SUPPLEMENTAL MATERIAL

Supplemental Table 1. Definition of covariates analyzed among KPSC members at baseline.

Covariate	Definition
Education	Based on block level 2000 US census data linked through KPSC members' addresses using geocoding.
Annual household income	Based on block level 2000 US census data linked through KPSC members' addresses using geocoding.
Alcohol consumption	Based on members' self-report.
Current smoking	Based on members' self-report.
Diabetes	Any of the following: 1. At least one inpatient stay with a discharge ICD-9 diagnosis code of 250.x in any position. 2. At least two outpatient ICD-9 diagnosis codes of 250.x in any position. Diabetes was ascertained using all available electronic health records before baseline.*
Reduced eGFR	For each KPSC member, eGFR was calculated using the CKD-EPI equation[1] in conjunction with serum creatinine measurements obtained at the Kaiser Permanente Regional Laboratory between 1 year before and 1 year after baseline.* For KPSC members with >1 serum creatinine measurements, eGFR was calculated using the measurement on the closest date to their baseline. Reduced eGFR was defined by an eGFR <60 ml/min/1.73 m^2.[2]
History of stroke	At least one ICD-9 diagnosis code of 430, 431, 432.0, 432.1, 432.9, 433.01, 433.11, 433.21, 433.31, 433.81, 433.91, 434.0, 434.00, 434.01, 434.1, 434.10, 434.11, 434.9, 434.90, 434.91,436 or 438.x in any position using all available electronic health records before baseline.*
Use of antihypertensive medications	A dispense of any antihypertensive medication within 365 before baseline.*
Exclusion criteria	

History of CHD	Any of the following:
	1. Acute MI: At least one inpatient stay with a discharge ICD-9 diagnosis code of 410.x in any position.
	2. Coronary revascularization: At least one inpatient or outpatient code for PCI (ICD-9 procedure codes 00.66, 36.01, 36.02, 36.05-36.07, 36.09; CPT codes 92980-92982, 92984, 92995, 92996) or CABG (ICD-9 procedure codes 36.10-36.19; CPT codes 33510-33519, 33521-33523, 33530, 33533-33536, 93539, 93540)
	3. Other ischemic heart disease: Any of the following:
	    a. At least one inpatient stay with a discharge ICD-9 diagnosis code of 411.xx, 412.00, 413.xx, or 414.xx in any position; or
	    b. At least two outpatient ICD-9 diagnosis codes of 411.xx, 412.00, 413.xx, or 414.xx in any position.
	Acute MI, coronary revascularization and other ischemic heart disease were ascertained using all available electronic health records before baseline.*

Use of lipid-lowering medications	A dispense of any lipid-lowering medication within 365 days before baseline.*

* For each KPSC member, baseline was defined by the date of the first lipid panel containing TC, HDL-C, LDL-C and TG between January 1, 2003 and October 31, 2007 after ≥365 days of continuous healthcare coverage.

CABG: coronary artery bypass graft; CHD: coronary heart disease; CKD-EPI: Chronic Kidney Disease Epidemiology Collaboration; CPT: Current Procedural Terminology; eGFR: estimated glomerular filtration rate; HDL-C: high-density lipoprotein cholesterol; ICD-9: International Classification of Diseases, 9th version; KPSC: Kaiser Permanente Southern California; LDL-C: low-density lipoprotein cholesterol; MI: myocardial infarction; PCI: percutaneous coronary intervention; TC: total cholesterol; TG: triglycerides; US: United States.

