Global Applicability of a Non-Laboratory and a Laboratory Based Cardiovascular Disease Risk Score: Supplementary Tables and Figures

Supplementary Table 1: Variables Captured in Original Non-Laboratory Risk Score and Variables in the PURE Study

Non-Laboratory INTERHEART Risk Score Variables	Corresponding Variables Used in PURE
Age: Are you a man 55 years or older of a women 65 years or older? Yes (Risk group, 2 points) No (Reference group, 0 points)	Same variable
Smoking: I never smoked (Reference group, 0 points) OR I am a former smoker (last smoked more than 12 months ago) (risk group, 2 points) OR I am a current smoker (risk group): 1-5 cigarettes per day (2 points) 6-10 cigarettes per day (4 points) 11-15 cigarettes per day (6 points)	Same variable

16-20 cigarettes per day (7 points) More than 20 cigarettes per day (11 points)	
Second Hand Smoking: Over the past 12 months, what has been your typical exposure to other people's tobacco smoke? Less than 1 hour or exposure per week or no exposure (reference group, 0 points) One or more hours of secondhand smoke exposure per week (risk group, 2 points)	Exposure to second hand smoke > 10 minutes per day in participants who are either never smokers or former smokers < 10 minutes per day (reference group) >10 minutes per day (risk group)
Diabetes: Do you have diabetes mellitus? Yes (risk group, 6 points) No or unsure (reference group, 0 points)	History of diabetes, fasting glucose > 7 mmol/L or on diabetic medications Yes (risk group) No (reference group)
High Blood Pressure: Do you have high blood pressure? Yes (risk group, 5 points)	History of hypertension or measured blood pressure > 140/90 mmHg

No or unsure (reference group, 0 points)	Yes (risk group) No (reference group)
Family History: Have either or both your biological parents had a heart attack?' Yes (risk group, 4 points) No or unsure (reference group, 0 points)	 History of coronary artery disease in either or both biological parents Yes (risk group) No (reference group)
Wait to hip ratio <0.873 (quartile 1, reference group, 0 points) 0.873-0.963 (quartile 2 and 3, risk group, 2 points) >0.964 (quartile 4, risk group, 4 points)	Same variable
Psychosocial Factors	
Stress: Several periods or permanent stress (risk group, 3 points)	 Defined using variables for 1) stress at home and 2) stress at work variable. Both variables were characterized as: never, some periods or several periods. Participants who answered having several periods of stress either at home or work

Never or some periods (reference group, 0 points)	Participants who reported only never or some periods of stress either at home or at work
Depression: During the past 12 months, was there ever a time when you felt sad, blue, or depressed for two weeks or more in a row? Yes (risk group, 3 points) No (reference group, 0 points)	Same variable
Dietary Factors	
Do you eat salty food or snacks one or more times a day? Yes (risk group, 1 point) No (reference group, 0 points)	Equivalent of 1 USDA serving of salty foods per day based on country specific food frequency questionnaires Yes (risk group) No (reference group)
Do you eat deep fried foods or snacks or fast foods 3 or more times a week? Yes (risk group, 1 point) No (reference group, 0 point)	Equivalent of 3 or more USDA servings of foods containing non-ruminant transaturated fats per week based on country specific food frequency questionnaires Yes (risk group) No (reference group)

Do you eat fruit one or more times daily? Yes (reference group, 0 points) No (risk group, 1 point)	Equivalent of 1 or more USDA servings of fruit per day based on country specific food frequency questionnaires Yes (reference group) No (risk group)
Do you eat vegetables one or more times daily? Yes (reference group, 0 points) No (risk group, 1 point)	Equivalent of 1 or more USDA servings of vegetables per day based on country specific food frequency questionnaires Yes (reference group) No (risk group)
Do you eat meat and/ or poultry 2 or more times daily? Yes (risk group, 2 point) No (reference group, 0 point)	Equivalent of 2 or more USDA servings of red meat or poultry per day based on country specific food frequency questionnaires Yes (risk group) No (reference group)
How active are you during your leisure time? I am mainly sedentary or perform mild exercise (requiring minimal effort)(risk group, 2 points)	Derived using international physical activity questionnaire (IPAQ) score Sedentary defined as less than or equal to 600 met-min/week

OR I perform moderate or strenuous physical activity in my leisure time (reference group, 0 points)	Active defined as greater than 600 met-min/week

Supplementary Table 2: CVD Events, Demographic Characteristics and Prevalence of Predictor Variables in the Non-Laboratory INTERHEART Risk Score

	All Participants	Proportion of Missing Variables	South Asia	China	South East Asia	Africa	North America/ Europe	Middle East	South America
N (%)	100475(100.0)	42056 (29.5)	12130 (12.1)	38431 (38.2)	6892 (6.9)	1291 (1.3)	16148 (16.1)	5626 (5.6)	19957(19.9)
Mean Follow Up (years) (SD)	4.89 (2.24)	NA	6.71 (2.61)	3.71 (1.80)	3.89 (1.74)	5.44 (2.47)	6.11 (1.31)	5.71 (1.49)	5.17(2.23)
Major Cardiovascular Events									
Major CVD events (%)	2284 (2.3)	NA	525 (4.3)	568 (1.5)	137 (2.0)	50 (3.9)	523 (3.2)	129 (2.3)	352(1.8)
MI (%)	992 (1.0)	NA	341 (2.8)	144 (0.4)	59 (0.9)	14 (1.1)	207 (1.3)	77 (1.4)	150(0.8)
Stroke (%)	915 (0.9)	NA	166 (1.4)	375 (1.0)	49 (0.7)	14 (1.1)	160 (1.0)	32 (0.6)	119(0.6)
CV Death (%)	671 (0.7)	NA	225 (1.9)	159 (0.4)	59 (0.9)	23 (1.8)	51 (0.3)	23 (0.4)	131(0.7)
Heart failure (%)	233 (0.2)	NA	30 (0.2)	37 (0.1)	30 (0.4)	22 (1.7)	60 (0.4)	11 (0.2)	43(0.2)
Revascularization (%)	240 (0.2)	NA	14 (0.1)	11 (0.0)	3 (0.0)	0 (0.0)	141 (0.9)	23 (0.4)	48(0.2)
Participant Demographics									
Mean age (SD)	50.53 (9.79)	NA	48.60 (10.33)	50.51 (9.84)	51.07 (9.71)	51.28(10.06)	51.99 (9.21)	47.93 (9.05)	51.05(9.68)
Female (%)	58995 (58.7)	1 (0.0)	7007 (57.8)	22280 (58.0)	3963 (57.5)	977(75.7)	9277 (57.4)	3077 (54.7)	12414(62.2)
Non-Laboratory INTERHEART Risk Score Predictor Variables									
Male>55yrs or female>65yrs (%)	20931 (20.8)	47 (0.0)	2376 (19.6)	8015 (20.9)	1570 (22.8)	246(19.1)	3806 (23.6)	786 (14.0)	4132(20.7)
Smoking Status		882 (0.6)							
Never Smoked (%)	67862 (67.5)		9385 (77.4)	27866 (72.5)	5309 (77.0)	1012(78.4)	8197 (50.8)	4651 (82.7)	11442(57.3)
Former Smoker (%)	12546 (12.5)		477 (3.9)	1672 (4.4)	540 (7.8)	77(6.0)	5123 (31.7)	297 (5.3)	4360(21.8)
1-5 cig./day (%)	5655 (5.6)		1629 (13.4)	1414 (3.7)	289 (4.2)	145(11.2)	531 (3.3)	173 (3.1)	1474(7.4)
6-10 cig./day (%)	4641 (4.6)		334 (2.8)	2155 (5.6)	286 (4.1)	41(3.2)	701 (4.3)	157 (2.8)	967(4.8)
11-15 cig./day (%)	1887 (1.9)		127 (1.0)	648 (1.7)	207 (3.0)	4(0.3)	448 (2.8)	75 (1.3)	378(1.9)

