Figure S6. Random forest variable importance for remnant cholesterol and high-sensitivity C-reactive protein.

Figure S7. Shapley Additive Explanations dependence plots for remnant cholesterol and high-sensitivity C-reactive protein

Figure S8. Cumulative incidence curves for combined groups based on other categories.

Table S1. Baseline characteristics by remnant cholesterol groups.

Characters	Remnant cholesterol			<i>P</i> value
	<0.50 mmol/L	0.50-0.99 mmol/L	≥1.00 mmol/L	
Age (years)	61.96 (53.74-66.43)	61.92 (55.23-66.07)	61.00 (54.05-65.43)	<0.001
Men (%)	2442 (42.93)	5865 (45.37)	1743 (52.83)	<0.001
White (%)	5103 (89.72)	1,1957 (92.50)	3107 (94.18)	<0.001
Townsend index	-1.74 (-3.37-1.37)	-1.86 (-3.50-1.04)	-1.85 (-3.47-1.03)	0.010
High education (%)	2543 (44.71)	5311 (41.08)	1196 (36.25)	<0.001
Current smoker (%)	614 (10.79)	1579 (12.21)	504 (15.28)	<0.001
Drinking ≥3 times a week (%)	2216 (38.96)	4875 (37.71)	1219 (36.95)	0.125
Ideal physical activity (%)	2655 (46.68)	6018 (46.55)	1469 (44.53)	0.090
Healthy diet (%)	894 (15.72)	1847 (14.29)	394 (11.94)	<0.001
Family history of CHD (%)	2432 (42.76)	5685 (43.98)	1501 (45.50)	0.039
Body mass index (kg/m ²)	26.47 (23.46-30.56)	28.27 (25.19-31.9)	29.30 (26.64-32.75)	<0.001
Obesity (%)	1583 (27.83)	4742 (36.68)	1477 (44.77)	<0.001
Waist circumference (cm)	89.00 (78.00-101.00)	94.00 (84.00-104.00)	98.00 (90.00-106.00)	<0.001
Hypertension (%)	4225 (74.28)	9993 (77.30)	2668 (80.87)	<0.001
Antihypertensive medication	2839 (50.27)	5613 (43.81)	1172 (35.91)	<0.001
Diabetes (%)	1222 (21.48)	1869 (14.46)	454 (13.76)	<0.001
Insulin use (%)	331 (5.86)	386 (3.01)	72 (2.21)	<0.001
Lipid-lowering drugs use (%)	2581 (45.38)	3851 (29.79)	610 (18.49)	<0.001
Aspirin use (%)	1503 (26.42)	2476 (19.15)	497 (15.07)	<0.001
Fasting time ≥8h (%)	250 (4.40)	546 (4.22)	124 (3.76)	0.341
TC (mmol/L)	4.58 (3.94-5.25)	5.63 (4.92-6.33)	6.85 (6.10-7.63)	<0.001
TG (mmol/L)	1.08 (0.84-1.40)	1.76 (1.34-2.32)	3.32 (2.56-4.38)	<0.001
LDL-C (mmol/L)	2.67 (2.24-3.12)	3.54 (3.01-4.07)	4.38 (3.77-4.99)	<0.001
HDL-C (mmol/L)	1.49 (1.20-1.79)	1.32 (1.11-1.60)	1.20 (1.03-1.40)	<0.001
Elevated TC (%)	1506 (26.48)	8546 (66.11)	3082 (93.42)	<0.001
Elevated TG (%)	650 (11.43)	6923 (53.57)	3152 (95.57)	<0.001
Elevated LDL-C (%)	534 (9.39)	1885 (14.58)	697 (21.13)	<0.001
Reduced HDL-C (%)	3079 (54.13)	11538 (89.26)	3207 (97.21)	<0.001
HbA1c (mmol/L)	36.40 (33.4-40.50)	36.50 (33.80-39.90)	37.10 (34.50-40.50)	<0.001
eGFR (mL/min/1.73 m ²)	86.99 (63.89-102.54)	85.15 (63.49-100.08)	86.42 (64.87-100.30)	<0.001
hs-CRP (mg/L)	1.32 (0.64-2.74)	1.88 (0.97-3.57)	2.45 (1.37-4.17)	<0.001

CHD indicates coronary heart disease; TC, total cholesterol; TG, triglycerides; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; HbA1c, glycated hemoglobin; eGFR, estimated glomerular filtration rate; hs-CRP, high-sensitivity C-reactive protein.

Table S2. Baseline characteristics by high-sensitivity C-reactive protein groups.

Characters	High-sensitivity C-reactive protein			<i>P</i> value
	<1.00 mg/L	1.00-1.99 mg/L	≥2.00 mg/L	
Age (years)	60.72 (52.72-65.48)	61.96 (55.22-66.23)	62.23 (55.68-66.38)	<0.001
Men (%)	2708 (44.26)	2766 (48.78)	4576 (45.19)	<0.001
White (%)	5578 (91.17)	5234 (92.31)	9355 (92.39)	0.015
Townsend index	-2.07 (-3.60-0.84)	-1.99 (-3.53-0.87)	-1.57 (-3.34-1.50)	<0.001
High education (%)	2972 (48.58)	2388 (42.12)	3690 (36.44)	<0.001
Current smoker (%)	631 (10.31)	614 (10.83)	1452 (14.34)	<0.001
Drinking ≥3 times a week (%)	2679 (43.79)	2197 (38.75)	3434 (33.91)	<0.001
Ideal physical activity (%)	3083 (50.39)	2725 (48.06)	4334 (42.80)	<0.001
Healthy diet (%)	974 (15.92)	817 (14.41)	1344 (13.27)	<0.001
Family history of CHD (%)	2605 (42.58)	2490 (43.92)	4523 (44.67)	0.034
Body mass index (kg/m ²)	25.4 (22.82-28.27)	27.82 (25.17-30.93)	29.99 (26.66-33.94)	<0.001
Obesity (%)	954 (15.59)	1790 (31.57)	5058 (49.95)	<0.001
Waist circumference (cm)	86.00 (76.00-96.00)	93.00 (84.00-102.00)	98.00 (89.00-108.00)	<0.001
Hypertension (%)	4186 (68.42)	4439 (78.29)	8261 (81.58)	<0.001
Antihypertensive medication	2290 (37.70)	2513 (44.65)	4821 (48.11)	<0.001
Diabetes (%)	778 (12.72)	871 (15.36)	1896 (18.72)	<0.001
Insulin use (%)	151 (2.49)	188 (3.34)	450 (4.49)	<0.001
Lipid-lowering drugs use (%)	1897 (31.01)	1917 (33.81)	3228 (31.88)	0.004
Aspirin use (%)	1163 (19.01)	1201 (21.18)	2112 (20.86)	0.005
Fasting time ≥8h (%)	214 (3.50)	220 (3.88)	486 (4.80)	<0.001
TC (mmol/L)	5.42 (4.63-6.25)	5.52 (4.68-6.36)	5.56 (4.73-6.45)	<0.001
TG (mmol/L)	1.35 (0.97-1.98)	1.69 (1.20-2.41)	1.88 (1.35-2.67)	<0.001
LDL-C (mmol/L)	3.28 (2.70-3.90)	3.41 (2.77-4.07)	3.49 (2.84-4.16)	<0.001
HDL-C (mmol/L)	1.47 (1.21-1.78)	1.35 (1.12-1.63)	1.26 (1.07-1.52)	<0.001
Elevated TC (%)	3530 (57.70)	3426 (60.42)	6178 (61.01)	<0.001
Elevated TG (%)	2038 (33.32)	2791 (49.24)	5896 (58.25)	<0.001
Elevated LDL-C (%)	568 (9.28)	772 (13.62)	1776 (17.54)	<0.001
Reduced HDL-C (%)	4804 (78.52)	4595 (81.04)	8425 (83.20)	<0.001
HbA1c (mmol/L)	35.50 (32.90-38.70)	36.40 (33.80-39.70)	37.40 (34.40-41.40)	<0.001
eGFR (mL/min/1.73 m ²)	93.04 (75.01-105.33)	85.65 (64.97-100.35)	81.31 (59.00-96.62)	<0.001
RC (mmol/L)	0.58 (0.43-0.76)	0.66 (0.50-0.86)	0.71 (0.54-0.93)	<0.001

CHD indicates coronary heart disease; TC, total cholesterol; TG, triglycerides; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; HbA1c, glycated hemoglobin; eGFR, estimated glomerular filtration rate; RC, remnant cholesterol.

Table S3. Baseline characteristics by joint categories of remnant cholesterol and high-sensitivity C-reactive protein groups.