Supplemental Table 2. Number of coronary heart disease incident events by serum lipids category among individuals from REGARDS, KPSC and ARIC.*

	Category of serum lipids†			
	1	2	3	4
LDL-C, *range (mg/dL)*	*≤102*	*103 to 123*	*124 to 145*	*≥146*
REGARDS, events/individuals‡	56 / 2,470	48 / 2,411	60 / 2,346	61 / 2,351
KPSC, events/individuals	1,042 / 66,101	1,159 / 73,786	1,427 / 82,927	2,535 / 114,037
ARIC, events/individuals‡	64 / 2,686	79 / 2,856	127 / 3,345	313 / 5,701
Non-HDL-C, *range (mg/dL)*	*≤122*	*123 to 146*	*147 to 172*	*≥173*
REGARDS, events/individuals‡	42 / 2,408	53 / 2,419	63 / 2,394	67 / 2,357
KPSC, events/individuals	775 / 59,707	1,022 / 72,460	1,522 / 87,038	3,228 / 127,390
ARIC, events/individuals‡	51 / 2,643	82 / 2,951	125 / 3,457	325 / 5,539
HDL-C, *range (mg/dL)*	*≤41*	*42 to 51*	*52 to 63*	*≥64*
REGARDS, events/individuals‡	82 / 2,452	62 / 2,549	45 / 2,252	36 / 2,325
KPSC, events/individuals	2,668 / 81,804	1,848 / 94,221	1,197 / 87,968	834 / 82,602
ARIC, events/individuals‡	296 / 4,282	147 / 3,595	91 / 3,383	49 / 3,330
TG, *range (mg/dL)*	*≤77*	*78 to 105*	*106 to 151*	*≥152*
REGARDS, events/individuals‡	32 / 2,450	50 / 2,362	60 / 2,374	83 / 2,392
KPSC, events/individuals	769 / 73,585	984 / 69,153	1,594 / 85,197	3,200 / 118,660
ARIC, events/individuals‡	77 / 3,650	96 / 3,369	170 / 3,816	240 / 3,755
Total-to-HDL-C, *range*	*<3.12*	*3.12 to <3.90*	*3.90 to <4.90*	*≥4.90*
REGARDS, events/individuals‡	40 / 2,406	45 / 2,392	55 / 2,392	85 / 2,388
KPSC, events/individuals	679 / 70,834	994 / 80,844	1,640 / 91,759	3,234 / 103,158
ARIC, events/individuals‡	40 / 3,005	59 / 2,969	141 / 3,480	343 / 5,136
TG-to-HDL-C ratio, *range*	*<1.31*	*1.31 to <2.06*	*2.06 to <3.37*	*≥3.37*
REGARDS, events/individuals‡	28 / 2,385	52 / 2,393	57 / 2,391	88 / 2,409
KPSC, events/individuals	708 / 77,115	1,024 / 74,964	1,563 / 84,563	3,252 / 109,953
ARIC, events/individuals‡	53 / 3,490	95 / 3,385	155 / 3,660	280 / 4,055

ARIC: Atherosclerosis Risk In Communities; CHD: coronary heart disease; HDL-C: high-density lipoprotein cholesterol; ICD-9: International Classification of Diseases, 9th version; ICD-10: International Classification of Diseases, 10th version; KPSC: Kaiser Permanente Southern California; LDL-C: low-density lipoprotein cholesterol; MI: myocardial infarction; REGARDS: REasons for Geographic And Racial Differences in Stroke; TG: triglycerides.

 * CHD definition from REGARDS and ARIC includes definite or probable MI or CHD death. CHD definition for KPSC includes non-fatal MI (defined by an inpatient stay with a discharge ICD-9 diagnosis code of 410.x in any position) or CHD death (defined by an underlying cause of death ICD-10 code I20-I25).

† Categories of serum lipids were defined based on quartiles from REGARDS participants.

‡ Average across multiple imputed datasets.

Supplemental Table 3. Hazard ratios for coronary heart disease associated with serum lipids among individuals from REGARDS, KPSC and ARIC.

