

Supplemental Table 1. Characteristics of subjects by the trajectory patterns of SII in 2006

	Low stable	Moderate stable	Increase	Decrease	<i>P</i> value
Number of subjects	26613	14254	2954	1988	-
Age, mean (SD), year	49.0(11.9)	48.5(11.5)	49.1(11.5)	47.1(10.8)	<0.001
Female, n (%)	5956(22.4)	3692(25.9)	867(29.4)	529(26.6)	<0.001
BMI, mean (SD), kg/m ²	25.0(3.5)	25.2(3.5)	25.1(3.5)	24.7(3.5)	<0.001
High school or above, n (%)	6160(23.2)	3056(21.4)	557(18.9)	459(23.1)	<0.001
Income >800 yuan/month, n (%)	3930(14.8)	2033(14.3)	354(12.0)	295(14.8)	<0.001
Ever smokers, n (%)	10828(40.7)	5449(38.2)	1099(37.2)	833(41.9)	<0.001
Ever drinkers, n (%)	11721(44.0)	5826(40.9)	1125(38.1)	885(44.5)	<0.001
Active physical activity, n (%)	3858(14.5)	1695(11.9)	312(10.6)	209(10.5)	<0.001
Family history of CVD, n (%)	1635(6.1)	878(6.2)	181(6.1)	139(7.0)	0.504
Hypertension, n (%)	9897(37.2)	5714(40.1)	1279(43.3)	694(34.9)	<0.001
Diabetes mellitus, n (%)	1955(7.4)	1197(8.4)	237(8.0)	156(7.8)	0.002
SBP, mean (SD), mmHg	127.5(19.2)	129.0(19.9)	130.5(20.9)	126.1(18.6)	<0.001
DBP, mean (SD), mmHg	82.1(11.1)	83.1(11.4)	83.7(11.9)	81.8(10.8)	<0.001
WC, mean (SD), cm	86.5(10.0)	86.6(9.9)	86.5(9.7)	85.4(9.5)	<0.001
FBG, mean (SD), mmol/L	5.35(1.48)	5.40(1.57)	5.40(1.56)	5.44(1.52)	0.001
LDL-C, mean (SD), mmol/L	2.28(0.96)	2.30(0.86)	2.27(0.82)	2.32(0.88)	0.013
Anti-hypertensive drug use, n (%)	1976(7.42)	1205(8.45)	247(8.36)	171(8.60)	<0.001
Anti-diabetic drug use, n (%)	450(1.69)	263(1.85)	57(1.93)	36(1.81)	0.603
Lipid-lowering drug use, n (%)	172(0.65)	95(0.67)	24(0.81)	12(0.60)	0.747
SIRI, median (IQR)	0.49(0.37)	0.67(0.46)	0.89(0.65)	1.02(0.72)	<0.001
SII, median (IQR)	268.8(130.6)	388.8(151.0)	544.6(199.1)	718.8(150.1)	<0.001

Supplemental Table 2. Characteristics of subjects by the trajectory patterns of SIRI in 2006