	All Participants	Proportion of Missing Variables	South Asia	China	South East Asia	Africa	North America/ Europe	Middle East	South America
16-20 cig./day (%)	5875 (5.8)		113 (0.9)	3666 (9.5)	203 (2.9)	8 (0.6)	818 (5.1)	202 (3.6)	865 (4.3)
>20 cig/day (%)	2009 (2.0)		65 (0.5)	1010 (2.6)	58 (0.8)	4 (0.3)	330 (2.0)	71 (1.3)	471 (2.4)
Second hand smoke (%)	8831 (8.8)	0 (0.0)	1089 (9.0)	4353 (11.3)	612 (8.9)	127 (9.8)	818 (5.1)	493 (8.8)	1339 (6.7)
Diabetes (%)	9188 (9.1)	0 (0.0)	1686 (13.9)	2751 (7.2)	933 (13.5)	115 (8.9)	1238 (7.7)	696 (12.4)	1769 (8.9)
High blood pressure (%)	40843 (40.6)	13 (0.0)	4464 (36.8)	15380 (40.0)	3066 (44.5)	819 (63.4)	6487 (40.2)	1568 (27.9)	9059 (45.4)
Family history of CVD (%)	21789 (21.7)	14127 (9.9)	1187 (9.8)	4117 (10.7)	916 (13.3)	75 (5.8)	6684 (41.4)	2059 (36.6)	6751 (33.8)
Waist to hip ratio		8360 (5.9)							
WHR 1st quartile (%)	50443 (50.2)		5783 (47.7)	22405 (58.3)	3443 (50.0)	843 (65.3)	8338 (51.6)	2026 (36.0)	7605 (38.1)
WHR 2nd&3rd quartile (%)	36488 (36.3)		4184 (34.5)	13820 (36.0)	2619 (38.0)	310 (24.0)	5094 (31.5)	2231 (39.7)	8230 (41.2)
WHR 4th quartile (%)	13544 (13.5)		2163 (17.8)	2206 (5.7)	830 (12.0)	138 (10.7)	2716 (16.8)	1369 (24.3)	4122 (20.7)
Dietary Factors		9976 (7.0)							
Salty foods >= 1 time per day (%)	31887 (31.7)		564 (4.6)	5705 (14.8)	4559 (66.1)	570 (44.2)	10180 (63.0)	2209 (39.3)	8100 (40.6)
Deep fried foods >= 3 times per week (%)	51492 (51.2)		2094 (17.3)	8453 (22.0)	6601 (95.8)	610 (47.3)	14112 (87.4)	4640(82.5)	14982 (75.1)
Fruit consumption < 1 time per day (%)	46080 (45.9)		9700 (80.0)	26272 (68.4)	2854 (41.4)	383 (29.7)	2161 (13.4)	569 (10.1)	4141 (20.7)
Vegetables consumption <1 time per day (%)	13795 (13.7)		4068 (33.5)	3540 (9.2)	2084 (30.2)	209 (16.2)	1285 (8.0)	194 (3.4)	2415 (12.1)
Meat/poultry consumption >=2 times per day (%)	19692(19.6)		1407 (11.6)	4870 (12.7)	3131 (45.4)	92 (7.1)	3342 (20.7)	1649 (29.3)	5201 (26.1)
Moderate/strenuous physical activity (%)	84340 (83.9)	10893 (7.6)	9480 (78.2)	32663 (85.0)	4688 (68.0)	1051 (81.4)	14687 (91.0)	4477 (79.6)	17294 (86.7)
Depression (%)	12969 (12.9)	1042 (0.7)	1591 (13.1)	901 (2.3)	513 (7.4)	472 (36.6)	3780 (23.4)	1019 (18.1)	4693 (23.5)
Several periods or permanent stress	19008 (18.9)	17909 (12.6)	1299 (10.7)	2094 (5.4)	756(11.0)	497 (38.5)	5969 (37.0)	1084(19.3)	7309 (36.6)

Supplementary Table 3: Discrimination of the Non-Laboratory INTERHEART Risk Score for CVD in Patients with Complete Scores and Imputed Data

Region	NL-IHRS C-statistic	
	Complete Data (N=100,475)	Imputed Data (N=142,531)
Overall PURE Population	0.69 (0.68, 0.70)	0.68 (0.67, 0.69)
Individual Regions		
South Asia	0.67 (0.64, 0.69)	0.68 (0.67,0.70)
China	0.69 (0.67, 0.71)	0.69 (0.67,0.70)
Southeast Asia	0.73 (0.69, 0.77)	0.69 (0.66,0.72)
Africa	0.64 (0.56, 0.72)	0.62 (0.58,0.66)
North America/ Europe	0.69 (0.67, 0.72)	0.69 (0.67,0.71)
Middle East	0.74 (0.70, 0.78)	0.76 (0.72,0.79)
South America	0.72 (0.69, 0.75)	0.72 (0.69,0.75)