Characters	Low RC/ low hs-CRP	Low RC/ high hs-CRP	High RC/ low hs-CRP	High RC/ high hs-CRP	<i>P</i> value
Age (years)	61.47 (53.87-65.92)	62.48 (55.98-66.54)	60.65 (53.19-65.19)	61.18 (54.67-65.63)	<0.001
Men (%)	4665 (44.66)	3642 (44.58)	809 (60.28)	934 (47.73)	<0.001
White (%)	9553 (91.45)	7507 (91.90)	1259 (93.82)	1848 (94.43)	<0.001
Townsend index	-2.00 (-3.56-0.88)	-1.57 (-3.33-1.48)	-2.26 (-3.65-0.51)	-1.57 (-3.35-1.53)	<0.001
High education (%)	4832 (46.26)	3022 (36.99)	528 (39.34)	668 (34.13)	<0.001
Current smoker (%)	1070 (10.24)	1123 (13.75)	175 (13.04)	329 (16.81)	<0.001
Drinking ≥ 3 times a week (%)	4328 (41.43)	2763 (33.82)	548 (40.83)	671 (34.29)	<0.001
Ideal physical activity (%)	5150 (49.30)	3523 (43.13)	658 (49.03)	811 (41.44)	<0.001
Healthy diet (%)	1629 (15.59)	1112 (13.61)	162 (12.07)	232 (11.85)	<0.001
Family history of CHD (%)	4479 (42.88)	3638 (44.53)	616 (45.90)	885 (45.22)	0.025
Body mass index (kg/m ²)	26.35 (23.58-29.55)	29.87 (26.44-33.91)	27.93 (25.84-30.74)	30.56 (27.56-34.01)	<0.001
Obesity (%)	2331 (22.31)	3994 (48.89)	413 (30.77)	1064 (54.37)	<0.001
Waist circumference (cm)	89.00 (78.00-99.00)	98.00 (88.00-108.00)	95.00 (87.00-103.00)	100.00 (92.00-108.00)	<0.001
Hypertension (%)	7572 (72.49)	6646 (81.36)	1053 (78.46)	1615 (82.52)	<0.001
Antihypertensive medication	4364 (42.07)	4088 (50.55)	439 (32.98)	733 (37.92)	<0.001
Diabetes (%)	1510 (14.46)	1581 (19.35)	139 (10.36)	315 (16.10)	<0.001
Insulin use (%)	321 (3.09)	396 (4.90)	18 (1.35)	54 (2.79)	<0.001
Lipid-lowering drugs use (%)	3571 (34.19)	2861 (35.02)	243 (18.11)	367 (18.75)	<0.001
Aspirin use (%)	2152 (20.60)	1827 (22.37)	212 (15.80)	285 (14.56)	<0.001
Fasting time ≥ 8 h (%)	386 (3.70)	410 (5.02)	48 (3.58)	76 (3.88)	<0.001
TC (mmol/L)	5.33 (4.54-6.10)	5.30 (4.55-6.09)	6.88 (6.07-7.61)	6.82 (6.10-7.65)	<0.001
TG (mmol/L)	1.40 (1.02-1.93)	1.68 (1.24-2.25)	3.24 (2.49-4.24)	3.38 (2.59-4.47)	<0.001

LDL-C (mmol/L)	3.23 (2.67-3.83)	3.31 (2.73-3.91)	4.39 (3.77-4.94)	4.37 (3.79-5.01)	<0.001
HDL-C (mmol/L)	1.44 (1.18-1.74)	1.29 (1.08-1.55)	1.22 (1.04-1.44)	1.18 (1.02-1.38)	<0.001
Elevated TC (%)	5706 (54.62)	4346 (53.20)	1250 (93.14)	1832 (93.61)	<0.001
Elevated TG (%)	3568 (34.17)	4005 (49.04)	1261 (93.96)	1891 (96.68)	<0.001
Elevated LDL-C (%)	1070 (10.24)	1349 (16.51)	270 (20.12)	427 (21.82)	<0.001
Reduced HDL-C (%)	8099 (77.53)	6518 (79.79)	1300 (96.87)	1907 (97.45)	<0.001
HbA1c (mmol/L)	35.90 (33.30-39.20)	37.30 (34.30-41.40)	36.30 (33.80-39.00)	37.80 (35.00-41.60)	<0.001
eGFR (mL/min/1.73 m ²)	89.58 (70.31-103.41)	80.63 (58.78-96.29)	89.69 (70.31-102.63)	84.10 (60.18-97.70)	<0.001
RC (mmol/L)	0.58 (0.44-0.73)	0.65 (0.50-0.79)	1.16 (1.06-1.31)	1.18 (1.08-1.38)	<0.001
hs-CRP (mg/L)	0.94 (0.55-1.39)	3.65 (2.66-5.35)	1.20 (0.76-1.57)	3.73 (2.75-5.42)	<0.001

CHD indicates coronary heart disease; TC, total cholesterol; TG, triglycerides; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; HbA1c, glycated hemoglobin; eGFR, estimated glomerular filtration rate; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein.

Table S4. Risk of incident coronary heart disease for per unit increase in remnant cholesterol.

	Model 1	Model 2	Model 3	Model 4
CHD	1.20 (1.08-1.32)	1.18 (1.06-1.30)	1.17 (1.05-1.29)	1.32 (1.19-1.48)
MI	1.37 (1.17-1.60)	1.33 (1.14-1.56)	1.29 (1.10-1.51)	1.36 (1.15-1.62)
Angina	1.34 (1.14-1.57)	1.33 (1.13-1.56)	1.31 (1.12-1.54)	1.46 (1.23-1.73)

CHD indicates coronary heart disease; MI, myocardial infarction; SD, standard deviation.

Model 1: crude model.

Model 2: adjusted for age and gender.

Model 3: model 1+adjusted for ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, and family history of CHD.

Model 4: model 2+ adjusted for fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, estimated glomerular filtration rate, and high-sensitivity C-reactive protein.

Table S5. Risk of coronary heart disease associated with tertiles of remnant cholesterol.

	Cases/Person-years	HR (95%CI)
CHD		
Tertiles 1 (<0.55 mmol/L)	1120/87,442.32	1.00
Tertiles 2 (0.55-0.78 mmol/L)	1079/89,071.41	1.00 (0.92-1.10)
Tertiles 3 ($\geq$ 0.79 mmol/L)	1204/86,287.52	1.19 (1.08-1.31)
MI		
Tertiles 1 (<0.55 mmol/L)	400/91,292.32	1.00
Tertiles 2 (0.55-0.78 mmol/L)	434/92,899.67	1.08 (0.94-1.25)
Tertiles 3 ($\geq$ 0.79 mmol/L)	499/90,309.73	1.27 (1.09-1.48)
Angina		
Tertiles 1 (<0.55 mmol/L)	380/90,541.27	1.00
Tertiles 2 (0.55-0.78 mmol/L)	417/92,046.96	1.16 (1.00-1.35)
Tertiles 3 ($\geq$ 0.79 mmol/L)	475/89,510.38	1.41 (1.20-1.64)

CHD indicates coronary heart disease; MI, myocardial infarction; HR, hazard ratios; CI, confidence interval.

Adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, estimated glomerular filtration rate, and high-sensitivity C-reactive protein.

Table S6. Risk of incident coronary heart disease associated with remnant cholesterol stratified by age.

	Age <60 years		Age ≥60 years		<i>P</i> interaction
	Cases/ Person-years	HR (95% CI)	Cases/ Person-years	HR (95% CI)	
CHD					
<0.50 mmol/L	206/29,971.60	1.00	666/37,899.86	1.00	
0.50-0.99 mmol/L	526/65,820.21	1.10 (0.92-1.31)	1401/89,825.26	1.00 (0.90-1.11)	0.507
≥1.00 mmol/L	217/18,359.78	1.49 (1.20-1.85)	387/20,924.53	1.22 (1.06-1.41)	0.228
Per SD increase		1.12 (1.05-1.18)		1.07 (1.03-1.12)	
MI					
<0.50 mmol/L	74/30,640.20	1.00	238/40,159.22	1.00	
0.50-0.99 mmol/L	217/67,707.04	1.18 (0.89-1.57)	555/94,776.65	1.04 (0.88-1.23)	0.583
≥1.00 mmol/L	92/19,125.11	1.57 (1.12-2.22)	157/22,093.48	1.26 (1.00-1.58)	0.446
Per SD increase		1.13 (1.03-1.24)		1.09 (1.01-1.16)	
Angina					
<0.50 mmol/L	70/30,539.22	1.00	223/39,686.12	1.00	
0.50-0.99 mmol/L	220/67,270.68	1.35 (1.00-1.80)	521/93,704.27	1.12 (0.94-1.34)	0.323
≥1.00 mmol/L	97/18,982.91	1.92 (1.36-2.72)	141/21,915.40	1.35 (1.06-1.71)	0.106
Per SD increase		1.17 (1.07-1.28)		1.09 (1.01-1.17)	

CHD indicates coronary heart disease; MI, myocardial infarction; SD, standard deviation; HR, hazard ratio; CI, confidence interval.

Adjusted for gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, estimated glomerular filtration rate, and high-sensitivity C-reactive protein.

Table S7. Risk of incident coronary heart disease associated with remnant cholesterol stratified by gender.

	Men		Women		<i>P</i> interaction
	Cases/ Person-years	HR (95% CI)	Cases/ Person-years	HR (95% CI)	
CHD					
<0.50 mmol/L	543/27,272.53	1.00	329/40,598.93	1.00	
0.50-0.99 mmol/L	1191/67,503.9	1.03 (0.92-1.15)	736/88,141.57	1.04 (0.90-1.20)	0.804
≥1.00 mmol/L	391/20,142.78	1.30 (1.12-1.51)	213/19,141.53	1.34 (1.10-1.62)	0.848
Per SD increase		1.09 (1.05-1.14)		1.07 (1.01-1.14)	
MI					
<0.50 mmol/L	205/29,008.58	1.00	107/41,790.85	1.00	
0.50-0.99 mmol/L	510/71,551.95	1.05 (0.88-1.26)	262/90,931.75	1.16 (0.90-1.49)	0.748
≥1.00 mmol/L	178/21,282.38	1.34 (1.06-1.68)	71/19,936.21	1.36 (0.97-1.91)	0.362
Per SD increase		1.12 (1.05-1.20)		1.04 (0.94-1.15)	
Angina					
<0.50 mmol/L	170/28,774.39	1.00	123/41,450.96	1.00	
0.50-0.99 mmol/L	436/70,888.82	1.20 (0.98-1.46)	305/90,086.13	1.18 (0.94-1.50)	0.658
≥1.00 mmol/L	149/21,193.47	1.53 (1.19-1.97)	89/19,704.84	1.53 (1.13-2.08)	0.683
Per SD increase		1.15 (1.07-1.23)		1.08 (0.98-1.18)	

CHD indicates coronary heart disease; MI, myocardial infarction; SD, standard deviation; HR, hazard ratio; CI, confidence interval.