	Low stable	Moderate stable	Increase	Decrease	<i>P</i> value
Number of subjects	23283	17123	3051	2352	-
Age, mean (SD), year	48.5(11.6)	49.1(11.9)	49.6(12.1)	48.2(11.4)	<0.001
Female, n (%)	7303(31.4)	3060(17.9)	321(10.5)	360(15.3)	<0.001
BMI, mean (SD), kg/m ²	24.8(3.4)	25.3(3.5)	25.6(3.5)	25.6(3.4)	<0.001
High school or above, n (%)	5826(25.0)	3444(20.1)	514(16.9)	448(19.1)	<0.001
Income >800 yuan/month, n (%)	3662(15.7)	2305(13.5)	351(11.5)	294(12.5)	<0.001
Ever smokers, n (%)	8350(35.9)	7382(43.1)	1368(44.8)	1109(47.2)	<0.001
Ever drinkers, n (%)	9638(41.4)	7592(44.3)	1305(42.8)	1022(43.5)	<0.001
Active physical activity, n (%)	3419(14.7)	2082(12.2)	310(10.2)	263(11.2)	<0.001
Family history of CVD, n (%)	1578(6.8)	984(5.8)	133(4.4)	138(5.9)	<0.001
Hypertension, n (%)	7829(33.6)	7108(41.5)	1550(50.8)	1097(46.6)	<0.001
Diabetes mellitus, n (%)	1609(6.9)	1412(8.3)	302(9.9)	222(9.4)	<0.001
SBP, mean (SD), mmHg	125.9(18.8)	129.6(19.7)	132.9(19.9)	132.8(21.7)	<0.001
DBP, mean (SD), mmHg	81.3(10.8)	83.4(11.4)	85.2(11.4)	85.1(12.3)	<0.001
WC, mean (SD), cm	85.5(10.0)	87.4(9.9)	88.3(9.8)	87.2(9.2)	<0.001
FBG, mean (SD), mmol/L	5.31(1.41)	5.42(1.59)	5.47(1.70)	5.49(1.67)	<0.001
LDL-C, mean (SD), mmol/L	2.27(0.91)	2.30(0.91)	2.27(1.02)	2.39(0.90)	<0.001
Anti-hypertensive drug use, n (%)	1766(7.58)	1363(7.96)	249(8.16)	221(9.40)	0.013
Anti-diabetic drug use, n (%)	393(1.69)	302(1.76)	59(1.93)	52(2.21)	0.261
Lipid-lowering drug use, n (%)	165(0.71)	101(0.59)	18(0.59)	19(0.81)	0.372
SIRI, median (IQR)	0.42(0.26)	0.78(0.39)	0.86(0.52)	1.77(0.53)	<0.001
SII, median (IQR)	282.7(154.8)	364.0(192.5)	371.7(192.0)	509.7(265.5)	<0.001

Supplemental Table 3. Incidence rates and risks of the subtypes of cardiovascular disease by the trajectory patterns of SII

	Events	Incidence rate	Hazard ratio (95% CI)					
			Model 1	<i>P</i> value	Model 2	<i>P</i> value	Model 3	<i>P</i> value
Myocardial infarction								
Low stable	220	0.94	1(reference)	-	1(reference)	-	1(reference)	-
Moderate stable	124	0.99	1.10(0.88-1.37)	0.392	1.06(0.85-1.33)	0.579	1.11(0.87-1.41)	0.416
Increase	26	1.01	1.11(0.74-1.67)	0.611	1.06(0.71-1.60)	0.770	1.17(0.72-1.89)	0.524
Decrease	17	0.97	1.21(0.74-1.98)	0.454	1.14(0.70-1.88)	0.593	1.34(0.70-2.60)	0.379
Stroke								
Low stable	1025	4.44	1(reference)	-	1(reference)	-	1(reference)	-
Moderate stable	606	4.92	1.17(1.06-1.29)	0.003	1.12(1.01-1.24)	0.028	1.11(0.99-1.24)	0.067
Increase	149	5.87	1.38(1.16-1.63)	<0.001	1.31(1.10-1.56)	0.002	1.28(1.04-1.58)	0.020
Decrease	72	4.16	1.07(0.85-1.36)	0.560	1.02(0.80-1.30)	0.873	0.98(0.72-1.34)	0.912

Supplemental Table 4. Incidence rates and risks of the subtypes of cardiovascular disease by the trajectory patterns of SIRI

	Events	Incidence rate	Hazard ratio (95% CI)					
			Model 1	<i>P</i> value	Model 2	<i>P</i> value	Model 3	<i>P</i> value
Myocardial infarction								
Low stable	160	0.78	1(reference)	-	1(reference)	-	1(reference)	-
Moderate stable	172	1.15	1.22(0.98-1.51)	0.076	1.19(0.96-1.48)	0.114	1.04(0.81-1.35)	0.745
Increase	34	1.29	1.24(0.85-1.80)	0.264	1.21(0.83-1.76)	0.311	1.02(0.68-1.55)	0.915
Decrease	21	1.03	1.11(0.70-1.76)	0.654	1.07(0.68-1.69)	0.778	0.63(0.31-1.28)	0.200
Stroke								
Low stable	805	3.96	1(reference)	-	1(reference)	-	1(reference)	-
Moderate stable	773	5.24	1.17(1.05-1.29)	0.003	1.14(1.03-1.26)	0.011	1.13(1.01-1.27)	0.038
Increase	186	7.17	1.52(1.30-1.79)	<0.001	1.47(1.25-1.73)	<0.001	1.47(1.23-1.75)	<0.001
Decrease	88	4.34	1.00(0.80-1.24)	0.965	0.95(0.76-1.19)	0.668	0.93(0.67-1.30)	0.691