	Category of serum lipids*				Trend
	1	2	3	4	
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	p-value
REGARDS					
LDL-C, *range (mg/dL)*	*≤102*	*103 to 123*	*124 to 145*	*≥146*	
Model 1	1	0.90 (0.59-1.38)	1.13 (0.75-1.71)	1.14 (0.75-1.74)	0.38
Model 2	1	0.92 (0.60-1.41)	1.18 (0.78-1.79)	1.15 (0.75-1.77)	0.34
Model 3	1	0.93 (0.61-1.43)	1.23 (0.81-1.87)	1.25 (0.81-1.92)	0.19
Non-HDL-C, *range (mg/dL)*	*≤122*	*123 to 146*	*147 to 172*	*≥173*	
Model 1	1	1.21 (0.80-1.84)	1.46 (0.97-2.20)	1.59 (1.06-2.38)	0.02
Model 2	1	1.24 (0.82-1.89)	1.50 (1.00-2.26)	1.54 (1.03-2.31)	0.02
Model 3	1	1.19 (0.78-1.82)	1.49 (0.99-2.25)	1.49 (1.00-2.24)	0.03
HDL-C, *range (mg/dL)*	*≤41*	*42 to 51*	*52 to 63*	*≥64*	
Model 1	1	0.81 (0.58-1.15)	0.72 (0.49-1.08)	0.61 (0.39-0.94)	0.02
Model 2	1	0.85 (0.60-1.21)	0.83 (0.56-1.24)	0.70 (0.45-1.09)	0.12
Model 3	1	0.97 (0.68-1.38)	0.99 (0.66-1.49)	0.83 (0.53-1.30)	0.50
TG, *range (mg/dL)*	*≤77*	*78 to 105*	*106 to 151*	*≥152*	
Model 1	1	1.56 (0.98-2.50)	1.83 (1.17-2.88)	2.58 (1.65-4.05)	<0.001
Model 2	1	1.43 (0.90-2.30)	1.68 (1.07-2.64)	2.12 (1.35-3.34)	0.001
Model 3	1	1.34 (0.84-2.15)	1.48 (0.94-2.34)	1.68 (1.06-2.67)	0.03
Total-to-HDL-C ratio, *range*	*<3.12*	*3.12 to <3.90*	*3.90 to <4.90*	*≥4.90*	
Model 1	1	1.05 (0.67-1.65)	1.21 (0.78-1.88)	1.78 (1.18-2.67)	0.003
Model 2	1	1.02 (0.65-1.60)	1.13 (0.73-1.77)	1.57 (1.04-2.37)	0.02
Model 3	1	0.97 (0.62-1.53)	1.10 (0.70-1.72)	1.37 (0.90-2.08)	0.08
TG-to-HDL-C ratio, *range*	*<1.31*	*1.31 to <2.06*	*2.06 to <3.37*	*≥3.37*	
Model 1	1	1.69 (1.00-2.84)	1.82 (1.10-3.00)	2.71 (1.64-4.50)	<0.001
Model 2	1	1.56 (0.92-2.64)	1.59 (0.96-2.63)	2.22 (1.33-3.70)	0.002
Model 3	1	1.52 (0.90-2.57)	1.44 (0.87-2.38)	1.78 (1.06-2.97)	0.05

