Table S1 Characteristic of participants based on eGDR and SIRI

Variables	Total	eGDR		*P*-value	SIRI		*P*-value
		eGDR ≥ 7.84	eGDR < 7.84		SIRI ≤ 1.54	SIRI > 1.54	
Age (years)	51.00(38.00,63.00)	45.00(33.00,55.00)	57.00(45.00,67.00)	< 0.0001	50.00(37.00,61.00)	56.00(42.00,68.00)	< 0.0001
Age group, n(%)				< 0.0001			< 0.0001
< 60	7750(69.30)	4549(83.19)	3201(56.07)		6390(72.47)	1360(58.26)	
≥ 60	5104(30.70)	1266(16.81)	3838(43.93)		3662(27.53)	1442(41.74)	
Sex, n(%)				0.21			< 0.0001
Female	6476(51.11)	2913(51.84)	3563(50.41)		5331(53.59)	1145(42.44)	
Male	6378(48.89)	2902(48.16)	3476(49.59)		4721(46.41)	1657(57.56)	
Race, n(%)				< 0.0001			< 0.0001
Non-Hispanic Black	2238(8.81)	762(6.74)	1476(10.79)		1938(9.84)	300(5.21)	
Mexican American	2294(7.80)	1209(9.63)	1085(6.05)		1930(8.48)	364(5.43)	
Non-Hispanic White	6271(72.31)	2791(71.20)	3480(73.37)		4478(69.85)	1793(80.90)	
Other Race	2051(11.08)	1053(12.43)	998(9.79)		1706(11.83)	345(8.46)	
Education levels, n(%)				< 0.0001			< 0.0001
< high school	3452(16.65)	1435(15.20)	2017(18.02)		2698(16.05)	754(18.72)	
= high school	3047(24.53)	1271(21.62)	1776(27.31)		2306(23.37)	741(28.58)	
> high school	6355(58.82)	3109(63.18)	3246(54.67)		5048(60.58)	1307(52.70)	
PIR, n(%)				< 0.0001			0.005
< 1	2428(12.44)	1096(12.55)	1332(12.35)		1884(12.08)	544(13.71)	
1-3	5417(35.80)	2283(33.08)	3134(38.40)		4162(35.11)	1255(38.23)	
> 3	5009(51.75)	2436(54.37)	2573(49.25)		4006(52.81)	1003(48.06)	
Smoking status, n(%)				< 0.0001			< 0.0001
Never	6610(51.87)	3126(54.69)	3484(49.19)		5495(54.98)	1115(41.04)	
Former	3569(27.40)	1303(22.66)	2266(31.91)		2666(26.45)	903(30.71)	
Current	2675(20.73)	1386(22.65)	1289(18.90)		1891(18.57)	784(28.26)	
Alcohol consumption, n(%)				< 0.0001			< 0.0001
Never	1735(10.43)	690(8.95)	1045(11.84)		1431(10.77)	304(9.22)	
Former	2448(15.88)	843(12.36)	1605(19.23)		1828(14.85)	620(19.46)	
Mild	4501(38.32)	2040(38.05)	2461(38.57)		3501(38.63)	1000(37.22)	
Moderate	1792(16.41)	926(18.16)	866(14.74)		1449(17.30)	343(13.31)	
Heavy	2378(18.97)	1316(22.48)	1062(15.62)		1843(18.45)	535(20.79)	
BMI (kg/m²)	28.60(25.11,33.10)	26.64(23.73,29.60)	31.30(27.17,36.70)	< 0.0001	28.50(25.00,32.90)	29.12(25.50,33.90)	< 0.001
Waist (cm)	100.20(90.50,110.80)	94.00(85.80,102.00)	108.20(97.50,119.50)	< 0.0001	99.30(89.70,109.70)	103.70(93.50,115.30)	< 0.0001
Hypertension, n(%)				< 0.0001			< 0.0001
No	6707(56.19)	5697(98.24)	1010(16.09)		5529(59.82)	1178(43.50)	
Yes	6147(43.81)	118(1.76)	6029(83.91)		4523(40.18)	1624(56.50)	
Diabetes mellitus, n(%)				< 0.0001			< 0.0001
No	10064(81.76)	5385(94.00)	4679(70.08)		8037(84.25)	2027(73.06)	
Yes	2790(18.24)	430(6.00)	2360(29.92)		2015(15.75)	775(26.94)	
CVD, n(%)				< 0.0001			< 0.0001
No	11173(88.85)	5528(95.87)	5645(82.16)		8991(91.20)	2182(80.66)	
Yes	1681(11.15)	287(4.13)	1394(17.84)		1061(8.80)	620(19.34)	