Supplemental Table 5. Incidence rates and risks of the subtypes of cardiovascular disease by quartiles of annual SII increase and quartiles of average SII

	Events	Incidence rate	Hazard ratio (95% CI)					
			Model 1	<i>P</i> value	Model 2	<i>P</i> value	Model 3	<i>P</i> value
Myocardial infarction								
Annual SII increase								
< -11.44	92	0.91	1(reference)	-	1(reference)	-	1(reference)	-
-11.44-	94	0.94	0.91(0.68-1.21)	0.499	0.91(0.68-1.21)	0.515	0.90(0.66-1.23)	0.504
13.12-	90	0.90	0.87(0.65-1.16)	0.343	0.87(0.65-1.16)	0.348	0.86(0.62-1.18)	0.354
≥ 39.88	111	1.11	1.11(0.84-1.46)	0.476	1.10(0.83-1.45)	0.521	1.08(0.80-1.47)	0.610
Average SII								
< 279.87	98	0.98	1(reference)	-	1(reference)	-	1(reference)	-
279.87-	87	0.86	0.94(0.71-1.26)	0.700	0.93(0.70-1.24)	0.630	0.96(0.71-1.29)	0.779
355.93-	99	0.99	1.08(0.82-1.43)	0.587	1.04(0.79-1.38)	0.761	1.10(0.80-1.50)	0.550
≥ 446.94	103	1.03	1.14(0.86-1.50)	0.353	1.08(0.82-1.42)	0.605	1.18(0.81-1.72)	0.381
Stroke								
Annual SII increase								
< -11.44	425	4.26	1(reference)	-	1(reference)	-	1(reference)	-
-11.44-	424	4.26	0.90(0.79-1.04)	0.146	0.91(0.80-1.05)	0.191	0.98(0.85-1.13)	0.771
13.12-	491	4.97	1.06(0.93-1.20)	0.411	1.06(0.93-1.21)	0.387	1.15(0.99-1.32)	0.064
≥ 39.88	512	5.18	1.15(1.01-1.31)	0.037	1.13(0.99-1.29)	0.060	1.22(1.06-1.41)	0.005
Average SII								
< 279.87	431	4.34	1(reference)	-	1(reference)	-	1(reference)	-
279.87-	437	4.38	1.06(0.93-1.22)	0.356	1.05(0.92-1.20)	0.475	1.07(0.93-1.23)	0.333
355.93-	452	4.55	1.12(0.98-1.28)	0.086	1.09(0.95-1.24)	0.220	1.13(0.97-1.30)	0.114
≥ 446.94	532	5.40	1.35(1.18-1.53)	<0.001	1.27(1.11-1.44)	<0.001	1.35(1.14-1.60)	0.002

Supplemental Table 6. Incidence rates and risks of the subtypes of cardiovascular disease by quartiles of annual SIRI increase and quartiles of average SIRI