Supplementary Table 4: Recalibrated Non-Laboratory INTERHEART Risk Score

CVD Risk Estimates:

	Predicted risk (%)													
	South Asia		China		South East Asia		Africa		North America/ Europe		Middle East		South America	
	7-yr Risk	Annual risk	4-yr Risk	Annual risk	4-yr Risk	Annual risk	5-yr Risk	Annual risk	6-yr Risk	Annual risk	6-yr Risk	Annual risk	5-yr Risk	Annual risk
Risk score														
0	1.6	0.2	0.5	0.1	0.4	0.1	1.3	0.3	0.8	0.1	0.4	0.1	0.3	0.1
1	1.8	0.3	0.6	0.1	0.5	0.1	1.4	0.3	0.9	0.1	0.5	0.1	0.4	0.1
2	2.0	0.3	0.7	0.2	0.5	0.1	1.6	0.3	1.0	0.2	0.5	0.1	0.4	0.1
3	2.2	0.3	0.7	0.2	0.6	0.1	1.7	0.3	1.1	0.2	0.6	0.1	0.5	0.1
4	2.4	0.3	0.8	0.2	0.7	0.2	1.9	0.4	1.2	0.2	0.7	0.1	0.6	0.1
5	2.7	0.4	0.9	0.2	0.8	0.2	2.1	0.4	1.4	0.2	0.8	0.1	0.6	0.1
6	3.0	0.4	1.1	0.3	0.9	0.2	2.4	0.5	1.5	0.3	1.0	0.2	0.7	0.1
7	3.3	0.5	1.2	0.3	1.0	0.3	2.6	0.5	1.7	0.3	1.1	0.2	0.8	0.2
8	3.7	0.5	1.3	0.3	1.2	0.3	2.9	0.6	1.9	0.3	1.3	0.2	0.9	0.2
9	4.1	0.6	1.5	0.4	1.3	0.3	3.3	0.7	2.1	0.4	1.5	0.3	1.0	0.2
10	4.6	0.7	1.7	0.4	1.5	0.4	3.6	0.7	2.4	0.4	1.8	0.3	1.2	0.2
11	5.0	0.7	1.9	0.5	1.7	0.4	4.0	0.8	2.7	0.4	2.1	0.3	1.3	0.3
12	5.6	0.8	2.1	0.5	1.9	0.5	4.4	0.9	3.0	0.5	2.4	0.4	1.5	0.3
13	6.2	0.9	2.4	0.6	2.2	0.6	4.9	1.0	3.3	0.5	2.8	0.5	1.7	0.3
14	6.8	1.0	2.6	0.7	2.5	0.6	5.5	1.1	3.7	0.6	3.2	0.5	1.9	0.4
15	7.6	1.1	3.0	0.7	2.9	0.7	6.0	1.2	4.1	0.7	3.7	0.6	2.1	0.4
16	8.3	1.2	3.3	0.8	3.3	0.8	6.7	1.3	4.5	0.8	4.3	0.7	2.4	0.5
17	9.2	1.3	3.7	0.9	3.7	0.9	7.4	1.5	5.0	0.8	5.0	0.8	2.7	0.5
18	10.2	1.5	4.1	1.0	4.2	1.0	8.2	1.6	5.6	0.9	5.7	1.0	3.1	0.6
19	11.2	1.6	4.6	1.2	4.8	1.2	9.0	1.8	6.2	1.0	6.6	1.1	3.5	0.7
20	12.3	1.8	5.2	1.3	5.4	1.3	9.9	2.0	6.9	1.1	7.6	1.3	3.9	0.8
21	13.5	1.9	5.8	1.4	6.1	1.5	10.9	2.2	7.6	1.3	8.8	1.5	4.4	0.9
22	14.8	2.1	6.4	1.6	6.9	1.7	12.0	2.4	8.4	1.4	10.1	1.7	5.0	1.0
23	16.2	2.3	7.2	1.8	7.8	2.0	13.2	2.6	9.3	1.6	11.5	1.9	5.6	1.1
24	17.7	2.5	8.0	2.0	8.8	2.2	14.5	2.9	10.3	1.7	13.2	2.2	6.3	1.3
25	19.4	2.8	8.9	2.2	10.0	2.5	15.9	3.2	11.4	1.9	15.0	2.5	7.1	1.4
26	21.1	3.0	9.9	2.5	11.2	2.8	17.4	3.5	12.5	2.1	17.1	2.8	8.0	1.6
27	23.0	3.3	11.0	2.7	12.6	3.1	19.0	3.8	13.8	2.3	19.3	3.2	9.0	1.8
28	24.9	3.6	12.2	3.0	14.1	3.5	20.7	4.1	15.2	2.5	21.8	3.6	10.0	2.0
29	27.0	3.9	13.4	3.4	15.8	3.9	22.5	4.5	16.7	2.8	24.5	4.1	11.2	2.2
30	29.2	4.2	14.9	3.7	17.6	4.4	24.5	4.9	18.2	3.0	27.5	4.6	12.5	2.5
31	31.5	4.5	16.4	4.1	19.6	4.9	26.5	5.3	20.0	3.3	30.6	5.1	14.0	2.8

32	33.8	4.8	18.1	4.5	21.8	5.5	28.7	5.7	21.8	3.6	33.9	5.7	15.5	3.1
33	36.3	5.2	19.8	5.0	24.2	6.0	30.9	6.2	23.7	4.0	37.4	6.2	17.2	3.4
34	38.8	5.5	21.8	5.4	26.7	6.7	33.3	6.7	25.8	4.3	41.1	6.8	19.1	3.8
35	41.4	5.9	23.8	6.0	29.3	7.3	35.7	7.1	28.0	4.7	44.8	7.5	21.1	4.2
36	44.0	6.3	26.0	6.5	32.1	8.0	38.2	7.6	30.2	5.0	48.6	8.1	23.3	4.7
37	46.7	6.7	28.3	7.1	35.1	8.8	40.8	8.2	32.6	5.4	52.4	8.7	25.6	5.1
38	49.4	7.1	30.7	7.7	38.2	9.5	43.4	8.7	35.1	5.9	56.2	9.4	28.0	5.6
39	52.1	7.4	33.2	8.3	41.3	10.3	46.1	9.2	37.7	6.3	59.9	10.0	30.6	6.1
40+	54.8	7.8	35.9	9.0	44.6	11.1	48.8	9.8	40.3	6.7	63.5	10.6	33.3	6.7

CVD risk for each region is presented as the risk based upon the mean duration of follow-up (in years), and the annualized risk.

