Supplementary Table 1 Baseline Characteristics of Participants by Estimated Sodium and Potassium Excretion Groups

	All	Groups: Estimated Sodium and Potassium Excretion g/day					
		Sodium <3 g/d		Sodium 3-5 g/d		Sodium >5 g/d	
		Potassium ≤2g/day	Potassium >2g/day	Potassium ≤2g/day	Potassium >2g/day	Potassium ≤2g/day	Potassium >2g/day
Participants, n (%)		7621 (7.4)	3434 (3.3)	24834 (24.0)	22751 (22.0)	14313 (13.8)	30617 (29.6)
Estimated Sodium Excretion, mean (SD), g/d	4.9 (1.7)	2.4 (0.5)	2.5 (0.4)	4.0 (0.6)	4.1 (0.5)	6.2 (1.2)	6.6 (1.4)
Estimated Potassium Excretion, mean (SD), g/d	2.1 (0.6)	1.5 (0.4)	2.4 (0.3)	1.6 (0.3)	2.5 (0.4)	1.7 (0.3)	2.6 (0.5)
Age, mean (SD), years	51.0 (9.7)	51.5 (10.2)	53.5 (9.2)	50.6 (10.0)	52.0 (9.5)	50.8 (9.9)	50.2 (9.4)
Male, n (%)	44287 (42.8)	2162 (28.4)	1129 (32.9)	8612 (34.7)	9597 (42.2)	6375 (44.5)	16412 (53.6)
Smoking (Current)	22180 (21.6)	1679 (22.1)	536 (15.7)	5701 (23.1)	3867 (17.1)	3507 (24.8)	6890 (22.8)
Smoking (Former)	13261 (12.9)	887 (11.7)	844 (24.7)	2294 (9.3)	4257 (18.8)	1086 (7.7)	3893 (12.9)
Systolic BP, mean(SD), mmHg	131.6 (21.7)	127.9 (22.4)	127.8 (19.0)	129.7 (22.0)	129.9 (20.1)	136.0 (23.3)	133.7 (21.5)
Diastolic BP, mean(SD), mmHg	82.0 (12.4)	80.1 (12.7)	80.2 (11.4)	80.8 (12.5)	81.4 (11.7)	83.9 (13.0)	83.2 (12.4)
History of CVD, n (%)*	9029 (8.7)	669 (8.8)	365 (10.6)	2011 (8.1)	2224 (9.8)	1151 (8.0)	2609 (8.5)
Diabetes mellitus, n (%)	7373 (7.1)	678 (8.9)	298 (8.7)	1411 (5.7)	1857 (8.2)	841 (5.9)	2288 (7.5)
BMI, mean (SD)	26.1 (5.1)	25.1 (5.2)	26.9 (5.2)	25.2 (4.9)	26.8 (5.0)	25.5 (4.9)	26.7 (5.3)
BMI ≥ 30, n (%)	18864 (18.3)	1183 (15.6)	789 (23.0)	3609 (14.6)	4832 (21.3)	2076 (14.5)	6375 (20.9)

Physical Activity (Low Level) (%)**	13678 (14.2)	952 (14.0)	340 (10.8)	3336 (14.5)	2677 (12.6)	2134 (15.8)	4239 (14.7)
Caloric intake, mean(SD), kcal	2117.1 (780.0)	2110.5 (846.0)	2220.3 (812.1)	2088.6 (783.0)	2180.5 (804.0)	2045.0 (735.9)	2118.0 (755.5)
mAHEI score, mean (SD)	34.9 (8.3)	34.1 (8.4)	36.8 (9.7)	33.6 (8.1)	35.6 (8.8)	34.7 (7.8)	35.7 (8.0)
Mediterranean Diet Score, mean (SD)	3.5 (1.4)	3.4 (1.4)	4.1 (1.5)	3.3 (1.3)	3.7 (1.4)	3.4 (1.3)	3.5 (1.3)
Fruit and Vegetable Intake, mean (SD)	4.8 (4.5)	5.1 (4.9)	8.2 (6.3)	4.1 (3.7)	6.4 (5.5)	3.1 (2.6)	4.4 (4.1)
Alcohol (Current), n (%)	30914 (30.0)	1934 (25.4)	1682 (49.1)	6248 (25.3)	8703 (38.4)	3534 (24.9)	8813 (29.1)
Alcohol (drinks per day), mean (SD)	1.0 (1.5)	0.9 (1.5)	0.9 (1.2)	1.0 (1.7)	0.9 (1.3)	1.0 (1.5)	1.0 (1.5)