Supplemental Table 3. *Continuation.*

	Category of serum lipids*				Trend
	1	2	3	4	
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	p-value
KPSC					
LDL-C, *range (mg/dL)*	*≤102*	*103 to 123*	*124 to 145*	*≥146*	
Model 1	1	0.95 (0.87-1.03)	1.00 (0.93-1.09)	1.28 (1.19-1.38)	<0.001
Model 2	1	0.99 (0.91-1.08)	1.04 (0.96-1.13)	1.31 (1.21-1.41)	<0.001
Model 3	1	1.06 (0.97-1.15)	1.16 (1.07-1.26)	1.49 (1.38-1.61)	<0.001
Non-HDL-C, *range (mg/dL)*	*≤122*	*123 to 146*	*147 to 172*	*≥173*	
Model 1	1	0.99 (0.90-1.09)	1.16 (1.06-1.27)	1.66 (1.54-1.80)	<0.001
Model 2	1	1.03 (0.93-1.13)	1.19 (1.09-1.30)	1.65 (1.52-1.79)	<0.001
Model 3	1	1.05 (0.96-1.16)	1.23 (1.13-1.35)	1.72 (1.59-1.87)	<0.001
HDL-C, *range (mg/dL)*	*≤41*	*42 to 51*	*52 to 63*	*≥64*	
Model 1	1	0.66 (0.62-0.70)	0.50 (0.47-0.54)	0.40 (0.37-0.44)	<0.001
Model 2	1	0.69 (0.65-0.73)	0.55 (0.51-0.59)	0.46 (0.42-0.50)	<0.001
Model 3	1	0.74 (0.70-0.79)	0.63 (0.58-0.68)	0.55 (0.50-0.60)	<0.001
TG, *range (mg/dL)*	*≤77*	*78 to 105*	*106 to 151*	*≥152*	
Model 1	1	1.28 (1.16-1.41)	1.62 (1.48-1.76)	2.24 (2.07-2.42)	<0.001
Model 2	1	1.23 (1.12-1.36)	1.53 (1.40-1.68)	2.05 (1.89-2.22)	<0.001
Model 3	1	1.18 (1.07-1.31)	1.41 (1.29-1.54)	1.75 (1.61-1.90)	<0.001
Total-to-HDL-C ratio, *range*	*<3.12*	*3.12 to <3.90*	*3.90 to <4.90*	*≥4.90*	
Model 1	1	1.14 (1.03-1.25)	1.50 (1.37-1.64)	2.46 (2.25-2.68)	<0.001
Model 2	1	1.12 (1.01-1.24)	1.45 (1.32-1.60)	2.24 (2.05-2.45)	<0.001
Model 3	1	1.09 (0.99-1.21)	1.37 (1.25-1.51)	2.02 (1.85-2.21)	<0.001
TG-to-HDL-C ratio, *range*	*<1.31*	*1.31 to <2.06*	*2.06 to <3.37*	*≥3.37*	
Model 1	1	1.36 (1.24-1.50)	1.73 (1.58-1.89)	2.59 (2.38-2.82)	<0.001
Model 2	1	1.31 (1.19-1.45)	1.61 (1.47-1.77)	2.32 (2.13-2.53)	<0.001
Model 3	1	1.25 (1.13-1.38)	1.47 (1.34-1.61)	1.93 (1.77-2.11)	<0.001