Adjusted for age, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, estimated glomerular filtration rate, and high-sensitivity C-reactive protein.

Table S8. Risk of incident coronary heart disease associated with remnant cholesterol stratified by estimated glomerular filtration rate.

	eGFR <60 mL/min/1.73m ²		eGFR ≥60 mL/min/1.73m ²		<i>P</i> interaction
	Cases/ Person-years	HR (95% CI)	Cases/ Person-years	HR (95% CI)	
CHD					
<0.50 mmol/L	322/14,086.72	1.00	550/53,704.53	1.00	
0.50-0.99 mmol/L	626/33,375.29	0.96 (0.83-1.12)	1300/122,118.84	1.09 (0.97-1.21)	0.120
≥1.00 mmol/L	170/8186.91	1.14 (0.92-1.41)	433/31,042.49	1.44 (1.25-1.65)	<0.001
Per SD increase		1.06 (0.99-1.13)		1.11 (1.06-1.16)	
MI					
<0.50 mmol/L	113/15,139.69	1.00	199/55,579.53	1.00	
0.50-0.99 mmol/L	259/35,377.94	1.17 (0.91-1.50)	513/126,943.00	1.06 (0.89-1.27)	0.258
≥1.00 mmol/L	67/8692.59	1.29 (0.92-1.83)	181/32,471.04	1.40 (1.12-1.75)	<0.001
Per SD increase		1.09 (0.98-1.21)		1.11 (1.04-1.18)	
Angina					
<0.50 mmol/L	105/14,971.49	1.00	188/55,173.65	1.00	
0.50-0.99 mmol/L	222/35,017.43	1.01 (0.78-1.31)	519/125,794.77	1.31 (1.09-1.57)	0.007
≥1.00 mmol/L	58/8605.52	1.19 (0.83-1.71)	179/32,237.74	1.74 (1.38-2.19)	<0.001
Per SD increase		1.06 (0.95-1.18)		1.15 (1.08-1.23)	

CHD indicates coronary heart disease; MI, myocardial infarction; SD, standard deviation; eGFR, estimated glomerular filtration rate; HR, hazard ratio; CI, confidence interval.

Adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, and high-sensitivity C-reactive protein.

Table S9. Sensitivity analyses for the association between remnant cholesterol and coronary heart disease.

	<0.50 mmol/L	0.50-0.99 mmol/L	≥1.00 mmol/L	Per SD increase
CHD				
Sensitivity analysis 1	1.00	1.01 (0.93-1.11)	1.28 (1.14-1.44)	1.08 (1.04-1.12)
Sensitivity analysis 2	1.00	1.00 (0.92-1.1)	1.26 (1.12-1.42)	1.07 (1.04-1.11)
Sensitivity analysis 3	1.00	1.03 (0.94-1.12)	1.29 (1.14-1.45)	1.08 (1.04-1.12)
Sensitivity analysis 4	1.00	1.03 (0.95-1.13)	1.33 (1.19-1.50)	1.09 (1.05-1.13)
Sensitivity analysis 5	1.00	1.04 (0.95-1.13)	1.34 (1.19-1.50)	1.09 (1.06-1.13)
Sensitivity analysis 6	1.00	1.04 (0.95-1.13)	1.34 (1.20-1.51)	1.10 (1.06-1.13)
MI				
Sensitivity analysis 1	1.00	1.08 (0.93-1.24)	1.33 (1.10-1.61)	1.09 (1.03-1.15)
Sensitivity analysis 2	1.00	1.09 (0.94-1.26)	1.35 (1.11-1.63)	1.09 (1.04-1.16)
Sensitivity analysis 3	1.00	1.08 (0.93-1.25)	1.34 (1.11-1.61)	1.10 (1.04-1.16)
Sensitivity analysis 4	1.00	1.08 (0.94-1.25)	1.37 (1.13-1.65)	1.10 (1.04-1.16)
Sensitivity analysis 5	1.00	1.09 (0.94-1.26)	1.37 (1.14-1.65)	1.10 (1.05-1.17)
Sensitivity analysis 6	1.00	1.04 (0.95-1.13)	1.34 (1.2-1.51)	1.11 (1.05-1.17)
Angina				
Sensitivity analysis 1	1.00	1.18 (1.01-1.37)	1.51 (1.24-1.83)	1.12 (1.06-1.18)
Sensitivity analysis 2	1.00	1.15 (0.99-1.34)	1.48 (1.22-1.80)	1.11 (1.05-1.17)
Sensitivity analysis 3	1.00	1.18 (1.02-1.38)	1.50 (1.23-1.81)	1.11 (1.05-1.18)
Sensitivity analysis 4	1.00	1.20 (1.03-1.39)	1.56 (1.28-1.89)	1.13 (1.07-1.19)
Sensitivity analysis 5	1.00	1.20 (1.03-1.39)	1.56 (1.29-1.89)	1.13 (1.07-1.19)
Sensitivity analysis 6	1.00	1.04 (0.95-1.13)	1.34 (1.20-1.51)	1.13 (1.08-1.19)

CHD indicates coronary heart disease; MI, myocardial infarction; SD, standard deviation.

Model 4: adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, estimated glomerular filtration rate, and high-sensitivity C-reactive protein.

Sensitivity analysis 1: model 4 + adjusted for obesity and diabetes.

Sensitivity analysis 2: model 4 + adjusted for obesity, diabetes, waist circumference, insulin use, and antihypertensive medication.

Sensitivity analysis 3: model 4 + excluded participants using lipid-lowering drugs.

Sensitivity analysis 4: model 4 + excluded participants using aspirin.

Sensitivity analysis 5: model 4 + excluded participants experienced coronary heart disease within the first two year of follow-up.

Sensitivity analysis 6: model 4 + used Fine-Gray competing risk model.

Table S10. Risk of coronary heart disease associated with per unit increase in other lipid profiles.

	LDL-C	HDL-C	TG
CHD	1.05 (1.00-1.09)	0.77 (0.69-0.86)	1.09 (1.06-1.12)
MI	1.20 (1.12-1.28)	0.80 (0.67-0.96)	1.09 (1.04-1.13)
Angina	1.11 (1.03-1.19)	0.56 (0.46-0.67)	1.11 (1.07-1.16)

CHD indicates coronary heart disease; MI, myocardial infarction; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; TG, triglycerides.

Adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, estimated glomerular filtration rate, and high-sensitivity C-reactive protein.

Table S11. Risk of coronary heart disease associated with high-sensitivity C-reactive protein.

	Cases/Person-years	Model 1	Model 2	Model 3	Model 4
CHD					
<1.00 mg/L	725/75,877.59	1.00	1.00	1.00	1.00
1.00-1.99 mg/L	846/68,560.77	1.29 (1.17-1.43)	1.18 (1.07-1.30)	1.15 (1.04-1.27)	1.09 (0.98-1.20)
≥2.00 mg/L	1832/118,362.90	1.63 (1.50-1.78)	1.52 (1.39-1.66)	1.42 (1.30-1.55)	1.30 (1.19-1.42)
Per SD increase		1.17 (1.14-1.21)	1.18 (1.14-1.22)	1.15 (1.11-1.18)	1.11 (1.08-1.15)
Per unit increase		1.08 (1.06-1.09)	1.08 (1.06-1.10)	1.07 (1.05-1.08)	1.05 (1.03-1.07)
MI					
<1.00 mg/L	274/78,438.98	1.00	1.00	1.00	1.00
1.00-1.99 mg/L	322/71,567.20	1.29 (1.1-1.52)	1.17 (1.00-1.38)	1.14 (0.97-1.33)	1.06 (0.90-1.25)
≥2.00 mg/L	737/124,495.53	1.71 (1.49-1.97)	1.61 (1.40-1.85)	1.46 (1.27-1.68)	1.30 (1.13-1.50)
Per SD increase		1.16 (1.10-1.22)	1.17 (1.11-1.23)	1.12 (1.06-1.18)	1.08 (1.02-1.14)
Per unit increase		1.08 (1.06-1.09)	1.08 (1.06-1.10)	1.07 (1.05-1.08)	1.05 (1.03-1.07)
Angina					
<1.00 mg/L	265/78,052.14	1.00	1.00	1.00	1.00
1.00-1.99 mg/L	317/70,880.84	1.32 (1.12-1.55)	1.22 (1.04-1.44)	1.19 (1.01-1.41)	1.14 (0.96-1.34)
≥2.00 mg/L	690/123,165.63	1.65 (1.43-1.90)	1.56 (1.35-1.79)	1.47 (1.27-1.70)	1.36 (1.18-1.58)
Per SD increase		1.17 (1.11-1.23)	1.17 (1.11-1.23)	1.15 (1.09-1.21)	1.12 (1.06-1.18)
Per unit increase		1.08 (1.05-1.10)	1.08 (1.05-1.10)	1.07 (1.04-1.09)	1.05 (1.03-1.08)

CHD indicates coronary heart disease; MI, myocardial infarction; SD, standard deviation.

Model 1: crude model.

Model 2: adjusted for age and gender.

Model 3: model 1+adjusted for ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, and family history of CHD.

