Table S1. Characteristics of 4800 participants.

	Baseline (n = 4800)	Non-CVD[a] (n = 3987)	CVD[a] (n = 813)	P value
Gender				
Female	2651 (55.23%)	2174 (54.53%)	477 (58.67%)	0.033
Male	2149 (44.77%)	1813 (45.47%)	336 (41.33%)	
Age	57.00 (51.00, 63.00)	57.00 (51.00, 63.00)	60.00 (54.00, 65.00)	<0.001
BMI	23.16 (21.01, 25.66)	23.02 (20.89, 25.47)	23.89 (21.55, 26.45)	<0.001
Hukou[b]				
Agricultural	4160 (86.70%)	3469 (87.03%)	691 (85.10%)	0.155
Others	638 (13.30%)	517 (12.97%)	121 (14.90%)	
Education[b]				
Primary school or lower	3362 (70.06%)	2760 (69.24%)	602 (74.05%)	0.007
Middle school or higher	1437 (29.94%)	1226 (30.76%)	211 (25.95%)	
Current Married	4348 (90.58)	3632 (91.10%)	716 (88.07%)	0.009
Smoke[b]	1785 (37.22%)	1497 (37.58%)	288 (35.42%)	0.262
Current drinking[b]	1606 (33.49%)	1359 (34.12%)	247 (30.38%)	0.044
Health Status				
Hypertension	1003 (20.90%)	745 (18.69%)	258 (31.73%)	<0.001
Dyslipidemia	484 (10.08%)	349 (8.75%)	135 (16.61%)	<0.001
Diabetes or High Blood Sugar	264 (5.50%)	200 (5.02%)	64 (7.87%)	0.002
Kidney Disease	303 (6.31%)	238 (5.97%)	65 (8.00%)	0.037
SBP[b]	126.00 (113.67, 140.67)	125.00 (113.33, 139.00)	131.00 (117.00, 146.67)	<0.001
DBP[b]	74.33 (67.00, 82.67)	74.00 (66.67, 82.33)	76.67 (69.00, 85.67)	<0.001
Pulse[b]	71.33 (65.00, 78.00)	71.33 (65.00, 78.00)	71.67 (65.00, 77.67)	0.622
BUN	15.04 (12.52, 17.98)	15.07 (12.52, 18.04)	14.99 (12.49, 17.81)	0.736
FPG	102.24 (94.32, 112.19)	101.88 (94.32, 111,78)	103.32 (95.22, 114.12)	0.002
Creatine[b]	0.75 (0.64, 0.87)	0.75 (0.64, 0.86)	0.76 (0.66, 0.88)	0.071
TC	190.98 (167.78, 215.34)	190.21 (167.01, 214.56)	195.62 (171.65, 219.20)	<0.001
TG	103.55 (74.34, 153.11)	103.55 (73.46, 152.22)	110.63 (80.54, 158.42)	<0.001
HDL	49.68 (40.59, 60.31)	49.87 (40.59, 60.31)	49.10 (40.98, 58.76)	0.556
LDL[b]	114.05 (93.94, 136.86)	113.66 (92.98, 136.08)	118.69 (97.81, 139.76)	<0.001
CRP	0.96 (0.53, 1.95)	0.92 (0.52, 1.92)	1.12 (0.59, 2.15)	<0.001
HbA1c[b]	5.10 (4.90, 5.40)	5.10 (4.90, 5.40)	5.20 (4.90, 5.50)	<0.001
Uric acid	4.21 (3.51, 5.06)	4.21 (3.50, 5.04)	4.25 (3.56, 5.12)	0.129
Cystatin C[b]	0.96 (0.85, 1.09)	0.95 (0.85, 1.08)	0.97 (0.87, 1.12)	0.006
TyG	8.59 (8.22, 9.03)	8.57 (8.20, 9.01)	8.68 (8.30, 9.13)	<0.001

TyG-BMI	199.13 (176.53, 228.60)		197.64 (175.51, 225.27)		209.57 (184.94, 236.79)		<0.001
Cumulative TyG	25.84 (24.86, 27.09)		25.80 (24.81, 27.04)		26.08 (25.14, 27.23)		<0.001
Cumulative TyG-BMI	606.42 (535.07, 689.23)		601.68 (532.45, 684.41)		633.83 (558.61, 712.25)		<0.001

a. Cardiovascular disease is defined as heart problems and stroke. The CVD and non-CVD groups were based on the result of a 9-year follow-up

b. Missing data: 2 for Hukou status, 1 for education, 4 for current drinking, 4 for smoking, 19 for SBP, 19 for DBP, 19 for pulse, 10 for LDL, 2 for creatine, 27 for HbA1c, 1254 for cystatin C.