Supplemental Table 3. *Continuation.*

| | Category of serum lipids* | | | | Trend |
| | 1 | 2 | 3 | 4 | |
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	p-value
ARIC					
LDL-C, *range (mg/dL)*	*≤102*	*103 to 123*	*124 to 145*	*≥146*	
Model 1	1	1.10 (0.78-1.55)	1.42 (1.03-1.96)	1.99 (1.50-2.64)	<0.001
Model 2	1	1.10 (0.78-1.55)	1.40 (1.02-1.93)	1.97 (1.48-2.61)	<0.001
Model 3	1	1.08 (0.77-1.52)	1.39 (1.01-1.91)	1.89 (1.42-2.51)	<0.001
Non-HDL-C, *range (mg/dL)*	*≤122*	*123 to 146*	*147 to 172*	*≥173*	
Model 1	1	1.33 (0.93-1.90)	1.63 (1.17-2.27)	2.58 (1.90-3.50)	<0.001
Model 2	1	1.33 (0.93-1.90)	1.61 (1.16-2.25)	2.55 (1.88-3.45)	<0.001
Model 3	1	1.28 (0.89-1.82)	1.50 (1.08-2.10)	2.24 (1.65-3.04)	<0.001
HDL-C, *range (mg/dL)*	*≤41*	*42 to 51*	*52 to 63*	*≥64*	
Model 1	1	0.62 (0.51-0.77)	0.43 (0.33-0.55)	0.26 (0.18-0.35)	<0.001
Model 2	1	0.66 (0.53-0.81)	0.47 (0.36-0.60)	0.29 (0.21-0.41)	<0.001
Model 3	1	0.74 (0.60-0.92)	0.58 (0.45-0.74)	0.40 (0.29-0.56)	<0.001
TG, *range (mg/dL)*	*≤77*	*78 to 105*	*106 to 151*	*≥152*	
Model 1	1	1.32 (0.97-1.80)	1.98 (1.50-2.62)	2.82 (2.16-3.69)	<0.001
Model 2	1	1.28 (0.94-1.74)	1.90 (1.44-2.52)	2.69 (2.05-3.52)	<0.001
Model 3	1	1.21 (0.89-1.65)	1.64 (1.24-2.17)	1.94 (1.47-2.55)	<0.001
Total-to-HDL-C ratio, *range*	*<3.12*	*3.12 to <3.90*	*3.90 to <4.90*	*≥4.90*	
Model 1	1	1.35 (0.90-2.05)	2.61 (1.82-3.75)	4.11 (2.91-5.79)	<0.001
Model 2	1	1.32 (0.87-2.00)	2.47 (1.72-3.55)	3.71 (2.63-5.24)	<0.001
Model 3	1	1.25 (0.83-1.90)	2.14 (1.49-3.08)	2.90 (2.05-4.10)	<0.001
TG-to-HDL-C ratio, *range*	*<1.31*	*1.31 to <2.06*	*2.06 to <3.37*	*≥3.37*	
Model 1	1	1.73 (1.21-2.47)	2.50 (1.80-3.46)	3.99 (2.92-5.46)	<0.001
Model 2	1	1.67 (1.17-2.39)	2.33 (1.68-3.23)	3.60 (2.63-4.92)	<0.001
Model 3	1	1.55 (1.09-2.21)	1.98 (1.42-2.75)	2.56 (1.86-3.52)	<0.001

ARIC: Atherosclerosis Risk In Communities; CHD: coronary heart disease; CI: confidence interval; eGFR: estimated glomerular filtration rate; HDL-C: high-density lipoprotein cholesterol; HR: hazard ratio; ICD-9: International Classification of Diseases, 9th version; ICD-10: International Classification of Diseases, 10th version; KPSC: Kaiser Permanente Southern California; LDL-C: low-density lipoprotein cholesterol; MI: myocardial infarction; REGARDS: REasons for Geographic And Racial Differences in Stroke; TG: triglycerides.

* Categories of serum lipids were defined based on quartiles from REGARDS participants.

CHD definition from REGARDS and ARIC includes definite or probable MI or CHD death. CHD definition for KPSC includes non-fatal MI (defined by an inpatient stay with a discharge ICD-9 diagnosis code of 410.x in any position) or CHD death (defined by an underlying cause of death ICD-10 code I20-I25).

Analysis from REGARDS includes 225 events from 9,578 participants. Analysis from KPSC is limited to 8.9 years of follow-up and includes 6,547 events from 346,595 members (6,163 events from 336,851 members for the analysis of LDL-C). Analysis from ARIC is limited to 8.9 years of follow-up and includes 583 events from 14,590 participants.

Model 1 includes adjustment for age, race and sex. For REGARDS, Model 1 also includes adjustment for region of residence.
Model 2 includes adjustment for covariates in Model 1 plus education and income levels, alcohol consumption and current smoking.
Model 3 includes adjustment for covariates in Model 2 plus diabetes, reduced eGFR, stroke and use of antihypertensive medications.

Supplemental Table 4. Hazard ratios for coronary heart disease associated with LDL-C levels among individuals from REGARDS, KPSC and ARIC.