Supplementary Table 5: Recalibrated Fasting Cholesterol INTERHEART Risk Score CVD Risk Estimates:

	Predicted risk (%)													
	South Asia		China		South East Asia		Africa		North America/ Europe		Middle East		South America	
	8-yr Risk	Annual risk	4-yr Risk	Annual risk	4-yr Risk	Annual risk	7-yr Risk	Annual risk	6-yr Risk	Annual risk	6-yr Risk	Annual risk	5-yr Risk	Annual risk
Risk score														
0	1.3	0.2	0.6	0.1	0.6	0.2	1.6	0.2	0.8	0.1	0.5	0.1	0.4	0.1
1	1.6	0.2	0.7	0.2	0.7	0.2	1.8	0.3	1.0	0.2	0.6	0.1	0.5	0.1
2	1.8	0.2	0.8	0.2	0.8	0.2	2.1	0.3	1.1	0.2	0.7	0.1	0.6	0.1
3	2.1	0.3	0.9	0.2	0.9	0.2	2.4	0.3	1.3	0.2	0.9	0.1	0.7	0.1
4	2.4	0.3	1.0	0.2	1.1	0.3	2.7	0.4	1.5	0.3	1.1	0.2	0.8	0.2
5	2.8	0.4	1.1	0.3	1.2	0.3	3.1	0.4	1.8	0.3	1.3	0.2	0.9	0.2
6	3.2	0.4	1.2	0.3	1.4	0.4	3.6	0.5	2.0	0.3	1.6	0.3	1.1	0.2
7	3.7	0.5	1.4	0.4	1.6	0.4	4.1	0.6	2.3	0.4	1.9	0.3	1.3	0.3
8	4.3	0.5	1.6	0.4	1.9	0.5	4.7	0.7	2.7	0.5	2.3	0.4	1.5	0.3
9	5.0	0.6	1.8	0.5	2.1	0.5	5.4	0.8	3.1	0.5	2.9	0.5	1.7	0.3
10	5.7	0.7	2.1	0.5	2.5	0.6	6.2	0.9	3.6	0.6	3.5	0.6	2.0	0.4
11	6.6	0.8	2.3	0.6	2.8	0.7	7.0	1.0	4.2	0.7	4.2	0.7	2.3	0.5
12	7.6	0.9	2.6	0.7	3.2	0.8	8.0	1.1	4.8	0.8	5.1	0.9	2.7	0.5
13	8.7	1.1	3.0	0.7	3.7	0.9	9.1	1.3	5.6	0.9	6.2	1.0	3.2	0.6
14	10.0	1.2	3.4	0.8	4.3	1.1	10.3	1.5	6.4	1.1	7.5	1.2	3.7	0.7
15	11.4	1.4	3.8	0.9	4.9	1.2	11.7	1.7	7.4	1.2	9.0	1.5	4.3	0.9
16	13.0	1.6	4.3	1.1	5.6	1.4	13.3	1.9	8.5	1.4	10.8	1.8	5.1	1.0
17	14.8	1.8	4.8	1.2	6.4	1.6	15.0	2.1	9.7	1.6	12.9	2.2	5.9	1.2
18	16.8	2.1	5.5	1.4	7.3	1.8	16.8	2.4	11.1	1.8	15.4	2.6	6.8	1.4
19	19.0	2.4	6.1	1.5	8.3	2.1	18.9	2.7	12.6	2.1	18.2	3.0	7.9	1.6
20	21.4	2.7	6.9	1.7	9.5	2.4	21.2	3.0	14.4	2.4	21.4	3.6	9.2	1.8
21	24.0	3.0	7.8	1.9	10.8	2.7	23.6	3.4	16.3	2.7	25.1	4.2	10.6	2.1
22	26.8	3.4	8.7	2.2	12.2	3.1	26.2	3.7	18.5	3.1	29.0	4.8	12.2	2.4
23	29.8	3.7	9.8	2.4	13.8	3.5	29.1	4.2	20.8	3.5	33.4	5.6	14.0	2.8
24	33.1	4.1	11.0	2.7	15.6	3.9	32.1	4.6	23.4	3.9	38.0	6.3	16.0	3.2
25	36.4	4.6	12.3	3.1	17.6	4.4	35.2	5.0	26.2	4.4	42.9	7.2	18.3	3.7
26	40.0	5.0	13.7	3.4	19.7	4.9	38.5	5.5	29.2	4.9	47.9	8.0	20.8	4.2
27	43.6	5.5	15.3	3.8	22.1	5.5	41.9	6.0	32.4	5.4	53.0	8.8	23.6	4.7
28	47.3	5.9	17.0	4.2	24.6	6.2	45.3	6.5	35.7	6.0	58.0	9.7	26.6	5.3
29	51.0	6.4	18.8	4.7	27.4	6.8	48.8	7.0	39.2	6.5	62.9	10.5	29.8	6.0
30+	54.8	6.8	20.8	5.2	30.3	7.6	52.3	7.5	42.8	7.1	67.4	11.2	33.2	6.6

CVD risk for each region is presented as the risk based upon the mean duration of follow-up (in years), and the annualized risk.