Model 4: model 2+ adjusted for fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, estimated glomerular filtration rate, and remnant cholesterol.

Table S12. Risk of coronary heart disease associated with tertiles of high-sensitivity C-reactive protein.

	Cases/Person-years	HR (95%CI)
CHD		
Tertiles 1 (<1.17 mg/L)	894/90,073.37	1.00
Tertiles 2 (1.17-2.77 mg/L)	1171/87,668.71	1.09 (0.98-1.20)
Tertiles 3 ($\geq$ 2.77 mg/L)	1338/85,059.17	1.30 (1.19-1.42)
MI		
Tertiles 1 (<1.17 mg/L)	344/93,255.80	1.00
Tertiles 2 (1.17-2.77 mg/L)	463/91,716.54	1.14 (0.99-1.32)
Tertiles 3 ($\geq$ 2.77 mg/L)	526/89,529.38	1.25 (1.09-1.44)
Angina		
Tertiles 1 (<1.17 mg/L)	322/92,777.78	1.00
Tertiles 2 (1.17-2.77 mg/L)	456/90,724.70	1.27 (1.09-1.46)
Tertiles 3 ($\geq$ 2.77 mg/L)	494/88,596.12	1.37 (1.18-1.58)

CHD indicates coronary heart disease; MI, myocardial infarction; HR, hazard ratios.

Adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, and estimated glomerular filtration rate.

Table S13. Predictive ability of remnant cholesterol and high-sensitivity C-reactive protein for CHD.

	CHD	MI	Angina
RC			
C-index			
Basic model	0.695 (0.687-0.703)	0.710 (0.697-0.723)	0.669 (0.655-0.683)
Basic model+RC	0.697 (0.689-0.705)	0.711 (0.698-0.724)	0.673 (0.660-0.687)
<i>P</i> value	<0.001	<0.001	<0.001
AUC			
5-year	0.516	0.552	0.537
10-year	0.509	0.529	0.528
15-year	0.518	0.534	0.536
hs-CRP			
C-index			
Basic model	0.695 (0.687-0.703)	0.710 (0.697-0.723)	0.669 (0.655-0.683)
Basic model+hs-CRP	0.698 (0.689-0.706)	0.711 (0.699-0.724)	0.673 (0.659-0.686)
<i>P</i> value	<0.001	0.001	<0.001
AUC			
5-year	0.568	0.573	0.567
10-year	0.568	0.566	0.570
15-year	0.557	0.550	0.548

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein; AUC, area under the receiver operator characteristic curve.

Basic model included: age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, and estimated glomerular filtration rate.

Table S14. Mediation analyses of incident coronary heart disease.

	Total effect	Natural direct effect	Natural indirect effect	Proportion eliminated
	HR (95%CI)	HR (95%CI)	HR (95%CI)	% (95 %CI)
RC as the mediator				
CHD	1.05 (1.04-1.07)	1.01 (1.00-1.01)	1.06 (1.04-1.08)	11.77 (6.53-18.63)
MI	1.05 (1.02-1.08)	1.01 (1.00-1.01)	1.06 (1.04-1.09)	14.97 (8.07-27.77)
Angina	1.05 (1.03-1.08)	1.01 (1.01-1.01)	1.06 (1.04-1.09)	15.05 (8.05-27.47)
hs-CRP as the mediator				
CHD	1.32 (1.18-1.46)	1.04 (1.02-1.06)	1.42 (1.26-1.57)	13.09 (6.71-21.99)
MI	1.36 (1.15-1.60)	1.03 (0.99-1.06)	1.44 (1.21-1.70)	8.51 (-2.02-23.90)
Angina	1.45 (1.24-1.71)	1.04 (1.01-1.07)	1.58 (1.33-1.86)	9.83 (1.95-20.11)

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein; HR, hazard ratios; CI, confidence interval.

Adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, and estimated glomerular filtration rate.

Table S15. Joint analyses of remnant cholesterol and high-sensitivity C-reactive protein stratified by age.

	Age <60 years		Age ≥60 years	
	Cases/ Person-years	HR (95%CI)	Cases/ Person-years	HR (95%CI)
CHD				
Low RC/low hs-CRP	353/57,913.03	1.00	986/70,297.25	1.00
Low RC/high hs-CRP	379/37,878.78	1.35 (1.16-1.56)	1081/57,427.88	1.26 (1.16-1.38)
High RC/low hs-CRP	82/7878.29	1.41 (1.10-1.80)	150/8349.79	1.40 (1.18-1.67)
High RC/high hs-CRP	135/10,481.49	1.82 (1.48-2.24)	237/12,574.74	1.43 (1.23-1.65)
MI				
Low RC/low hs-CRP	130/59,165.72	1.00	362/73,927.81	1.00
Low RC/high hs-CRP	161/39,181.53	1.52 (1.20-1.93)	431/61,008.06	1.32 (1.14-1.52)
High RC/low hs-CRP	38/8158.78	1.58 (1.09-2.29)	66/8753.88	1.57 (1.20-2.05)
High RC/high hs-CRP	54/10,966.33	1.86 (1.34-2.59)	91/13,339.61	1.34 (1.06-1.71)
Angina				
Low RC/low hs-CRP	144/58,918.65	1.00	350/73,181.50	1.00
Low RC/high hs-CRP	146/38,891.25	1.26 (1.00-1.60)	394/60,208.89	1.33 (1.15-1.54)
High RC/low hs-CRP	33/8140.68	1.34 (0.91-1.97)	55/8692.14	1.44 (1.08-1.93)
High RC/high hs-CRP	64/10,842.23	2.01 (1.48-2.72)	86/13,223.25	1.47 (1.15-1.88)

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein; HR, hazard ratio; CI, confidence interval.

Adjusted for gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, and estimated glomerular filtration rate.

Table S16. Joint analyses of remnant cholesterol and high-sensitivity C-reactive protein stratified by gender.

	Men		Women	
	Cases/ Person-years	HR (95%CI)	Cases/ Person-years	HR (95%CI)
CHD				
Low RC/low hs-CRP	849/54,819.08	1.00	490/73,391.19	1.00
Low RC/high hs-CRP	885/39,957.35	1.30 (1.18-1.43)	575/55,349.31	1.26 (1.11-1.42)
High RC/low hs-CRP	171/9632.18	1.45 (1.23-1.72)	61/6595.90	1.31 (1.00-1.72)
High RC/high hs-CRP	220/10,510.60	1.49 (1.28-1.74)	152/12,545.64	1.62 (1.34-1.96)
MI				
Low RC/low hs-CRP	332/57,846.04	1.00	160/75,247.49	1.00
Low RC/high hs-CRP	383/42,714.48	1.37 (1.18-1.59)	209/57,475.11	1.34 (1.09-1.65)
High RC/low hs-CRP	83/10,102.67	1.63 (1.28-2.09)	21/6809.98	1.33 (0.84-2.11)
High RC/high hs-CRP	95/11,179.71	1.44 (1.14-1.83)	50/13,126.23	1.52 (1.09-2.11)
Angina				
Low RC/low hs-CRP	294/57,443.39	1.00	200/74,656.77	1.00
Low RC/high hs-CRP	312/42,219.82	1.35 (1.15-1.59)	228/56,880.32	1.25 (1.03-1.51)
High RC/low hs-CRP	65/10,087.95	1.50 (1.14-1.98)	23/6744.87	1.21 (0.78-1.88)
High RC/high hs-CRP	84/11,105.51	1.60 (1.24-2.06)	66/12,959.97	1.72 (1.29-2.29)

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein; HR, hazard ratio; CI, confidence interval.

Adjusted for age, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, and estimated glomerular filtration rate.

Table S17. Joint analyses of remnant cholesterol and high-sensitivity C-reactive protein stratified by estimated glomerular filtration rate.

	eGFR <60 mL/min/1.73m ²		eGFR ≥60 mL/min/1.73m ²	
	Cases/ Person-years	HR (95%CI)	Cases/ Person-years	HR (95%CI)
CHD				
Low RC/low hs-CRP	391/22,012.15	1.00	947/106,100.25	1.00
Low RC/high hs-CRP	557/25,449.87	1.27 (1.11-1.45)	903/69,723.12	1.34 (1.22-1.47)
High RC/low hs-CRP	55/2678.64	1.31 (0.98-1.75)	177/13,521.46	1.50 (1.27-1.77)
High RC/high hs-CRP	115/5508.27	1.42 (1.14-1.76)	256/17,521.03	1.66 (1.44-1.91)
MI				
Low RC/low hs-CRP	152/23,247.75	1.00	340/109,736.49	1.00
Low RC/high hs-CRP	220/27,269.89	1.25 (1.01-1.55)	372/72,786.03	1.48 (1.27-1.71)
High RC/low hs-CRP	26/2829.87	1.48 (0.97-2.27)	78/14,054.81	1.66 (1.29-2.14)
High RC/high hs-CRP	41/5862.71	1.22 (0.85-1.75)	103/18,416.23	1.65 (1.32-2.08)
Angina				
Low RC/low hs-CRP	127/23,120.83	1.00	367/108,870.03	1.00
Low RC/high hs-CRP	200/26,868.09	1.41 (1.13-1.77)	340/72,098.38	1.30 (1.12-1.51)
High RC/low hs-CRP	20/2810.63	1.51 (0.94-2.45)	68/13,994.22	1.43 (1.10-1.86)
High RC/high hs-CRP	38/5794.89	1.45 (1.00-2.11)	111/18,243.51	1.78 (1.43-2.22)

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein; HR, hazard ratio; CI, confidence interval; eGFR, estimated glomerular filtration rate.

Adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, and low-density lipoprotein cholesterol.

Table S18. Sensitivity analyses for the joint associations of remnant cholesterol and high-sensitivity C-reactive protein with coronary heart disease.

	Low RC/ low hs-CRP	Low RC/ high hs-CRP	Low RC/ low hs-CRP	Low RC/ low hs-CRP
CHD				
Sensitivity analysis 1	1.00	1.24 (1.14-1.33)	1.41 (1.22-1.63)	1.45 (1.29-1.64)
Sensitivity analysis 2	1.00	1.20 (1.11-1.30)	1.40 (1.21-1.62)	1.41 (1.24-1.59)
Sensitivity analysis 3	1.00	1.27 (1.18-1.37)	1.40 (1.21-1.61)	1.50 (1.33-1.69)
Sensitivity analysis 4	1.00	1.29 (1.19-1.39)	1.44 (1.25-1.66)	1.55 (1.38-1.75)
Sensitivity analysis 5	1.00	1.29 (1.19-1.39)	1.44 (1.25-1.67)	1.56 (1.38-1.75)
Sensitivity analysis 6	1.00	1.26 (1.16-1.36)	1.44 (1.25-1.66)	1.54 (1.36-1.73)
MI				
Sensitivity analysis 1	1.00	1.35 (1.19-1.52)	1.59 (1.28-1.98)	1.43 (1.18-1.74)
Sensitivity analysis 2	1.00	1.33 (1.17-1.51)	1.59 (1.28-1.98)	1.42 (1.17-1.73)
Sensitivity analysis 3	1.00	1.35 (1.20-1.53)	1.57 (1.27-1.95)	1.45 (1.20-1.75)
Sensitivity analysis 4	1.00	1.36 (1.21-1.54)	1.60 (1.29-1.99)	1.48 (1.22-1.80)
Sensitivity analysis 5	1.00	1.36 (1.21-1.54)	1.60 (1.29-1.99)	1.49 (1.23-1.80)
Sensitivity analysis 6	1.00	1.32 (1.17-1.49)	1.60 (1.29-1.99)	1.46 (1.20-1.77)
Angina				
Sensitivity analysis 1	1.00	1.27 (1.12-1.44)	1.42 (1.13-1.80)	1.59 (1.31-1.93)
Sensitivity analysis 2	1.00	1.22 (1.07-1.39)	1.41 (1.12-1.78)	1.53 (1.26-1.86)
Sensitivity analysis 3	1.00	1.30 (1.15-1.47)	1.39 (1.11-1.75)	1.61 (1.33-1.94)
Sensitivity analysis 4	1.00	1.31 (1.16-1.49)	1.45 (1.15-1.82)	1.68 (1.39-2.03)
Sensitivity analysis 5	1.00	1.31 (1.16-1.49)	1.45 (1.15-1.82)	1.68 (1.39-2.03)
Sensitivity analysis 6	1.00	1.28 (1.13-1.45)	1.43 (1.14-1.80)	1.65 (1.37-2.00)

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein.

Model 4: adjusted for gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, and estimated glomerular filtration rate.

Sensitivity analysis 1: model 4 + adjusted for obesity and diabetes.

Sensitivity analysis 2: model 4 + adjusted for obesity, diabetes, waist circumference, insulin use, and antihypertensive medication.

Sensitivity analysis 3: model 4 + excluded participants using lipid-lowering drugs.

Sensitivity analysis 4: model 4 + excluded participants using aspirin.

Sensitivity analysis 5: model 4 + excluded participants experienced coronary heart disease within the first two year of follow-up.

Sensitivity analysis 6: model 4 + used Fine-Gray competing risk model.

Table S19. Joint associations of remnant cholesterol and high-sensitivity C-reactive protein with coronary heart disease based on other categories.

	Cases/Person-years	Model 1	Model 2	Model 3	Model 4
CHD					
Group 1	259/27,918.74	1.00	1.00	1.00	1.00
Group 2	229/17,026.22	1.45 (1.22-1.74)	1.24 (1.04-1.48)	1.22 (1.02-1.46)	1.14 (0.96-1.37)
Group 3	384/22,926.50	1.82 (1.56-2.13)	1.57 (1.34-1.84)	1.48 (1.27-1.74)	1.34 (1.14-1.57)
Group 4	379/41,560.21	0.98 (0.84-1.15)	0.92 (0.78-1.07)	0.94 (0.80-1.10)	1.04 (0.88-1.22)
Group 5	472/41,705.10	1.22 (1.05-1.42)	1.07 (0.92-1.25)	1.06 (0.91-1.24)	1.12 (0.96-1.31)
Group 6	1076/72,380.16	1.61 (1.41-1.84)	1.43 (1.25-1.64)	1.36 (1.19-1.56)	1.40 (1.22-1.62)
Group 7	87/6398.63	1.46 (1.15-1.87)	1.34 (1.05-1.70)	1.34 (1.05-1.72)	1.61 (1.26-2.06)
Group 8	145/9829.45	1.59 (1.30-1.95)	1.37 (1.12-1.68)	1.37 (1.12-1.68)	1.53 (1.24-1.89)
Group 9	372/23,056.24	1.75 (1.49-2.05)	1.60 (1.36-1.87)	1.52 (1.29-1.78)	1.68 (1.42-1.99)
MI					
Group 1	85/28,772.66	1.00	1.00	1.00	1.00
Group 2	77/17,896.42	1.46 (1.07-1.99)	1.24 (0.91-1.69)	1.22 (0.90-1.67)	1.15 (0.85-1.57)
Group 3	150/24,130.35	2.14 (1.64-2.79)	1.85 (1.42-2.41)	1.70 (1.30-2.22)	1.52 (1.16-1.99)
Group 4	150/43,013.59	1.18 (0.90-1.54)	1.10 (0.84-1.43)	1.12 (0.86-1.46)	1.17 (0.89-1.53)
Group 5	180/43,410.87	1.40 (1.09-1.82)	1.23 (0.95-1.59)	1.20 (0.93-1.56)	1.20 (0.92-1.56)
Group 6	442/76,059.24	1.98 (1.57-2.50)	1.77 (1.41-2.24)	1.64 (1.30-2.07)	1.57 (1.23-2.00)
Group 7	39/6652.73	1.98 (1.35-2.89)	1.77 (1.21-2.58)	1.76 (1.21-2.58)	1.94 (1.32-2.86)
Group 8	65/10,259.92	2.14 (1.55-2.96)	1.81 (1.31-2.50)	1.76 (1.27-2.43)	1.80 (1.29-2.51)
Group 9	145/24,305.93	2.03 (1.55-2.65)	1.85 (1.42-2.42)	1.69 (1.29-2.21)	1.71 (1.29-2.27)
Angina					
Group 1	97/28,570.05	1.00	1.00	1.00	1.00
Group 2	77/17,667.21	1.28 (0.95-1.73)	1.13 (0.84-1.52)	1.10 (0.82-1.48)	1.04 (0.77-1.41)
Group 3	119/23,988.09	1.46 (1.12-1.91)	1.29 (0.99-1.69)	1.22 (0.93-1.60)	1.15 (0.88-1.50)
Group 4	129/42,856.97	0.89 (0.68-1.15)	0.84 (0.64-1.09)	0.85 (0.65-1.11)	0.95 (0.72-1.24)
Group 5	191/43,005.92	1.31 (1.03-1.67)	1.17 (0.92-1.50)	1.16 (0.91-1.48)	1.26 (0.98-1.62)
Group 6	421/75,112.06	1.65 (1.33-2.06)	1.50 (1.20-1.87)	1.43 (1.15-1.79)	1.53 (1.21-1.92)
Group 7	39/6625.11	1.74 (1.20-2.52)	1.61 (1.11-2.34)	1.56 (1.07-2.26)	1.87 (1.28-2.73)
Group 8	49/10,207.71	1.41 (1.00-1.99)	1.25 (0.89-1.76)	1.24 (0.88-1.75)	1.43 (1.00-2.04)
Group 9	150/24,065.48	1.84 (1.42-2.37)	1.70 (1.32-2.19)	1.62 (1.25-2.09)	1.86 (1.42-2.43)

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein.

Group 1: RC <0.50 mmol/L and hs-CRP <1.00 mg/L; Group 2: RC <0.50 mmol/L and hs-CRP 1.00-1.99 mg/L; Group 3: RC <0.50 mmol/L and hs-CRP ≥2.00 mg/L; Group 4: RC 0.5-0.99 mmol/L and hs-CRP <1.00 mg/L; Group 5: RC 0.5-0.99 mmol/L and hs-CRP 1.00-1.99 mg/L; Group 6: RC 0.5-0.99 mmol/L and hs-CRP ≥2.00 mg/L; Group 7: RC ≥1.00 mmol/L and hs-CRP <1.00 mg/L; Group 8: RC ≥1.00 mmol/L and hs-CRP 1.00-1.99 mg/L; Group 9: RC ≥1.00 mmol/L and hs-CRP ≥2.00 mg/L.

Model 1: crude model.

Model 2: adjusted for age and gender.

Model 3: model 1+adjusted for ethnicity, assessment centers, education levels, Townsend deprivation index,

smoking status, drinking status, physical activity, healthy diet, and family history of CHD.

Model 4: model 2+ adjusted for fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, and estimated glomerular filtration rate.

Table S20. Joint analyses for the tertiles of remnant cholesterol and high-sensitivity C-reactive protein.