Cancer, n(%)				< 0.0001			< 0.0001
No	11534(89.14)	5448(92.80)	6086(85.66)		9143(90.06)	2391(85.93)	
Yes	1320(10.86)	367(7.20)	953(14.34)		909(9.94)	411(14.07)	
Lipid-lowering drugs, n(%)				< 0.0001			< 0.0001
No	9627(74.49)	5182(88.08)	4445(61.53)		7780(77.35)	1847(64.50)	
Yes	3227(25.51)	633(11.92)	2594(38.47)		2272(22.65)	955(35.50)	
Laboratory data							
HbA1c (%)	5.50(5.20,5.80)	5.30(5.10,5.60)	5.60(5.40,6.10)	< 0.0001	5.50(5.20,5.80)	5.60(5.30,6.00)	< 0.0001
FBG (mmol/L)	5.61(5.22,6.11)	5.38(5.05,5.77)	5.83(5.38,6.61)	< 0.0001	5.55(5.18,6.05)	5.77(5.27,6.50)	< 0.0001
TC (mmol/L)	5.30(4.50,5.92)	5.40(4.76,5.97)	5.20(4.37,5.90)	< 0.0001	5.35(4.60,5.97)	5.12(4.22,5.79)	< 0.0001
HDL-C (mmol/L)	1.27(1.06,1.58)	1.29(1.06,1.63)	1.24(1.03,1.50)	< 0.0001	1.27(1.06,1.60)	1.22(1.03,1.50)	< 0.0001
TG (mmol/L)	1.38(0.97,1.95)	1.26(0.90,1.81)	1.49(1.05,2.11)	< 0.0001	1.37(0.96,1.93)	1.42(1.02,2.01)	0.01
LDL-C (mmol/L)	3.21(2.53,3.78)	3.34(2.74,3.83)	3.08(2.38,3.72)	< 0.0001	3.28(2.61,3.80)	2.97(2.28,3.67)	< 0.0001
WBC (10^9/L)	6.60(5.50,8.00)	6.30(5.30,7.60)	6.90(5.70,8.20)	< 0.0001	6.20(5.30,7.30)	8.30(7.00,9.80)	< 0.0001
Neutrophils (10^9/L)	3.80(3.00,4.80)	3.60(2.90,4.50)	4.00(3.20,5.10)	< 0.0001	3.50(2.80,4.20)	5.50(4.60,6.60)	< 0.0001
Monocytes (10^9/L)	0.50(0.40,0.60)	0.50(0.40,0.60)	0.50(0.40,0.70)	< 0.0001	0.50(0.40,0.60)	0.70(0.60,0.80)	< 0.0001
Lymphocytes (10^9/L)	1.90(1.60,2.40)	1.90(1.60,2.30)	1.90(1.60,2.40)	0.79	2.00(1.60,2.40)	1.70(1.40,2.20)	< 0.0001

Abbreviations: eGDR, estimated glucose disposal rate; SIRI, systemic inflammatory response index; PIR, poverty income ratio; BMI, body mass index; DM, diabetes mellitus; CVD, cardiovascular disease; FBG, fasting blood glucose; TC, total cholesterol; TG, triglyceride; LDL-C, low-density lipoprotein cholesterol; HDL-C, high-density lipoprotein cholesterol; WBC, white blood cell.