Supplementary Table 6: Regional Actual and Predicted Estimates of Risk with the Recalibrated a) Non-Laboratory INTERHEART Risk Score and b) Laboratory Based INTERHEART Risk Score (Based on Tertiles of Risk)

a) Non-Laboratory INTERHEART Risk Score:

	Annual Observed Risk (%)	Annual Predicted Risk (%)
All Participants		
Lowest tertile	0.14	0.16
Middle tertile	0.35	0.33
Upper tertile	0.91	0.90
South Asia		
Lowest tertile	0.32	0.33
Middle tertile	0.51	0.52
Upper tertile	1.10	1.08
China		
Lowest tertile	0.12	0.19
Middle tertile	0.33	0.32
Upper tertile	0.75	0.69
South East Asia		
Lowest tertile	0.10	0.20
Middle tertile	0.44	0.38
Upper tertile	1.00	0.96
Africa		
Lowest tertile	0.37	0.39
Middle tertile	0.66	0.63

Upper tertile	1.11	1.15
North America/Europe		
Lowest tertile	0.21	0.24
Middle tertile	0.40	0.42
Upper tertile	0.98	0.94
Middle East		
Lowest tertile	0.12	0.13
Middle tertile	0.29	0.26
Upper tertile	0.79	0.82
South America		
Lowest tertile	0.10	0.13
Middle tertile	0.25	0.25
Upper tertile	0.67	0.66

b) Laboratory Based INTERHEART Risk Score:

	Annual Observed Risk (%)	Annual Predicted Risk (%)
All Participants		
Lowest tertile	0.13	0.16
Middle tertile	0.33	0.32
Upper tertile	0.95	0.93
South Asia		
Lowest tertile	0.22	0.22
Middle tertile	0.38	0.38
Upper tertile	1.00	1.01
China		

Lowest tertile	0.15	0.19
Middle tertile	0.37	0.33
Upper tertile	0.74	0.74
South East Asia		
Lowest tertile	0.14	0.24
Middle tertile	0.49	0.47
Upper tertile	1.21	1.14
Africa		
Lowest tertile	0.27	0.30
Middle tertile	0.54	0.53
Upper tertile	0.97	0.96
North America/Europe		
Lowest tertile	0.14	0.20
Middle tertile	0.45	0.38
Upper tertile	0.96	0.97
Middle East		
Lowest tertile	0.08	0.11
Middle tertile	0.27	0.23
Upper tertile	0.94	0.94
South America		
Lowest tertile	0.10	0.12
Middle tertile	0.24	0.25
Upper tertile	0.72	0.69

Supplementary Figure 1: Description of the Non-Laboratory INTERHEART Risk Score

Risk factor	Question	Points for the answer		Points for each section
Age	Are you a man 55 years or older OR woman 65 years or older?		2	**Points:**
	OR Are you a man younger than 55 years or woman younger than 65 years		0	
Smoking. Pick the description which matches you best:	I never smoked		0	**Points:**
	OR I am a former smoker (last smoked more than 12 months ago)		2	
	OR I am a current smoker or I smoked regularly in the last 12 months, and I smoke…	1-5 cigarettes per day	2	
		6-10 cigarettes per day	4	
		11-15 cigarettes per day	6	
		16-20 cigarettes per day	7	
		More than 20 cigarettes per day	11	
Second hand smoke	Over the past 12 months, what has been your typical exposure to other people's tobacco smoke?	Less than 1 hour or exposure per week or no exposure	0	**Points:**
		OR One or more hours of secondhand smoke exposure per week	2	
Diabetes	Do you have diabetes mellitus?	Yes	6	**Points:**
		No or unsure	0	
High Blood Pressure	Do you have high blood pressure	Yes	5	**Points:**
		No or unsure	0	
Family history	Have either or both of your biological parents had a heart attack?*	Yes	4	**Points:**
		No or unsure	0	
Waist to hip ratio	Pick one only:	Quartile 1: Less than 0.873	0	**Points:**
		Quartile 2 &3: 0.873 - 0.963	2	
		Quartile 4: greater than or =0.964	4	
Psychosocial factors	How often have you felt work or home life stress in the last year? Pick one only	Never or some periods	0	**Points:**
		OR Several periods of stress or permanent stress	3	
	During the past 12 months, was there ever a time when you felt sad, blue, or depressed for two	Yes	3	**Points:**

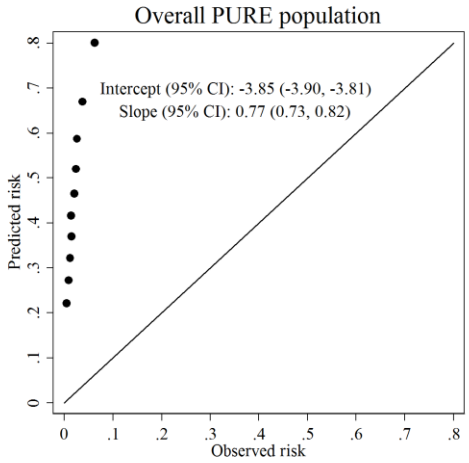
	weeks or more in a row?	No	0	
Dietary factors. Pick one answer for each food group mentioned	Do you eat salty food or snacks one or more times a day	Yes	1	**Points:**
		No	0	
	Do you eat deep fried foods or snacks or fast foods 3 or more times a week?	Yes	1	**Points:**
		No	0	
	Do you eat fruit one or more times daily?	Yes	0	**Points:**
		No	1	
	Do you eat vegetables one or more times daily?	Yes	0	**Points:**
		No	1	
	Do you eat meat and/ or poultry 2 or more times daily?	Yes	2	**Points:**
		No	0	
Physical activity	How active are you during your leisure time?	I am mainly sedentary or perform mild exercise (requiring minimal effort)	2	**Points:**
		OR I perform moderate or strenuous physical activity in my leisure time	0	

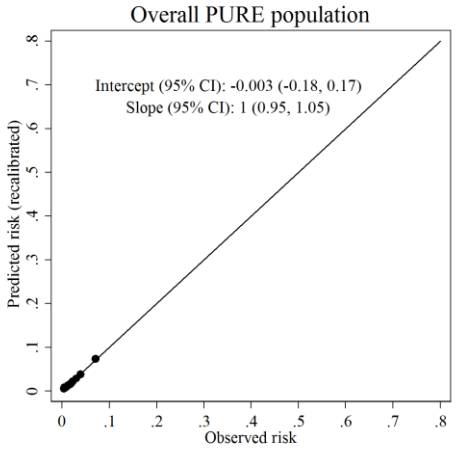
Supplementary Figure 2: Description of the Fasting Cholesterol INTERHEART Risk Score