c. current drinking is considered any drinking in the last year.

d. Abbreviations: BMI, body mass index; SBP, systolic blood pressure; DBP, diastolic blood pressure; BUN, blood urea nitrogen; FPG, fasting plasma glucose; TC, total cholesterol; TG, triglycerides; HDL, high-density lipoprotein cholesterol; LDL, low-density lipoprotein cholesterol; CRP, C-reaction protein; HbA1c, glycosylated Hemoglobin A1c; TyG, triglyceride-glucose.

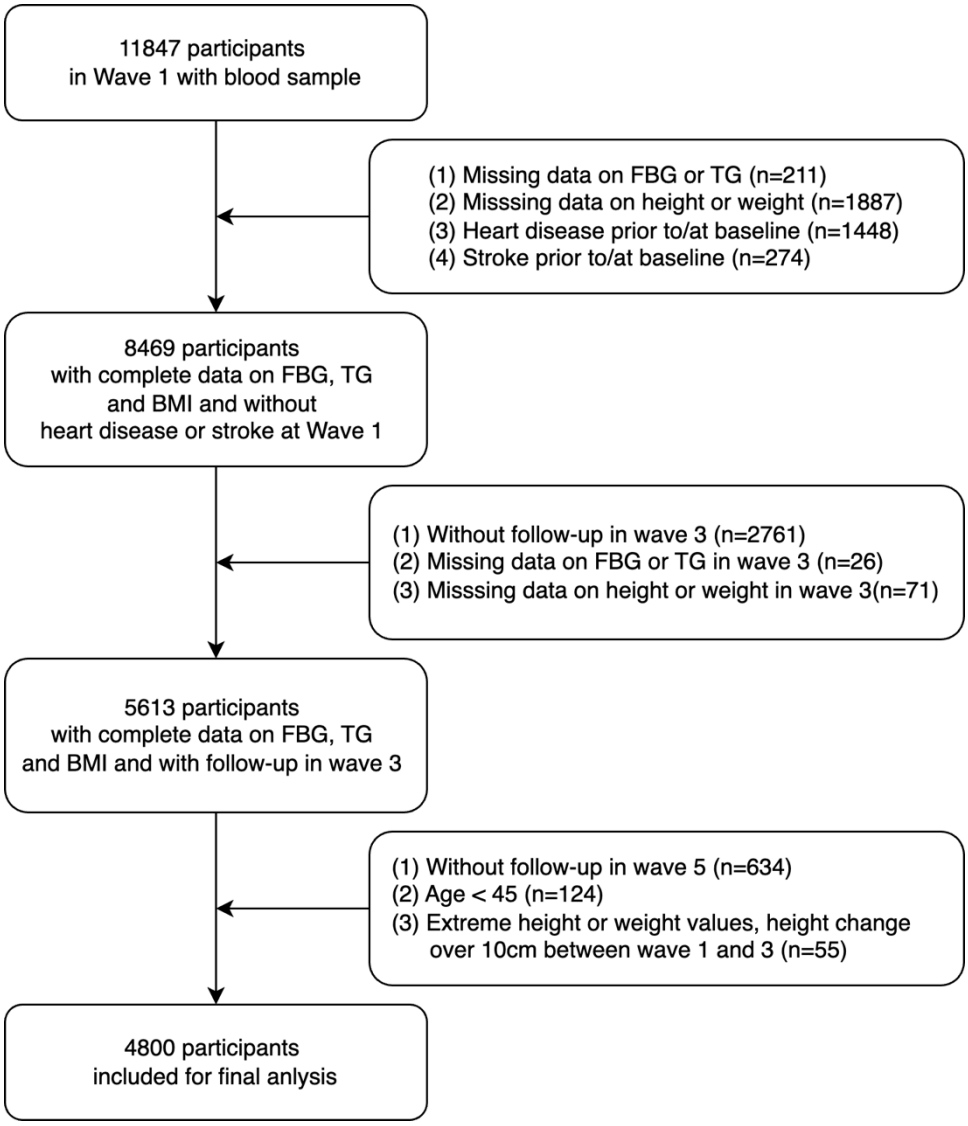

Figure S1: Study population selection flowchart.