Table S2 Baseline characteristics of included and excluded participants

Variables	Excluded participants N=2149	Included participants N=12854	*P*-value
Age (years)	58.00(42.00,75.00)	51.00(38.00,63.00)	< 0.0001
Sex, n(%)			< 0.0001
Female	1218(58.10)	6476(51.11)	
Male	931(41.90)	6378(48.89)	
BMI (kg/m²)	29.80(25.56,35.50)	28.60(25.11,33.10)	< 0.0001
PIR, n(%)			< 0.0001
< 1	469(16.63)	2428(12.44)	
1-3	888(38.83)	5417(35.80)	
> 3	503(32.83)	5009(51.75)	
NA	289(11.71)	0(0.00)	
Education levels, n(%)			< 0.0001
< high school	755(24.21)	3452(16.65)	
= high school	513(25.23)	3047(24.53)	
> high school	869(50.10)	6355(58.82)	
NA	12(0.46)	0(0.00)	
Race, n(%)			< 0.0001
Non-Hispanic Black	540(14.43)	2238(8.81)	
Mexican American	301(7.15)	2294(7.80)	
Non-Hispanic White	946(64.97)	6271(72.31)	
Other Race	362(13.45)	2051(11.08)	
Smoking status, n(%)			< 0.0001
Never	1106(53.15)	6610(51.87)	
Former	641(27.80)	3569(27.40)	
Current	362(17.78)	2675(20.73)	
NA	40(1.27)	0(0.00)	
Alcohol consumption, n(%)			< 0.0001
Never	329(12.47)	1735(10.43)	
Former	455(17.31)	2448(15.88)	
Mild	327(16.88)	4501(38.32)	
Moderate	97(6.04)	1792(16.41)	
Heavy	136(7.59)	2378(18.97)	
NA	805(39.71)	0(0.00)	
DM, n(%)			< 0.0001
No	1406(70.78)	10064(81.76)	
Yes	700(27.36)	2790(18.24)	
NA	43(1.86)	0(0.00)	
Cancer, n(%)			< 0.0001
No	1733(80.63)	11534(89.14)	
Yes	362(17.70)	1320(10.86)	
NA	54(1.67)	0(0.00)	
CVD, n(%)			< 0.0001

No	1503(73.63)	11173(88.85)	
Yes	593(24.70)	1681(11.15)	
NA	53(1.67)	0(0.00)	
Lipid-lowering drugs, n(%)			< 0.0001
No	1192(57.58)	9627(74.49)	
Yes	948(42.04)	3227(25.51)	
NA	9(0.38)	0(0.00)	

Note: Excluded participants were those excluded due to missing variables required for the calculation of eGDR or SIRI.

Abbreviations: BMI, body mass index; PIR, poverty income ratio; DM, diabetes mellitus; CVD, cardiovascular disease; eGDR, estimated glucose disposal rate; SIRI, systemic inflammatory response index.

Table S3 The risk of a mortality stratified by TyG, TyG-BMI, and TyG-WC

Variable	Model 1		Model 2		Model 3	
	HR(95%CI)	P-value	HR(95%CI)	P-value	HR(95%CI)	P-value
All-cause mortality						
TyG≤9.11	ref		ref		ref	
TyG>9.11	1.45(1.27-1.66)	<0.0001	1.28(1.13-1.46)	<0.001	1.06(0.92-1.22)	0.44
TyG-BMI≤240.83	ref		ref		ref	
TyG-BMI>240.83	0.99(0.88-1.12)	0.93	1.14(1.01-1.28)	0.03	0.94(0.80-1.11)	0.47
TyG-WC≤811.30	ref		ref		ref	
TyG-WC>811.30	1.55(1.36-1.76)	<0.0001	1.17(1.03-1.33)	0.02	0.97(0.82-1.14)	0.67
Cardiovascular mortality						
TyG≤9.11	ref		ref		ref	
TyG>9.11	1.68(1.30-2.16)	<0.0001	1.53(1.18-2.00)	0.002	1.17(0.87-1.58)	0.31
TyG-BMI≤240.83	ref		ref		ref	
TyG-BMI>240.83	1.09(0.87-1.37)	0.45	1.29(1.01-1.64)	0.04	0.80(0.58-1.11)	0.18
TyG-WC≤811.30	ref		ref		ref	
TyG-WC>811.30	1.82(1.43-2.32)	<0.0001	1.32(1.03-1.69)	0.03	0.88(0.66-1.17)	0.38

Note: Model 1: crude model; Model 2: adjusted for sex and age; Model 3: sex, age, BMI, education level, race, PIR, smoking status, alcohol consumption, CVD, cancers, DM, and lipid-lowering drugs.

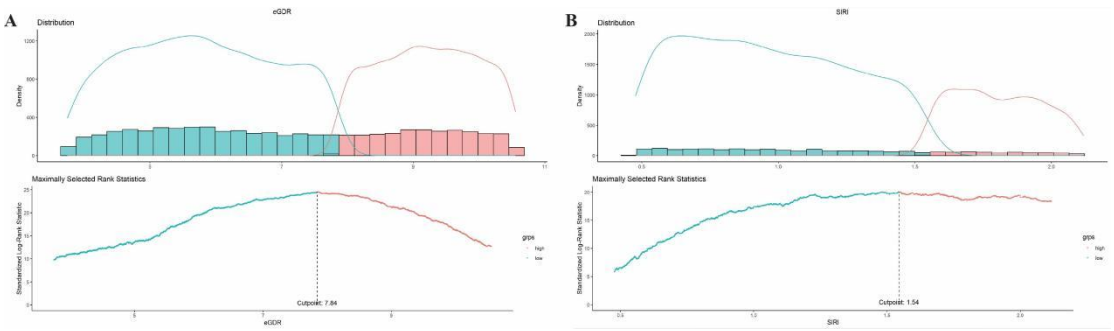

Figure S1 The cut-off points for eGDR (A) and SIRI (B) were determined using the maximally selected rank statistics method