	Events	Incidence rate	Hazard ratio (95% CI)					
			Model 1	<i>P</i> value	Model 2	<i>P</i> value	Model 3	<i>P</i> value
Myocardial infarction								
Annual SIRI increase								
< -0.0598	99	0.98	1(reference)	-	1(reference)	-	1(reference)	-
-0.0598-	95	0.95	0.96(0.72-1.27)	0.779	0.96(0.73-1.28)	0.791	1.08(0.78-1.48)	0.655
-0.0014-	81	0.81	0.76(0.57-1.03)	0.075	0.76(0.56-1.02)	0.067	0.87(0.61-1.22)	0.418
≥ 0.0606	112	1.12	0.97(0.74-1.28)	0.835	0.98(0.74-1.28)	0.861	1.12(0.81-1.56)	0.495
Average SIRI								
< 0.428	58	0.57	1(reference)	-	1(reference)	-	1(reference)	-
0.428-	99	0.98	1.47(1.06-2.04)	0.020	1.44(1.04-2.00)	0.027	1.42(1.02-1.97)	0.037
0.586-	103	1.03	1.40(1.01-1.94)	0.041	1.37(0.99-1.89)	0.058	1.32(0.94-1.86)	0.108
≥ 0.796	127	1.28	1.59(1.16-2.18)	0.004	1.52(1.11-2.09)	0.009	1.42(0.96-2.09)	0.078
Stroke								
Annual SIRI increase								
< -0.0598	431	4.31	1(reference)	-	1(reference)	-	1(reference)	-
-0.0598-	433	4.35	1.00(0.87-1.14)	0.965	1.00(0.87-1.14)	0.971	1.06(0.91-1.23)	0.428
-0.0014-	415	4.19	0.91(0.80-1.05)	0.192	0.91(0.79-1.04)	0.169	0.98(0.84-1.15)	0.821
≥ 0.0606	573	5.82	1.21(1.07-1.37)	0.003	1.20(1.06-1.36)	0.004	1.30(1.12-1.51)	0.002
Average SIRI								
< 0.428	357	3.56	1(reference)	-	1(reference)	-	1(reference)	-
0.428-	416	4.17	1.06(0.92-1.22)	0.422	1.03(0.89-1.19)	0.685	1.06(0.92-1.22)	0.448
0.586-	501	5.07	1.21(1.06-1.39)	0.006	1.17(1.02-1.34)	0.025	1.24(1.07-1.43)	0.005
≥ 0.796	578	5.91	1.33(1.16-1.53)	<0.001	1.26(1.10-1.45)	0.002	1.41(1.19-1.67)	<0.001

Supplemental Table 7. Sensitivity analysis of association between the dynamic trajectory of SII and risks of cardiovascular disease

	Low stable	Moderate stable	<i>P</i> value	Increase	<i>P</i> value	Decrease	<i>P</i> value
Sex							
Male	1(reference)	1.13(1.01-1.26)	0.029	1.25(1.02-1.54)	0.010	1.02(0.76-1.39)	0.035
Female	1(reference)	1.00(0.74-1.34)	0.981	1.24(0.74-2.10)	0.416	1.04(0.49-2.21)	0.916
Age							
< 50 years	1(reference)	1.11(0.93-1.33)	0.246	1.30(0.94-1.81)	0.115	1.02(0.65-1.61)	0.924
≥ 50 years	1(reference)	1.12(0.99-1.27)	0.069	1.24(0.98-1.58)	0.072	1.05(0.74-1.51)	0.774
Exclude incident events during the first two years of follow-up							
	1(reference)	1.10(0.99-1.24)	0.082	1.18(0.95-1.46)	0.134	0.96(0.71-1.31)	0.811

Supplemental Table 8. Sensitivity analysis of association between the dynamic trajectory of SIRI and risks of cardiovascular disease

	Low stable	Moderate stable	<i>P</i> value	Increase	<i>P</i> value	Decrease	<i>P</i> value
Sex							
Male	1(reference)	1.16(1.04-1.30)	0.010	1.35(1.13-1.60)	0.002	0.86(0.63-1.19)	0.373
Female	1(reference)	0.82(0.58-1.14)	0.240	2.24(1.34-3.75)	0.002	1.08(0.42-2.78)	0.872
Age							
< 50 years	1(reference)	1.16(0.96-1.41)	0.130	1.35(1.00-1.81)	0.050	0.83(0.49-1.41)	0.502
≥ 50 years	1(reference)	1.13(0.99-1.29)	0.067	1.43(1.17-1.74)	<0.001	0.94(0.65-1.36)	0.754
Exclude incident events during the first two years of follow-up							
	1(reference)	1.10(0.97-1.23)	0.127	1.31(1.09-1.58)	0.004	0.88(0.63-1.23)	0.459