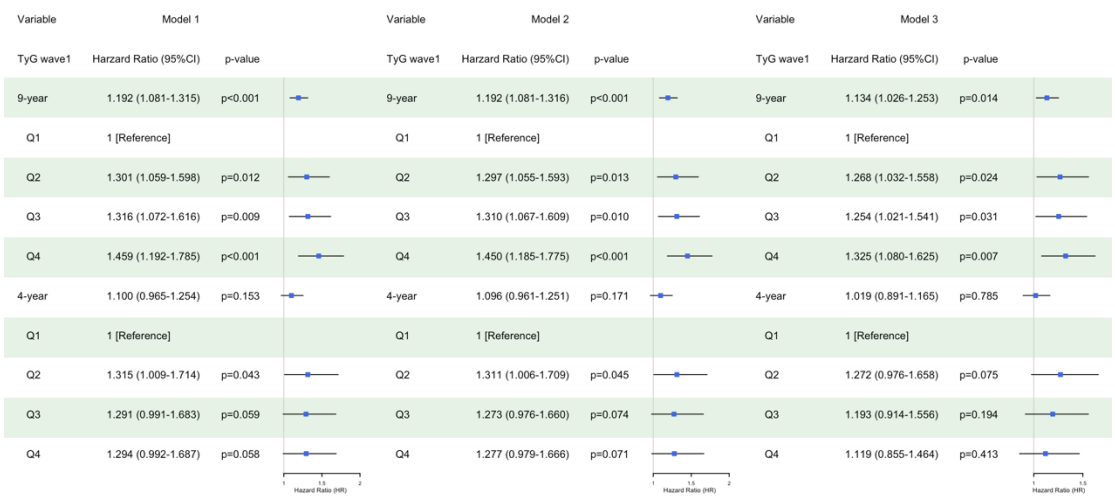

Figure S2: Relationships between TyG index and CVD. Model 1 was adjusted for age and gender. Model 2 included additional adjustments for residence, educational level, marital status, smoking status, and current drinking status. Model 3 incorporated adjustments as model 2 plus hypertension and kidney disease. TyG, triglyceride-glucose; CVD, cardiovascular diseases, HR, hazard ratio; CI, confidence interval; Q, quartile.

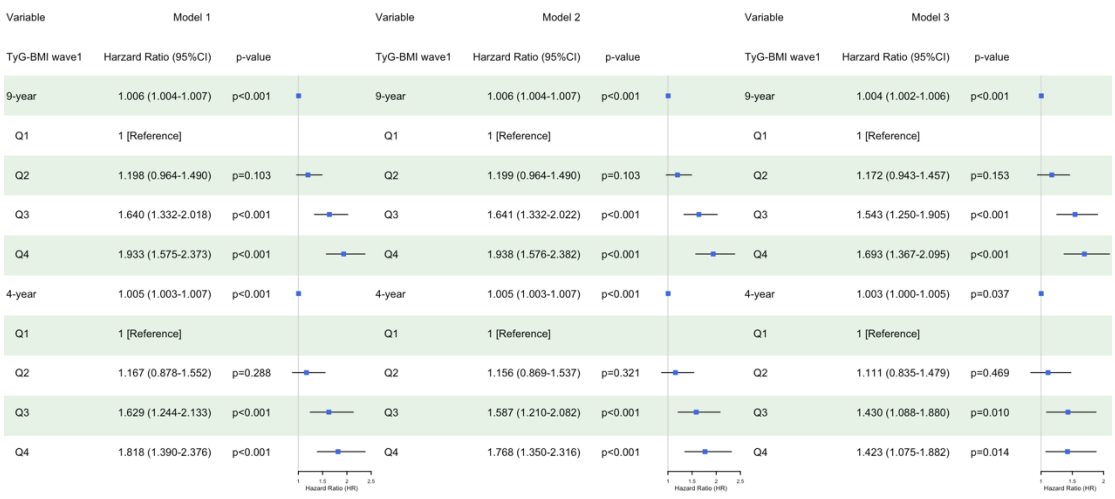

Figure S3: Relationships between TyG-BMI and CVD. Model 1 was adjusted for age and gender. Model 2 included additional adjustments for residence, educational level, marital status, smoking status, and current drinking status. Model 3 incorporated adjustments as model 2 plus hypertension and kidney disease. TyG, triglyceride-glucose; BMI, body mass index; CVD, cardiovascular diseases; HR, hazard ratio; CI, confidence interval; Q, quartile.