	Cases/Person-years	HR (95%CI)
CHD		
Low RC/low hs-CRP	1417/126,341.5	1.00
Low RC/high hs-CRP	782/50,172.22	1.21 (1.11-1.32)
High RC/low hs-CRP	648/51,400.58	1.20 (1.09-1.32)
High RC/high hs-CRP	556/34,886.95	1.45 (1.30-1.60)
MI		
Low RC/low hs-CRP	533/131,392.64	1.00
Low RC/high hs-CRP	301/52,799.35	1.19 (1.03-1.38)
High RC/low hs-CRP	274/53,579.7	1.25 (1.07-1.45)
High RC/high hs-CRP	225/36,730.04	1.40 (1.19-1.65)
Angina		
Low RC/low hs-CRP	511/130,357.39	1.00
Low RC/high hs-CRP	286/52,230.84	1.27 (1.09-1.47)
High RC/low hs-CRP	267/53,145.09	1.37 (1.17-1.60)
High RC/high hs-CRP	208/36,365.28	1.51 (1.27-1.79)

CHD indicates coronary heart disease; MI, myocardial infarction; HR, hazard ratios; CI, confidence interval.

Adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, and estimated glomerular filtration rate.

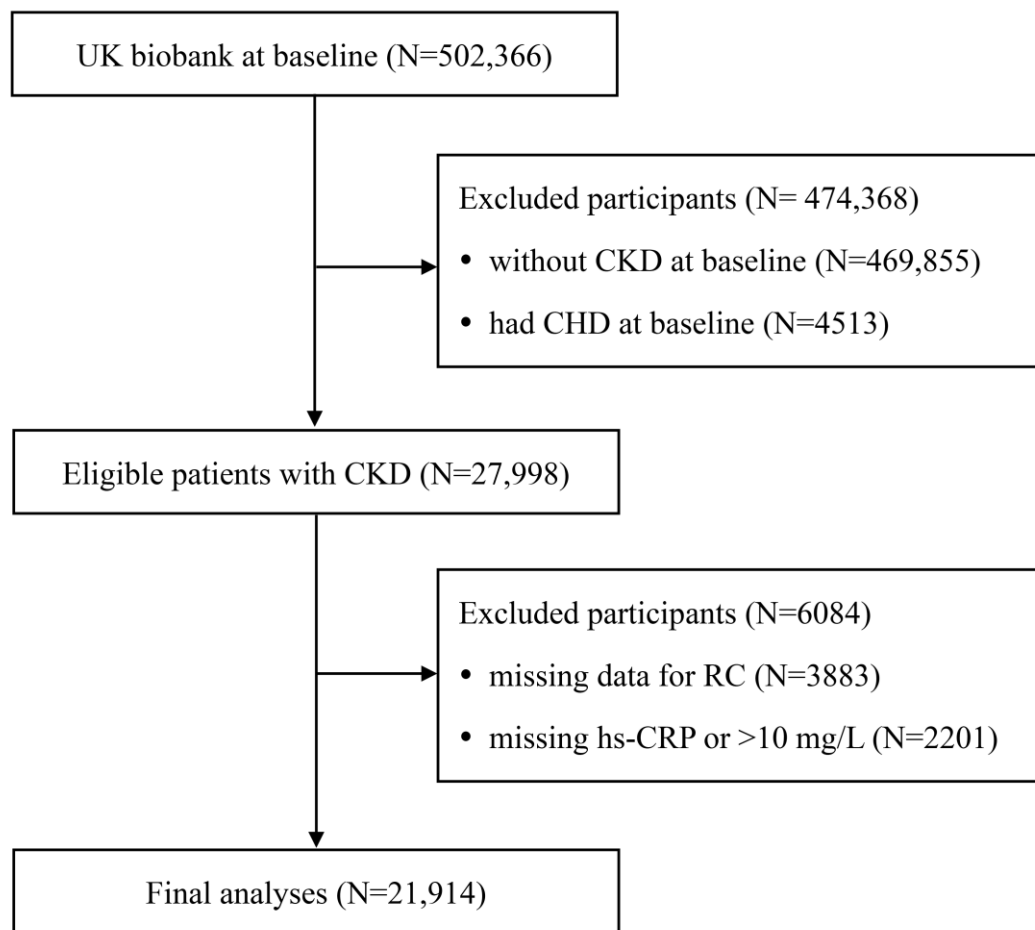


Figure S1. Flowchart of study participants included and excluded in the analyses.

CKD indicates chronic kidney disease; CHD, coronary heart disease; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein.

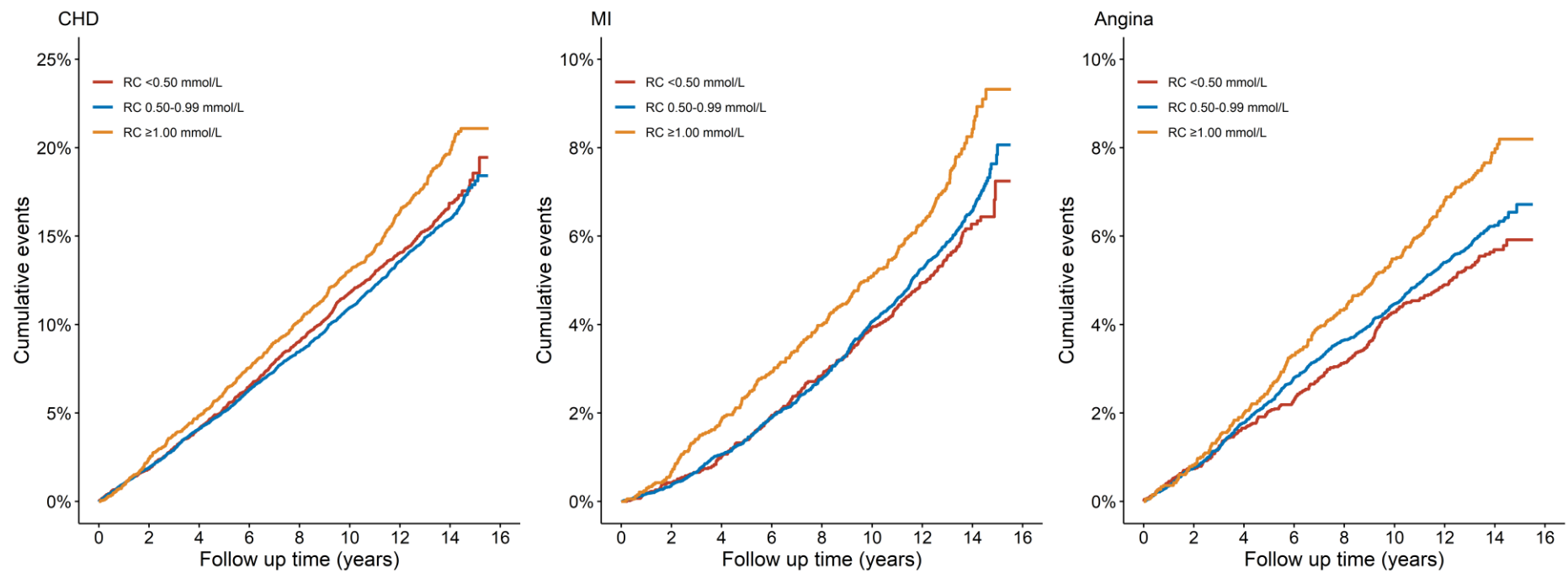


Figure S2. Kaplan-Meier plots of cumulative incidence of incident coronary heart disease based on remnant cholesterol groups.

CHD indicates coronary heart disease; MI, myocardial infarction, RC, remnant cholesterol.

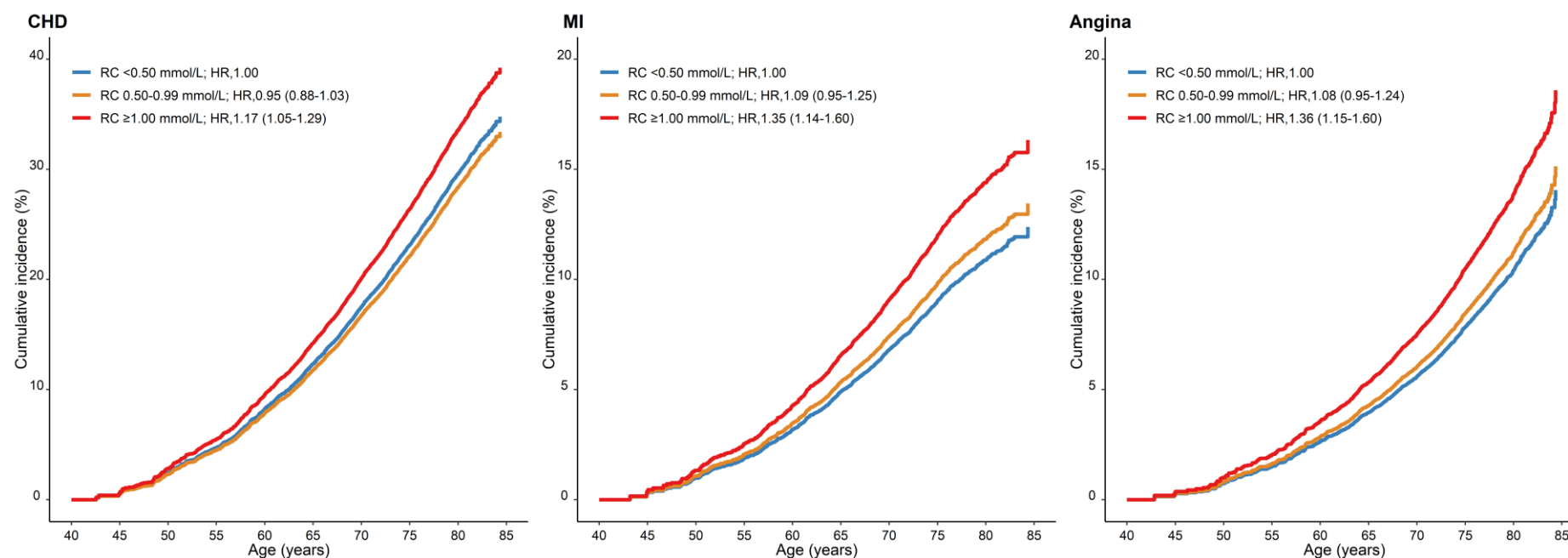


Figure S3. Cumulative incidence curves for coronary heart disease based on categories of remnant cholesterol with age as the timescale.