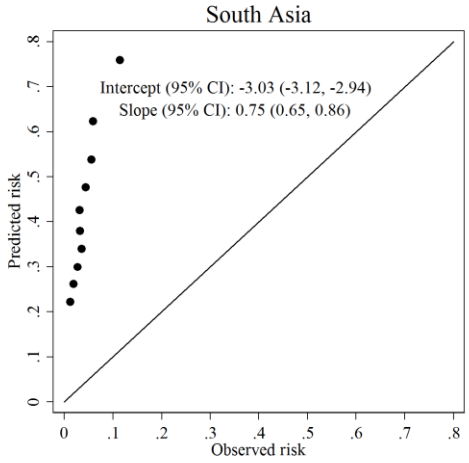
Risk factor	Question		Points for the answer	Points for each section
Age	Are you a man 55 years or older OR woman 65 years or older?		2	**Points:**
	OR Are you a man younger than 55 years or woman younger than 65 years		0	
LDL cholesterol	Pick one only:	Quartile 1: Less than 2.56	0	**Points:**
		Quartile 2: 2.57-3.18	1	
		Quartile 3: 3.19 – 3.89	2	
		Quartile 4: greater than 3.89	5	
HDL cholesterol	Pick one only	HDL<1.01	2	
		HDL> or = 1.01	0	
Smoking. Pick the description which matches you best:	I never smoked		0	**Points:**
	OR I am a former smoker (last smoked more than 12 months ago)		2	
	OR I am a current smoker or I smoked regularly in the last 12 months, and I smoke…	1-5 cigarettes per day	2	
		6-10 cigarettes per day	4	
		11-20 cigarettes per day	7	
		More than 20 cigarettes per day	11	
Second hand smoke	Over the past 12 months, what has been your typical exposure to other people's tobacco smoke?	Less than 1 hour or exposure per week or no exposure	0	**Points:**
		OR One or more hours of secondhand smoke exposure per week	3	
Diabetes	Do you have diabetes mellitus?	Yes	7	**Points:**
		No or unsure	0	
High Blood Pressure	Do you have high blood pressure	Yes	6	**Points:**
		No or unsure	0	
		No	0	

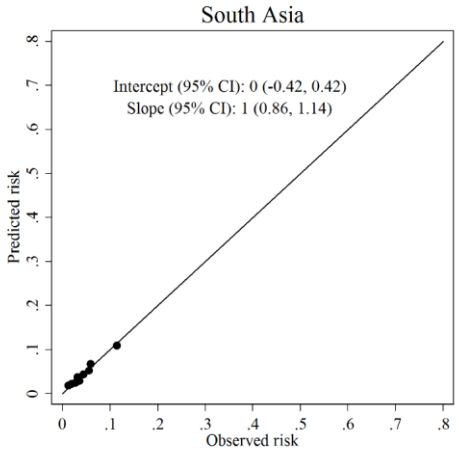
Supplementary Figure 3: Calibration Plots for Observed and Expected Major Cardiovascular Outcomes in the Overall Population and by Region with the Non-Laboratory INTERHEART Risk Score Prior to and Following Recalibration:

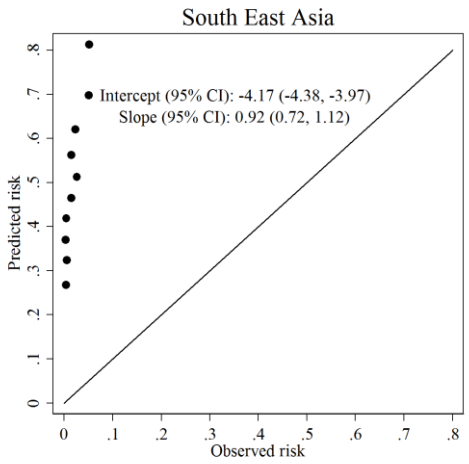
Non-Recalibrated Calibration (Left) **Recalibrated Calibration (Right)**