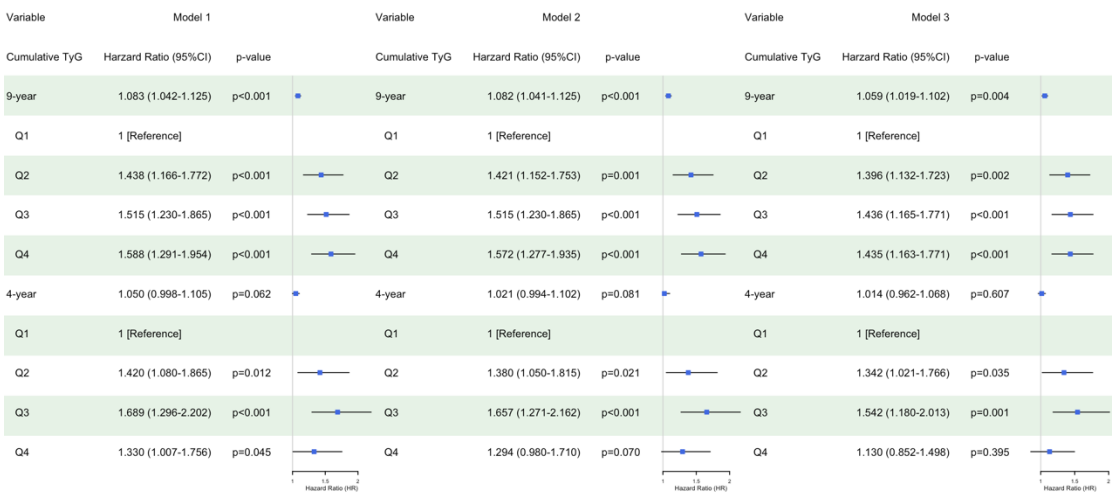

Figure S4: Relationships between cumulative TyG index and CVD. Model 1 was adjusted for age and gender. Model 2 included additional adjustments for residence, educational level, marital status, smoking status, and current drinking status. Model 3 incorporated adjustments as model 2 plus hypertension and kidney disease. TyG, triglyceride-glucose; CVD, cardiovascular diseases, HR, hazard ratio; CI, confidence interval; Q, quartile.

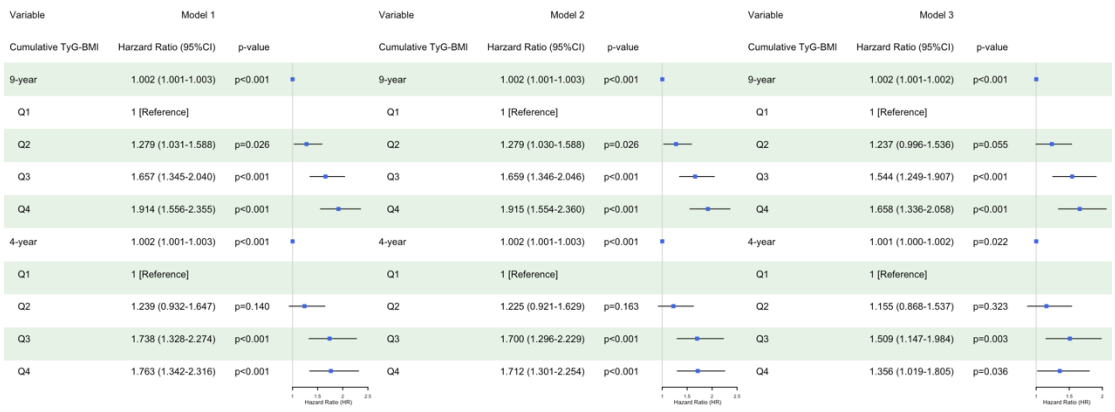

Figure S5: Relationships between cumulative TyG-BMI and CVD. Model 1 was adjusted for age and gender. Model 2 included additional adjustments for residence, educational level, marital status, smoking status, and current drinking status. Model 3 incorporated adjustments as model 2 plus hypertension and kidney disease. TyG, triglyceride-glucose; BMI, body mass index; CVD, cardiovascular diseases; HR, hazard ratio; CI, confidence interval; Q, quartile.