	Category of serum lipids*					Trend
	1 HR (95% CI)	2 HR (95% CI)	3 HR (95% CI)	4 HR (95% CI)	5 HR (95% CI)	p-value
LDL-C, *range (mg/dL)*	*≤102*	*103 to 123*	*124 to 145*	*146 to 189*	*≥190*	
REGARDS						
Model 1	1	0.88 (0.57-1.36)	1.14 (0.76-1.70)	1.07 (0.71-1.63)	1.69 (0.86-3.32)	0.23
Model 2	1	0.90 (0.59-1.39)	1.18 (0.79-1.76)	1.09 (0.72-1.66)	1.62 (0.83-3.19)	0.21
Model 3	1	0.92 (0.60-1.41)	1.24 (0.84-1.85)	1.18 (0.78-1.80)	1.77 (0.90-3.49)	0.09
KPSC						
Model 1	1	0.95 (0.87-1.03)	1.00 (0.93-1.09)	1.17 (1.08-1.26)	1.77 (1.61-1.95)	<0.001
Model 2	1	0.99 (0.91-1.08)	1.04 (0.96-1.13)	1.21 (1.12-1.30)	1.75 (1.58-1.93)	<0.001
Model 3	1	1.06 (0.97-1.15)	1.16 (1.07-1.26)	1.38 (1.27-1.49)	2.00 (1.80-2.21)	<0.001
ARIC						
Model 1	1	1.07 (0.75-1.53)	1.42 (1.03-1.96)	1.84 (1.36-2.48)	2.61 (1.86-3.66)	<0.001
Model 2	1	1.07 (0.75-1.54)	1.39 (1.01-1.92)	1.83 (1.35-2.47)	2.50 (1.78-3.49)	<0.001
Model 3	1	1.06 (0.74-1.51)	1.38 (1.00-1.91)	1.76 (1.30-2.38)	2.38 (1.70-3.33)	<0.001

ARIC: Atherosclerosis Risk In Communities; CHD: coronary heart disease; CI: confidence interval; eGFR: estimated glomerular filtration rate; HR: hazard ratio; ICD-9: International Classification of Diseases, 9th version; ICD-10: International Classification of Diseases, 10th version; KPSC: Kaiser Permanente Southern California; LDL-C: low-density lipoprotein cholesterol; MI: myocardial infarction; REGARDS: REasons for Geographic And Racial Differences in Stroke.

* Categories of serum lipids were defined based on quartiles from REGARDS participants.

CHD definition from REGARDS and ARIC includes definite or probable MI or CHD death. CHD definition for KPSC includes non-fatal MI (defined by an inpatient stay with a discharge ICD-9 diagnosis code of 410.x in any position) or CHD death (defined by an underlying cause of death ICD-10 code I20-I25).

Analysis from REGARDS includes 225 events from 9,578 participants. Analysis from KPSC is limited to 8.9 years of follow-up and includes 6,163 events from 336,851 members. Analysis from ARIC is limited to 8.9 years of follow-up and includes 583 events from 14,590 participants.

Model 1 includes adjustment for age, race and sex. For REGARDS, Model 1 also includes adjustment for region of residence.
Model 2 includes adjustment for covariates in Model 1 plus education and income levels, alcohol consumption and current smoking.
Model 3 includes adjustment for covariates in Model 2 plus diabetes, reduced eGFR, stroke and use of antihypertensive medications.

Supplemental Table 5. Hazard ratios for coronary heart disease associated with serum lipids among individuals from REGARDS, KPSC and ARIC (analyzing lipids as continuous variables).