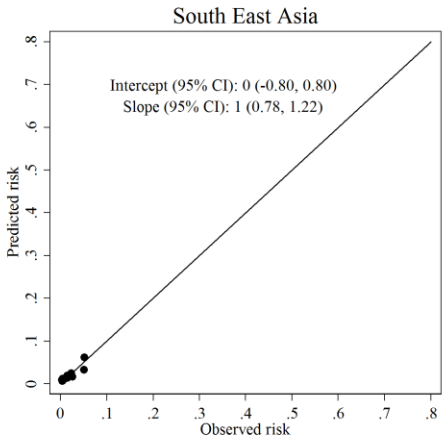


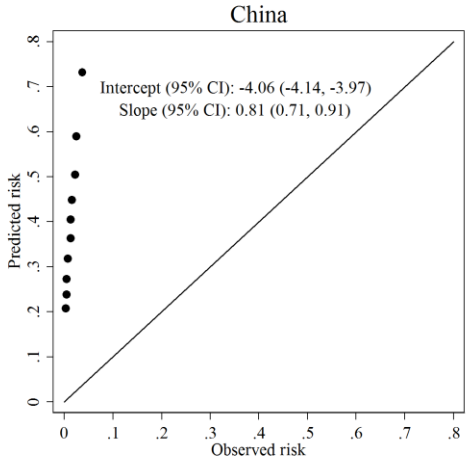


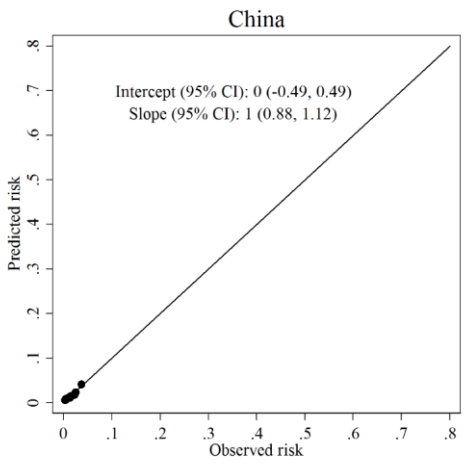


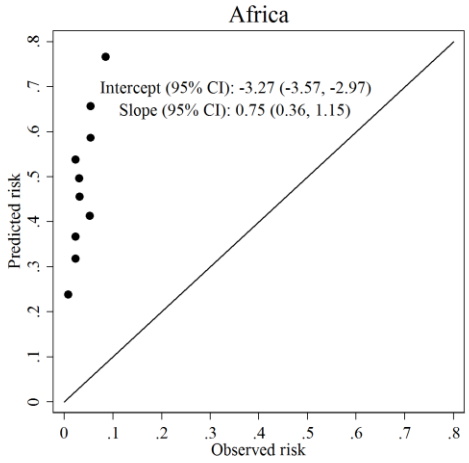


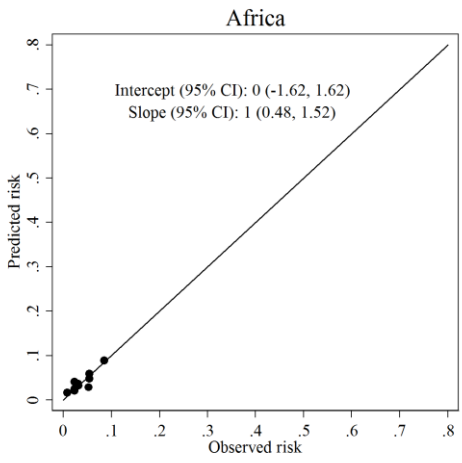

South East Asia
Intercept (95% CI): -4.17 (-4.38, -3.97)
Slope (95% CI): 0.92 (0.72, 1.12)
Predicted risk
Observed risk

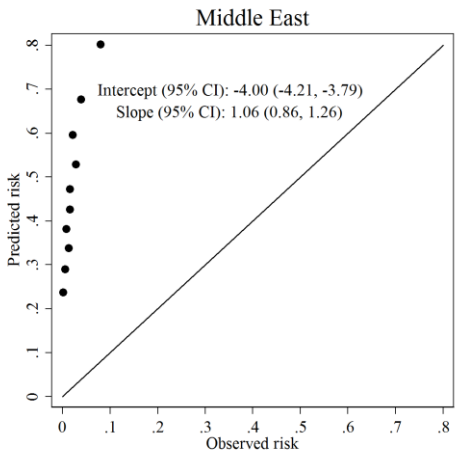

South East Asia
Intercept (95% CI): 0 (-0.80, 0.80)
Slope (95% CI): 1 (0.78, 1.22)
Predicted risk
Observed risk

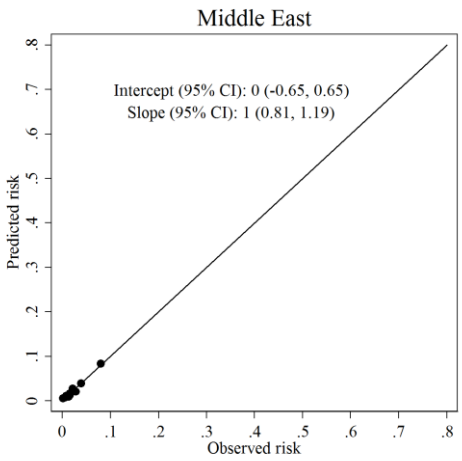

China
Intercept (95% CI): -4.06 (-4.14, -3.97)
Slope (95% CI): 0.81 (0.71, 0.91)
Predicted risk
Observed risk

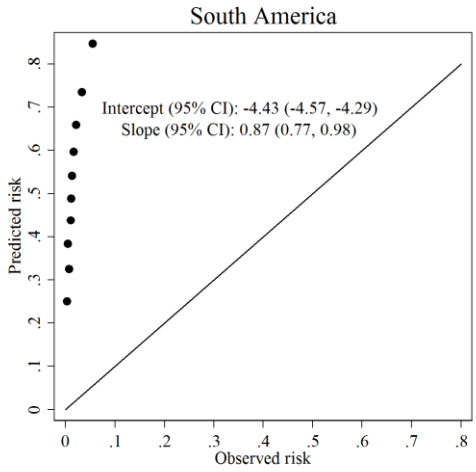

China
Intercept (95% CI): 0 (-0.49, 0.49)
Slope (95% CI): 1 (0.88, 1.12)
Predicted risk
Observed risk

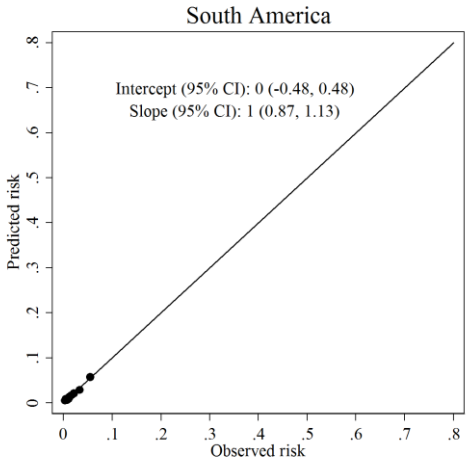

Africa
Intercept (95% CI): -3.27 (-3.57, -2.97)
Slope (95% CI): 0.75 (0.36, 1.15)
Predicted risk
Observed risk

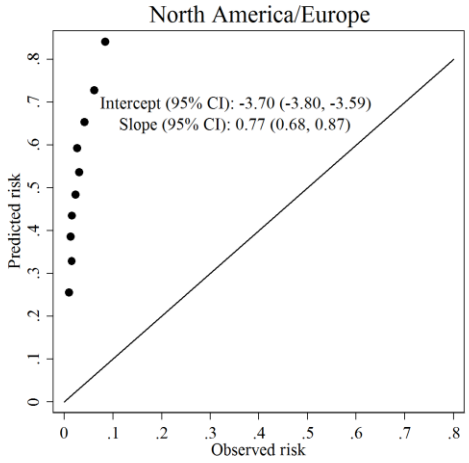

Africa
Intercept (95% CI): 0 (-1.62, 1.62)
Slope (95% CI): 1 (0.48, 1.52)
Predicted risk
Observed risk