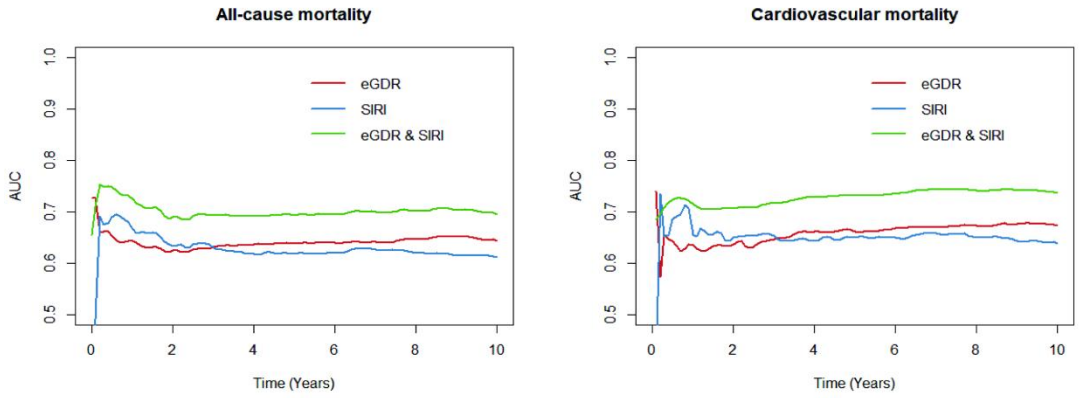

Figure S2 Time-dependent AUC values for eGDR, SIRI, and the combination of eGDR and SIRI in predicting all-cause mortality and cardiovascular mortality

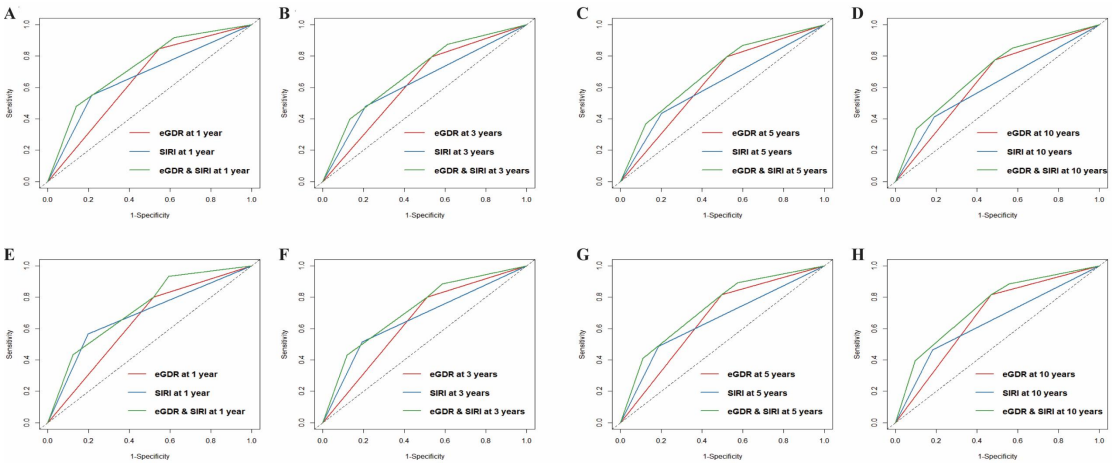

Figure S3 Time-dependent ROC curves for eGDR, SIRI, and the combination of eGDR and SIRI in predicting all-cause mortality and cardiovascular mortality

Note: The time-dependent ROC curve analysis was performed at 1 year (A), 3 years (B), 5 years (C), and 10 years (D) for all-cause mortality, and at 1 year (E), 3 years (F), 5 years (G), and 10 years (H) for cardiovascular mortality.