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; HR, hazard ratio.

Fine and Gray's model accounting for competing risk of non-CHD deaths after adjustment of sex was used.

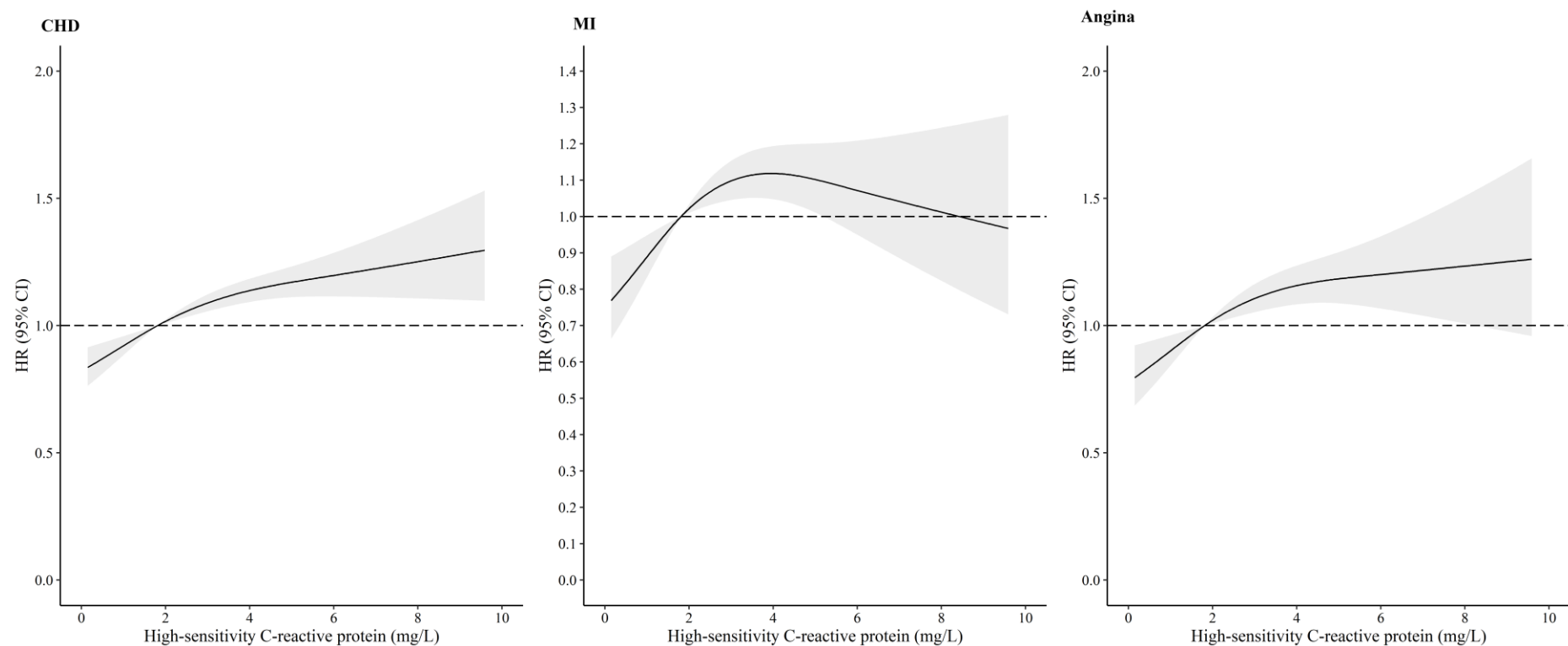


Figure S4. Dose-response association between high-sensitivity C-reactive protein and risk of incident coronary heart disease.

CHD indicates coronary heart disease; MI, myocardial infarction; HR, hazard ratio; CI, confidence interval.

Adjusted for age, gender, ethnicity, assessment centers, education levels, Townsend deprivation index, smoking status, drinking status, physical activity, healthy diet, family history of CHD, fasting time, hypertension, lipid-lowering drugs use, aspirin use, low-density lipoprotein cholesterol, estimated glomerular filtration rate, and remnant cholesterol.

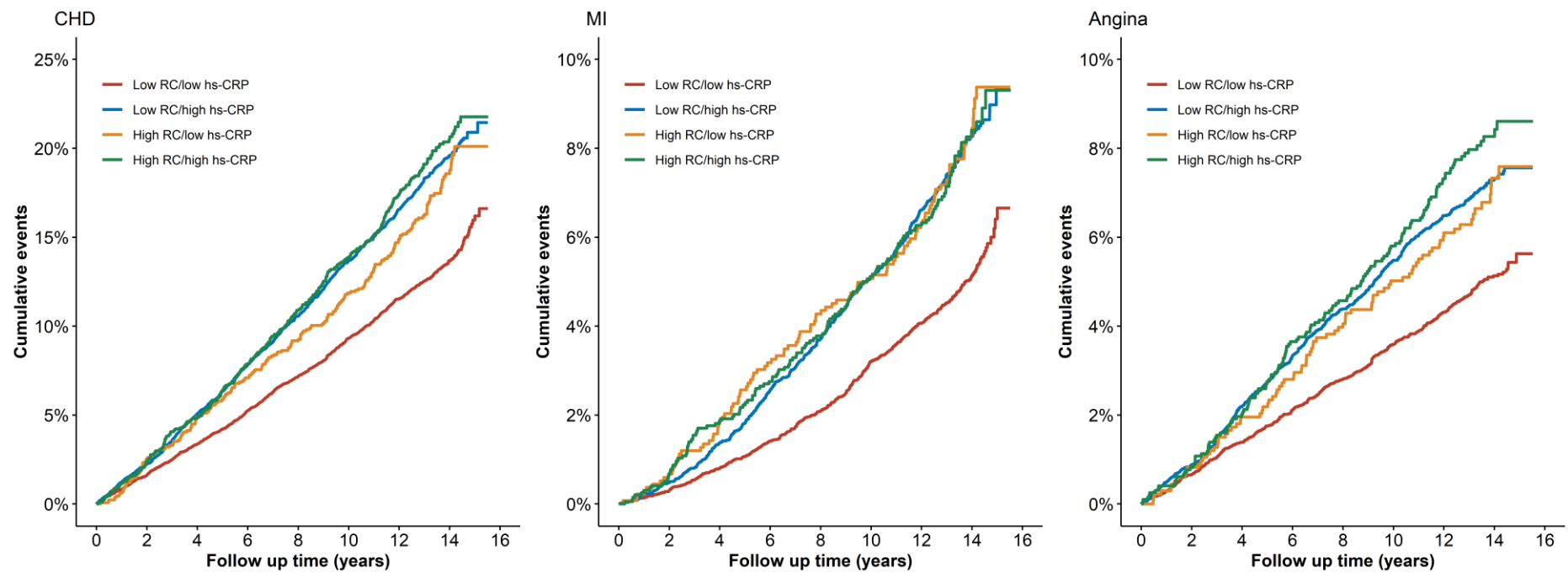


Figure S5. Kaplan-Meier plots of cumulative incidence of incident coronary heart disease based on categories of remnant cholesterol and high-sensitivity C-reactive protein.

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol.

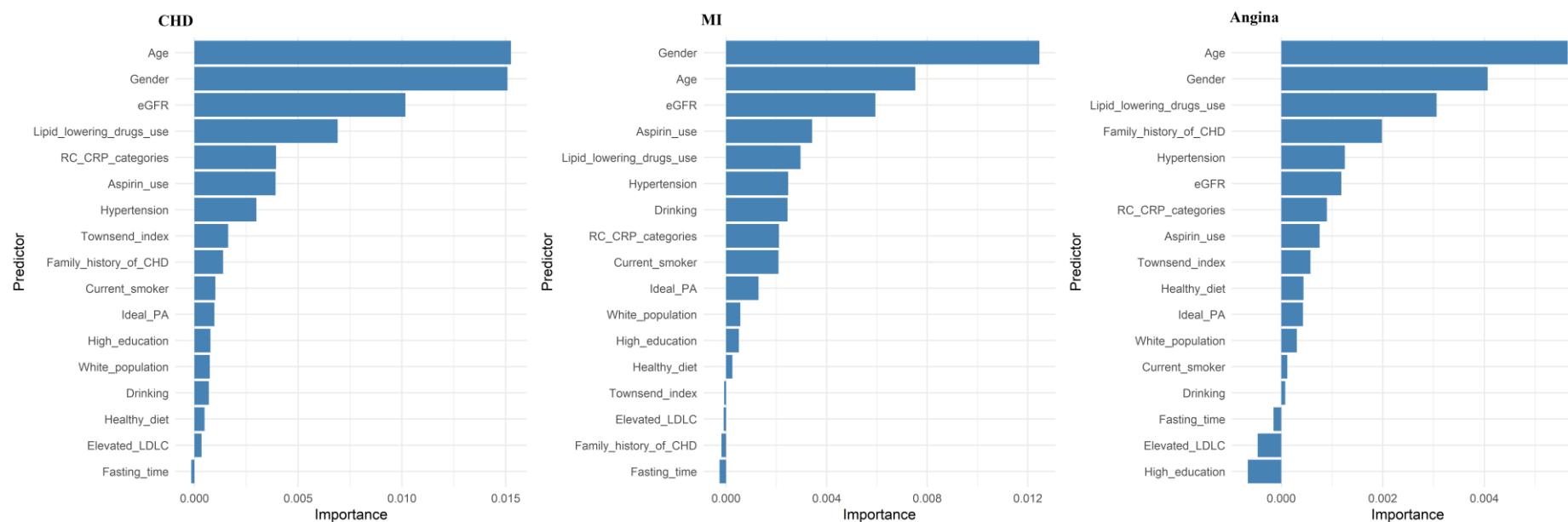


Figure S6. Random forest variable importance for remnant cholesterol and high-sensitivity C-reactive protein.