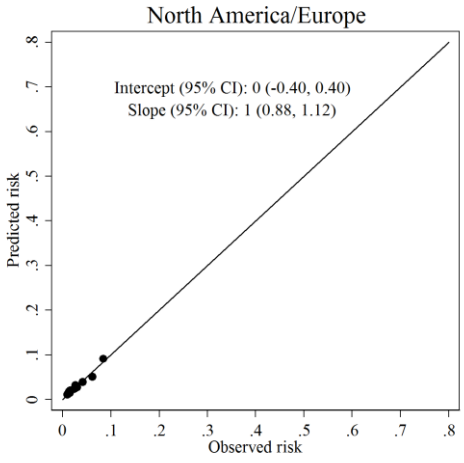

Middle East
Intercept (95% CI): -4.00 (-4.21, -3.79)
Slope (95% CI): 1.06 (0.86, 1.26)
Predicted risk
Observed risk
0 .1 .2 .3 .4 .5 .6 .7 .8


Middle East
Intercept (95% CI): 0 (-0.65, 0.65)
Slope (95% CI): 1 (0.81, 1.19)
Predicted risk
Observed risk
0 .1 .2 .3 .4 .5 .6 .7 .8


South America
Intercept (95% CI): -4.43 (-4.57, -4.29)
Slope (95% CI): 0.87 (0.77, 0.98)
Predicted risk
Observed risk
0 .1 .2 .3 .4 .5 .6 .7 .8


South America
Intercept (95% CI): 0 (-0.48, 0.48)
Slope (95% CI): 1 (0.87, 1.13)
Predicted risk
Observed risk
0 .1 .2 .3 .4 .5 .6 .7 .8


North America/Europe
Intercept (95% CI): -3.70 (-3.80, -3.59)
Slope (95% CI): 0.77 (0.68, 0.87)
Predicted risk
Observed risk
0 .1 .2 .3 .4 .5 .6 .7 .8


North America/Europe
Intercept (95% CI): 0 (-0.40, 0.40)
Slope (95% CI): 1 (0.88, 1.12)
Predicted risk
Observed risk
0 .1 .2 .3 .4 .5 .6 .7 .8

Supplementary Methods:

Description of imputation methods for missing data:

To determine the impact of missing data, sensitivity analyses were performed following imputation of missing variables using the multiple imputation by chained equation (MICE) method as described by Vergouwe et al [12] which can be used to handle the missing variable of different types (continuous, nominal, ordered categorical). The missingness was assumed to be missing at random (MAR). The multiple imputation was applied to all missing risk factors by constructing an imputation model relating the missing variable to other available variables, and accounting for different regions. The similar approach for the completed data were then repeated to the data with the imputed values for the missing variables.

Funding Details:

PJ is partly funded by a McMaster University, Department of Medicine, Early Career Award. SY is funded by the Marion Burke Chair of the Heart and Stroke Foundation of Canada. SA holds the Michael G DeGroote Heart and Stroke Foundation of Canada Chair in Population Health Research and a Canada Research Chair in Ethnicity and Cardiovascular Disease.

The main PURE study and its components are funded by the Population Health Research Institute, the Canadian Institutes of Health Research, Heart and Stroke Foundation of Ontario and through unrestricted grants from several pharmaceutical companies [with major contributions from Astra Zeneca (Canada), Sanofi-Aventis (France and Canada), Boehringer Ingelheim (Germany & Canada), Servier, and GSK], and additional contributions from Novartis and King Pharma and from various national or local organizations in participating countries.

These include: Argentina: Fundacion ECLA; Bangladesh: Independent University, Bangladesh and Mitra and Associates; Brazil: Unilever Health Institute, Brazil; Canada: Public Health Agency of Canada and Champlain Cardiovascular Disease Prevention Network; Chile: Universidad de la Frontera; China: National Center for Cardiovascular Diseases; Colombia: Colciencias, Grant number:6566-04-18062; India: Indian Council of Medical Research; Malaysia: Ministry of Science, Technology and Innovation of Malaysia Grant Nbr 100 - IRDC / BIOTEK 16/6/21 (13/2007), Grant Number 07-05-IFN-BPH 010, Ministry of Higher Education of Malaysia Grant Nbr 600 - RMI/LRGS/5/3 (2/2011), Universiti Teknologi MARA, Universiti Kebangsaan Malaysia (UKM-Hejim-Komuniti-

15-2010); occupied Palestinian territory: the United Nations Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), occupied Palestinian territory; International Development Research Centre (IDRC), Canada; Philippines: Philippine Council for Health Research & Development (PCHRD); Poland: Polish Ministry of Science and Higher Education grant Nr 290/W-PURE/2008/0, Wroclaw Medical University; Saudi Arabia: The Deanship of Scientific Research at King Saud University, Riyadh, Saudi Arabia (Research group number: RG -1436-013); South Africa: The North-West University, SANPAD (SA and Netherlands Programme for Alternative Development), National Research Foundation, Medical Research Council of SA, The SA Sugar Association (SASA), Faculty of Community and Health Sciences (UWC); Sweden: AFA Insurance, Swedish Council for Working Life and Social Research, Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning, Swedish Heart and Lung Foundation, Swedish Research Council, Grant from the Swedish State under (LäkarUtbildningsAvtalet), Agreement, Grant from the Västra Götaland Region (FOUU); TURKEY: Metabolic Syndrome Society, Astra Zeneca, Turkey, Sanofi Aventis, Turkey; UAE: Sheikh Hamdan Bin Rashid Al Maktoum Award For Medical Sciences and Dubai Health Authority, Dubai UAE.

Acknowledgements: PURE Project Office Staff, National Coordinators, Investigators and Key Staff:

Project office (Population Health Research Institute, Hamilton Health Sciences and McMaster University, Hamilton, Canada): S Yusuf* (Principal Investigator).

S Rangarajan (Project Manager); K K Teo, C K Chow, M O'Donnell, A Mente, D Leong, A Smyth, P Joseph, S Islam (Statistician), M Zhang (Statistician), W Hu (Statistician), C Ramasundarahettige (Statistician), G Wong (Statistician), L Dayal, A Casanova, M Dehghan (Nutritionist), G Lewis, J DeJesus, P Mackie, SL Chin, D Hari, L Farago, M Zarate, I Kay, D Agapay, R Solano, S Ramacham, N Kandy, J Rimac, S Trottier, W ElSheikh, M Mustaha, T Tongana, N Aoucheva, J Swallow, E Ramezani, A Aliberti, J Lindeman

Core Laboratories: M McQueen, K Hall, J Keys (Hamilton), X Wang (Beijing, China), J Keneth, A Devanath (Bangalore, India).

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*National Coordinator

Deceased