	REGARDS HR (95% CI)	KPSC HR (95% CI)	ARIC HR (95% CI)
LDL-C, per 30 mg/dL increase			
Model 1	1.08 (0.95-1.23)	1.13 (1.01-1.15)	1.25 (1.17-1.32)
Model 2	1.08 (0.96-1.23)	1.13 (1.10-1.15)	1.24 (1.16-1.31)
Model 3	1.12 (0.99-1.27)	1.16 (1.14-1.19)	1.22 (1.15-1.30)
Non-HDL-C, per 40 mg/dL increase			
Model 1	1.22 (1.06-1.39)	1.26 (1.24-1.29)	1.43 (1.33-1.52)
Model 2	1.19 (1.04-1.35)	1.24 (1.22-1.27)	1.41 (1.32-1.51)
Model 3	1.18 (1.04-1.35)	1.24 (1.21-1.26)	1.34 (1.26-1.44)
HDL-C, per 20 mg/dL increase			
Model 1	0.76 (0.62-0.93)	0.63 (0.61-0.66)	0.49 (0.43-0.57)
Model 2	0.82 (0.67-1.01)	0.68 (0.65-0.71)	0.53 (0.46-0.61)
Model 3	0.90 (0.74-1.10)	0.75 (0.72-0.78)	0.64 (0.56-0.73)
TG, per 100 mg/dL increase			
Model 1	1.12 (1.04-1.20)	1.11 (1.10-1.12)	1.25 (1.19-1.31)
Model 2	1.10 (1.01-1.19)	1.11 (1.10-1.12)	1.25 (1.19-1.31)
Model 3	1.06 (0.95-1.18)	1.09 (1.08-1.10)	1.15 (1.09-1.22)
Total-to-HDL-C ratio, per 1.3 units increase			
Model 1	1.21 (1.10-1.31)	1.03 (1.02-1.03)	1.35 (1.30-1.40)
Model 2	1.17 (1.07-1.28)	1.03 (1.03-1.03)	1.33 (1.28-1.38)
Model 3	1.14 (1.03-1.26)	1.03 (1.03-1.03)	1.24 (1.19-1.30)
TG-to-HDL-C ratio, per 3 units increase			
Model 1	1.04 (1.01-1.08)	1.03 (1.03-1.03)	1.14 (1.11-1.17)
Model 2	1.04 (0.99-1.08)	1.07 (1.06-1.08)	1.12 (1.09-1.15)
Model 3	1.03 (0.97-1.09)	1.06 (1.05-1.07)	1.08 (1.05-1.12)

ARIC: Atherosclerosis Risk In Communities; CHD: coronary heart disease; CI: confidence interval; eGFR: estimated glomerular filtration rate; HDL-C: high-density lipoprotein cholesterol; HR: hazard ratio; ICD-9: International Classification of Diseases, 9th version; ICD-10: International Classification of Diseases, 10th version; KPSC: Kaiser Permanente Southern California; LDL-C: low-density lipoprotein cholesterol; MI: myocardial infarction; REGARDS: REasons for Geographic And Racial Differences in Stroke; TG: triglycerides.

* Categories of serum lipids were defined based on quartiles from REGARDS participants.

CHD definition from REGARDS and ARIC includes definite or probable MI or CHD death. CHD definition for KPSC includes non-fatal MI (defined by an inpatient stay with a discharge ICD-9 diagnosis code of 410.x in any position) or CHD death (defined by an underlying cause of death ICD-10 code I20-I25).

Analysis from REGARDS includes 225 events from 9,578 participants. Analysis from KPSC is limited to 8.9 years of follow-up and includes 6,547 events from 346,595 members (6,163 events from 336,851 members for the analysis of LDL-C). Analysis from ARIC is limited to 8.9 years of follow-up and includes 583 events from 14,590 participants.

Model 1 includes adjustment for age, race and sex. For REGARDS, Model 1 also includes adjustment for region of residence.
Model 2 includes adjustment for covariates in Model 1 plus education and income levels, alcohol consumption and current smoking.
Model 3 includes adjustment for covariates in Model 2 plus diabetes, reduced eGFR, stroke and use of antihypertensive medications.

Supplemental Table 6. Hazard ratios for coronary heart disease associated with serum lipids among individuals from REGARDS, KPSC and ARIC (categories defined based on ARIC quartiles).