CHD indicates coronary heart disease; MI, myocardial infarction; eGFR, estimated glomerular filtration rate; RC_CRP_categories, joint categories of remnant cholesterol (RC) and high-sensitivity C-reactive protein (hs-CRP); PA, physical activity; LDL-C, low-density lipoprotein cholesterol.

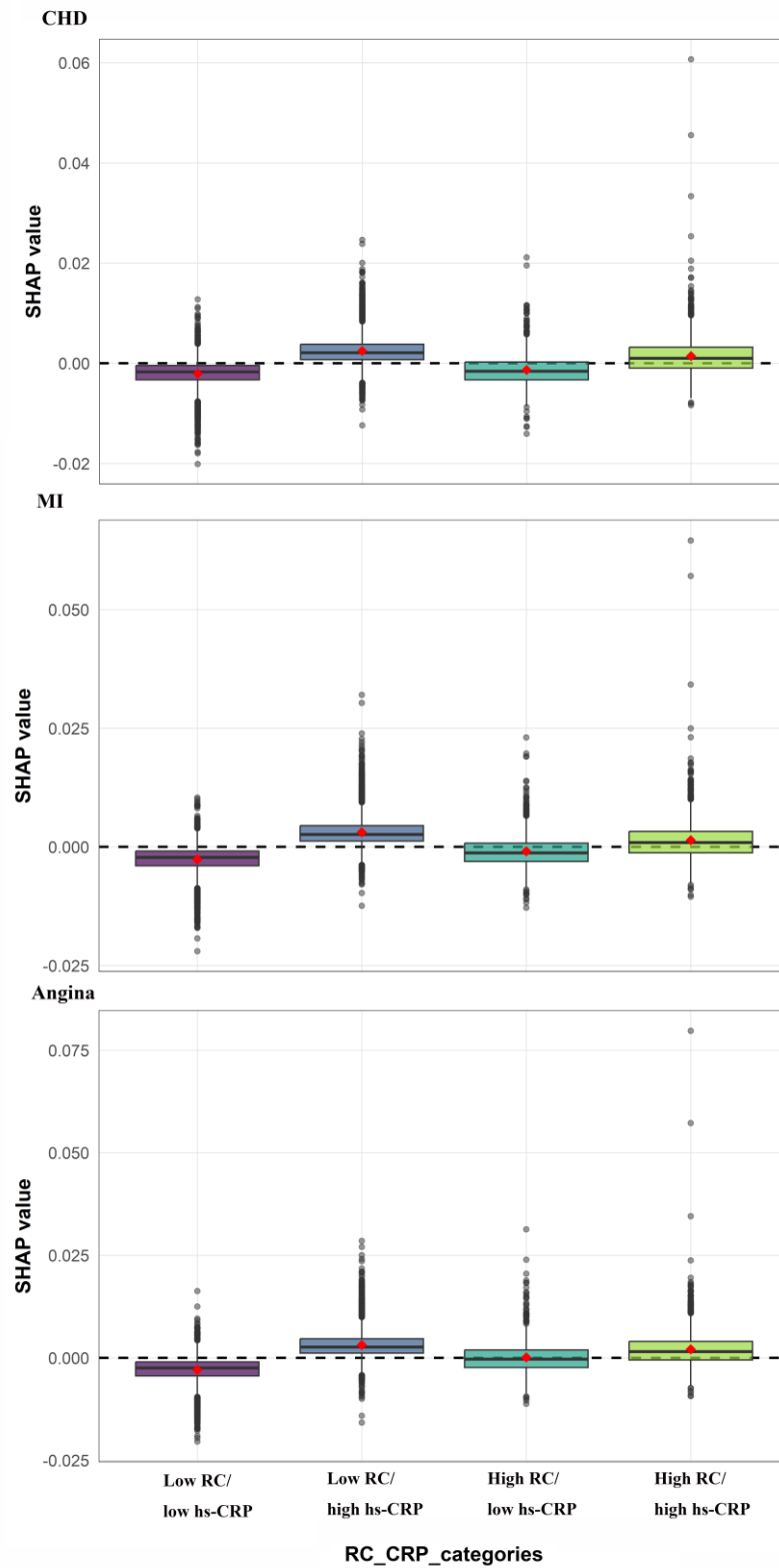


Figure S7. Shapley Additive Explanations dependence plots for remnant cholesterol and high-sensitivity C-reactive protein

CHD indicates coronary heart disease; MI, myocardial infarction; RC_CRP_categories, joint categories of remnant cholesterol (RC) and high-sensitivity C-reactive protein (hs-CRP).

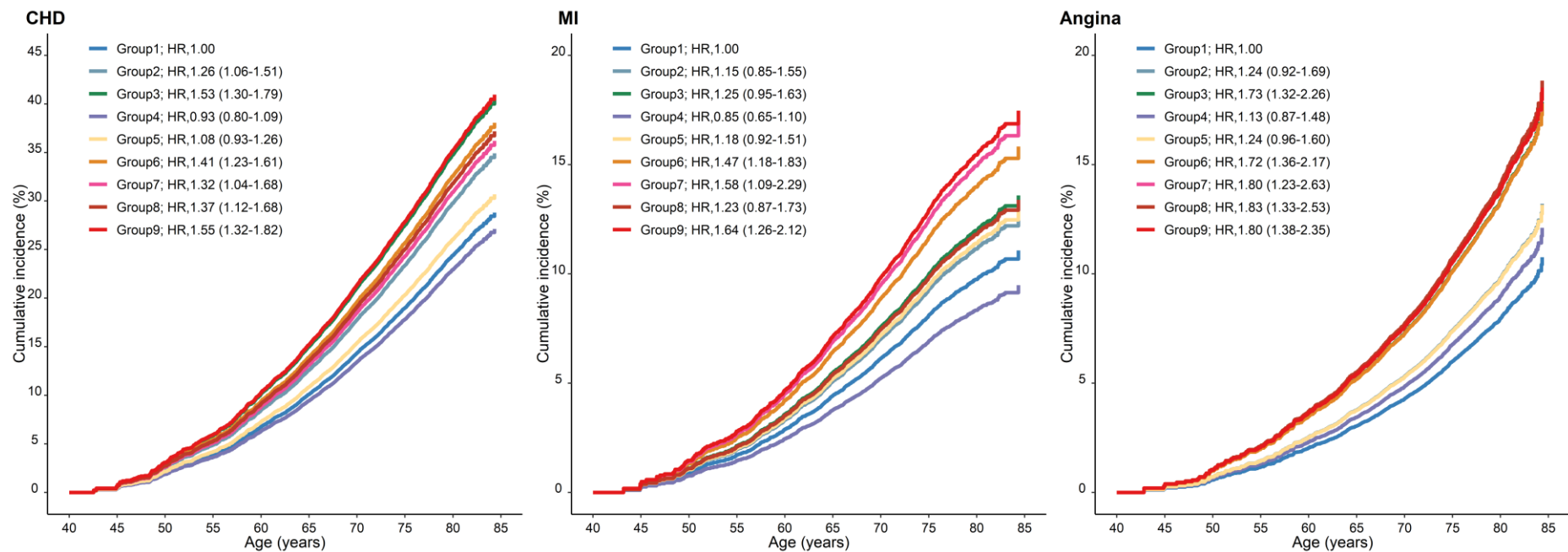


Figure S8. Cumulative incidence curves for combined groups based on other categories.

CHD indicates coronary heart disease; MI, myocardial infarction; RC, remnant cholesterol; hs-CRP, high-sensitivity C-reactive protein; HR, hazard ratio.

Group 1: RC <0.50 mmol/L and hs-CRP <1.00 mg/L; Group 2: RC <0.50 mmol/L and hs-CRP 1.00-1.99 mg/L; Group 3: RC <0.50 mmol/L and hs-CRP ≥ 2.00 mg/L; Group 4: RC 0.5-0.99 mmol/L and hs-CRP <1.00 mg/L; Group 5: RC 0.5-0.99 mmol/L and hs-CRP 1.00-1.99 mg/L; Group 6: RC 0.5-0.99 mmol/L and hs-CRP ≥ 2.00 mg/L; Group 7: RC ≥ 1.00 mmol/L and hs-CRP <1.00 mg/L; Group 8: RC ≥ 1.00 mmol/L and hs-CRP 1.00-1.99 mg/L; Group 9: RC ≥ 1.00 mmol/L and hs-CRP ≥ 2.00 mg/L.

Fine and Gray's model accounting for competing risk of non-CHD deaths after adjustment of sex was used.