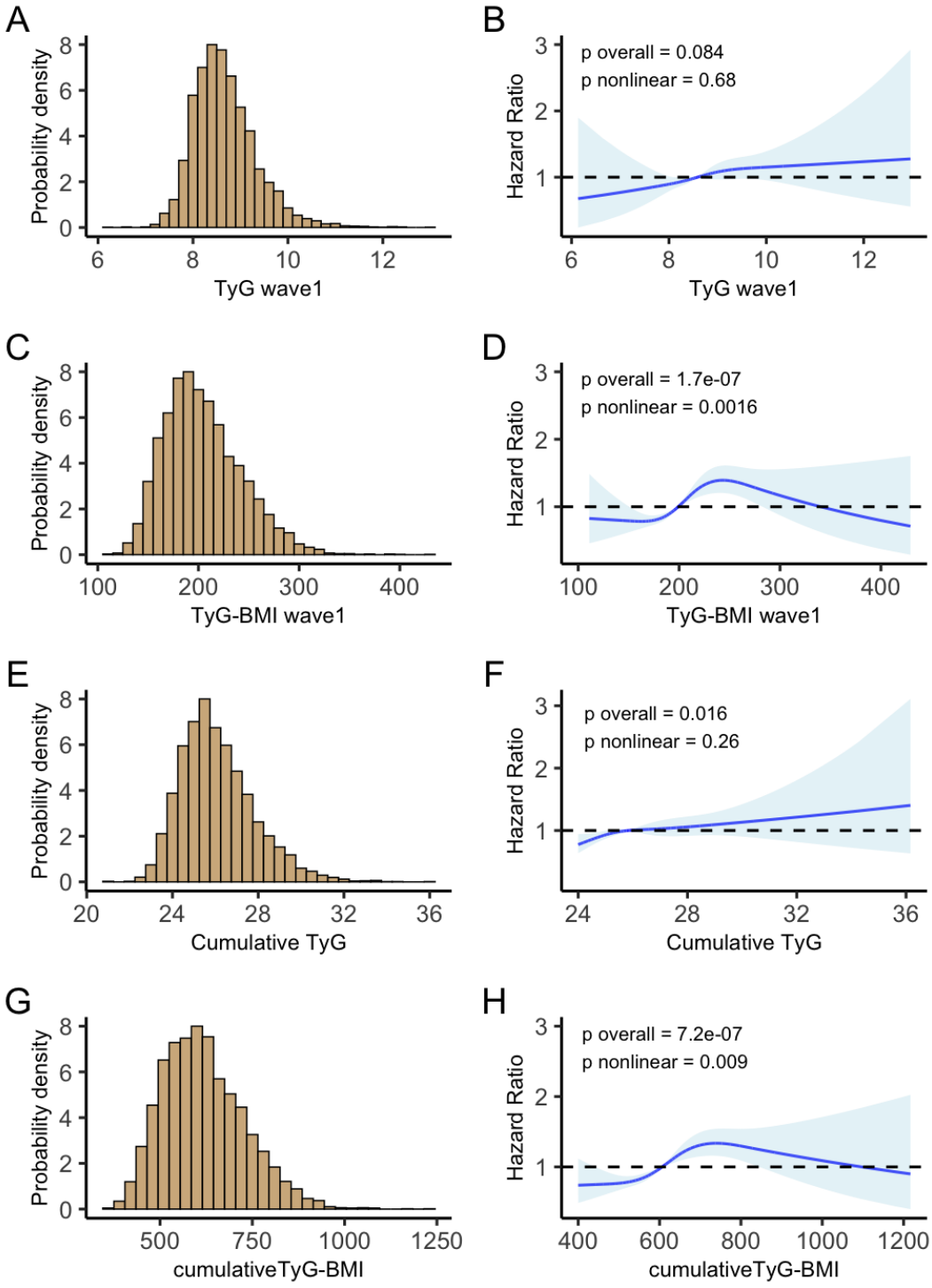

Figure S6: Nonlinear associations of TyG indices family with CVD. A, C, E, G Distribution for TyG, TyG-BMI, cumulative TyG, and cumulative TyG-BMI; B, D, F, H Graphs show HR for CVD adjusted for age, gender, residence, education level, marital status, smoking status, current drinking status, hypertension, and kidney disease. Data was analyzed using Cox proportional hazards regression models. Solid lines represent the HRs, and shaded areas show the 95% CI. TyG, triglyceride-glucose; BMI, body mass index; CVD, cardiovascular diseases; HR, hazard ratio; CI, confidential interval.