Supplemental Table 9. Sensitivity analysis of association between the dynamic status of SII and risks of cardiovascular disease after excluding subjects with hypothyroidism, liver and kidney diseases and hematological diseases

	Hazard ratio (95% CI)					
	Model 1	<i>P</i> value	Model 2	<i>P</i> value	Model 3	<i>P</i> value
SII						
Low stable	1(reference)	-	1(reference)	-	1(reference)	-
Moderate stable	1.16(1.06,1.28)	0.001	1.12(1.02,1.23)	0.017	1.11(1.00,1.23)	0.042
Increase	1.33(1.14,1.57)	<0.001	1.27(1.08,1.49)	0.003	1.25(1.03,1.52)	0.023
Decrease	1.12(0.90,1.39)	0.322	1.06(0.85,1.31)	0.608	1.03(.078,1.37)	0.819
Annual SII increase						
< -11.44	1(reference)	-	1(reference)	-	1(reference)	-
-11.44-	0.91(0.80,1.03)	0.128	0.92(0.81,1.04)	0.168	0.98(0.85,1.11)	0.712
13.12-	1.02(0.91,1.16)	0.694	1.03(0.91,1.16)	0.655	1.10(0.97,1.26)	0.147
≥ 39.88	1.12(1.00,1.27)	0.053	1.11(0.99,1.25)	0.078	1.19(1.05,1.36)	0.008
Average SII						
< 279.87	1(reference)	-	1(reference)	-	1(reference)	-
279.87-	1.05(0.92,1.18)	0.481	1.03(0.91,1.17)	0.632	1.05(0.92,1.19)	0.459
355.93-	1.13(1.00,1.27)	0.051	1.09(0.97,1.23)	0.156	1.13(0.99,1.29)	0.079
≥ 446.94	1.32(1.17,1.48)	<0.001	1.25(1.11,1.40)	<0.001	1.32(1.13,1.55)	0.001

Supplemental Table 10. Sensitivity analysis of association between the dynamic status of SIRI and risks of cardiovascular disease after excluding subjects with hypothyroidism, liver and kidney diseases and hematological diseases

	Hazard ratio (95% CI)					
	Model 1	<i>P</i> value	Model 2	<i>P</i> value	Model 3	<i>P</i> value
SIRI						
Low stable	1(reference)	-	1(reference)	-	1(reference)	-
Moderate stable	1.18(1.08,1.30)	<0.001	1.16(1.06,1.27)	0.002	1.12(1.01,1.25)	0.033
Increase	1.48(1.27,1.72)	<0.001	1.43(1.23,1.66)	<0.001	1.38(1.17,1.63)	<0.001
Decrease	1.04(0.85,1.27)	0.704	1.00(0.82,1.22)	0.994	0.89(0.66,1.20)	0.446
Annual SIRI increase						
< -0.0598	1(reference)	-	1(reference)	-	1(reference)	-
-0.0598-	0.97(0.86,1.10)	0.656	0.97(0.86,1.10)	0.632	1.04(0.91,1.20)	0.531
-0.0014-	0.87(0.77,0.99)	0.032	0.87(0.77,0.98)	0.025	0.95(0.82,1.10)	0.478
≥ 0.0606	1.15(1.02,1.29)	0.020	1.14(1.01,1.28)	0.027	1.25(1.09,1.44)	0.002
Average SIRI						
< 0.428	1(reference)	-	1(reference)	-	1(reference)	-
0.428-	1.10(0.96,1.25)	0.165	1.07(0.94,1.22)	0.325	1.09(0.95,1.24)	0.229
0.586-	1.23(1.08,1.40)	0.002	1.19(1.05,1.35)	0.008	1.23(1.07,1.41)	0.003
≥ 0.796	1.36(1.20,1.54)	<0.001	1.29(1.14,1.47)	<0.001	1.38(1.18,1.62)	<0.001