	Category of serum lipids*				Trend
	1	2	3	4	
	HR (95% CI)	HR (95% CI)	HR (95% CI)	HR (95% CI)	p-value
LDL-C, *range (mg/dL)*	≤111	112 to 134	135 to 160	≥161	
REGARDS	1	1.22 (0.83-1.79)	1.41 (0.96-2.06)	1.46 (0.93-2.30)	0.04
KPSC	1	1.11 (1.03-1.20)	1.23 (1.14-1.32)	1.68 (1.57-1.81)	<0.001
ARIC	1	1.26 (0.95-1.67)	1.40 (1.05-1.85)	2.03 (1.56-2.63)	<0.001
Non-HDL-C, *range (mg/dL)*	≤132	133 to 159	160 to 188	≥189	
REGARDS	1	1.05 (0.72-1.54)	1.66 (1.15-2.40)	1.54 (1.02-2.31)	0.005
KPSC	1	1.09 (1.01-1.19)	1.36 (1.26-1.47)	1.84 (1.71-1.98)	<0.001
ARIC	1	1.39 (1.04-1.85)	1.38 (1.04-1.85)	2.36 (1.82-3.06)	<0.001
HDL-C, *range (mg/dL)*	≤39	40 to 49	50 to 62	≥63	
REGARDS	1	0.80 (0.56-1.16)	0.96 (0.65-1.43)	0.81 (0.52-1.28)	0.54
KPSC	1	0.79 (0.74-0.84)	0.62 (0.58-0.67)	0.55 (0.50-0.60)	<0.001
ARIC	1	0.67 (0.55-0.83)	0.62 (0.49-0.78)	0.39 (0.28-0.54)	<0.001
TG, *range (mg/dL)*	≤77	78 to 108	109 to 153	≥154	
REGARDS	1	1.27 (0.80-2.03)	1.49 (0.93-2.37)	1.74 (1.09-2.78)	0.01
KPSC	1	1.23 (1.12-1.35)	1.39 (1.27-1.52)	1.76 (1.62-1.91)	<0.001
ARIC	1	1.24 (0.92-1.68)	1.65 (1.24-2.19)	1.95 (1.48-2.57)	<0.001
Total-to-HDL-C ratio, *range*	<3.30	3.30 to <4.27	4.27 to <5.44	≥5.44	
REGARDS	1	1.13 (0.74-1.73)	1.29 (0.85-1.95)	1.74 (1.14-2.65)	0.01
KPSC	1	1.13 (1.04-1.24)	1.55 (1.43-1.69)	2.24 (2.06-2.44)	<0.001
ARIC	1	1.55 (1.10-2.19)	1.97 (1.42-2.74)	3.13 (2.28-4.29)	<0.001
TG-to-HDL-C ratio, *range*	<1.34	1.34 to <2.17	2.17 to <3.57	≥3.57	
REGARDS	1	1.60 (0.99-2.59)	1.48 (0.90-2.45)	2.03 (1.25-3.30)	0.01
KPSC	1	1.23 (1.12-1.36)	1.49 (1.36-1.63)	1.92 (1.76-2.09)	<0.001
ARIC	1	1.55 (1.11-2.18)	1.93 (1.40-2.65)	2.49 (1.83-3.41)	<0.001

ARIC: Atherosclerosis Risk In Communities; CHD: coronary heart disease; CI: confidence interval; eGFR: estimated glomerular filtration rate; HDL-C: high-density lipoprotein cholesterol; HR: hazard ratio; ICD-9: International Classification of Diseases, 9th version; ICD-10: International Classification of Diseases, 10th version; KPSC: Kaiser Permanente Southern California; LDL-C: low-density lipoprotein cholesterol; MI: myocardial infarction; REGARDS: REasons for Geographic And Racial Differences in Stroke; TG: triglycerides.

* Categories of lipids markers were defined based on quartiles from ARIC participants.

CHD definition from REGARDS and ARIC includes definite or probable MI or CHD death. CHD definition for KPSC includes non-fatal MI (defined by an inpatient stay with a discharge ICD-9 diagnosis code of 410.x in any position) or CHD death (defined by an underlying cause of death ICD-10 code I20-I25).

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All analyses include adjustment for age, race, sex, education and income levels, alcohol consumption, current smoking, diabetes, reduced eGFR, stroke and use of antihypertensive medications. Analyses in REGARDS also include adjustment for region of residence.

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