Percentages are of the columns, i.e. the group based on particular levels of estimated sodium excretion. *proportion with prior history of cardiovascular disease or taking *defined as < 600 METS/week. For conversion from estimated sodium excretion g per day to salt intake g per day, multiply estimated sodium excretion X 2.5.Abbreviations: BMI, body mass index; BP, blood pressure; CVD, cardiovascular disease; Categorical variables cells are reported as No. (%) and continuous variables are reported as mean (SD). Missing data for age (0%), sex (0%), (0.49%), a history of cardiovascular events (0.14%), diabetes mellitus (0%), body mass index (0.40%), physical activity (7%), dietary variables (4.5%) alcohol intake (0.37%). BMI is calculated as the weight in kilograms divided by height in meters squared. Fruit and vegetable intake is mean servings per day.

We calculated a Mediterranean Diet score indicating the degree of adherence to the traditional Mediterranean diet similar to previous tools (Trichopoulou et al, 2003) but excluding grains (since classification into whole and refined varieties is broad and the classification into specific grain types is not yet completed) and alcohol intake. The score included seven components, each scored as 0 (unhealthy) or 1 (healthy) according to whether the participant's intake was above or below the cohort median level. For beneficial components (fruit, vegetables, legumes, nuts, fish, and monounsaturated-to-saturated fat ratio), persons whose consumption was below the median were assigned a value of 0, and persons whose consumption was at or above the median were assigned a value of 1. For red meat which is presumed to be detrimental, persons whose consumption was below the median were assigned a value of 1, and persons whose consumption was at or above the median were assigned a value of 0. Thus, the total Mediterranean-diet score ranged from 0 (minimal adherence) to 9 (maximal adherence).

Reference:

Trichopoulou A, Costacou T, Bamia C, Trichopoulos D. Adherence to a Mediterranean diet and survival in a Greek population. N Engl J Med 2003; 348: 2599-608.

Supplementary Table 2 Association between Estimated Urinary Sodium Excretion and Mortality and Cardiovascular Events

	Estimated Sodium Excretion g/day					
	<3 g/d (n=11,002)	3-3.99 g/d (n=21,417)	4-4.99 g/d (n=26,012)	5-5.99g/d (n=21,093	6-6.99 g/d (n=12,458)	≥ 7 g/d (n=11,218)
	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
Major Cardiovascular events	529	915	1120	1036	641	648
Univariate	1.21 (1.08-1.34)	1.03 (0.94-1.12)	1.00	1.08 (0.99-1.17)	1.07 (0.97-1.19)	1.13 (1.02-1.25)
Multivariable (Primary model)	1.19 (1.06-1.33)	1.07 (0.97-1.17)	1.00	1.07 (0.98-1.17)	1.09 (0.98-1.21)	1.20 (1.08-1.34)
Primary (+Diet*)	1.16 (1.02-1.31)	1.06 (0.97-1.17)	1.00	1.07 (0.97-1.17)	1.08 (0.97-1.20)	1.22 (1.09-1.37)
Primary (+Diet + BP/HR)	1.16 (1.02-1.32)	1.05 (0.96-1.17)	1.00	1.05 (0.96-1.16)	1.03 (0.92-1.15)	1.09 (0.97-1.22)
CV Mortality	181	249	295	243	156	169
Univariate	1.46 (1.21-1.77)	1.02 (0.87-1.21)	1.00	1.01 (0.85-1.19)	1.10 (0.91-1.34)	1.39 (1.15-1.70)
Multivariable (Primary)	1.35 (1.09-1.69)	1.06 (0.88-1.27)	1.00	0.98 (0.82-1.18)	1.12 (0.91-1.38)	1.49 (1.21-1.84)
Primary (+Diet)	1.27 (1.00-1.62)	1.03 (0.85-1.24)	1.00	0.99 (0.82-1.19)	1.13 (0.91-1.41)	1.56 (1.25-1.95)
Primary (+Diet + BP/HR)	1.26 (0.97-1.63)	1.07 (0.87-1.31)	1.00	1.00 (0.82-1.21)	1.00 (0.88-1.38)	1.37 (1.09-1.71)

Supplementary Table 2 Association between Estimated Urinary Sodium Excretion and Mortality and Cardiovascular Events

	Estimated Sodium Excretion g/day					
	<3 g/d (n=11,002)	3-3.99 g/d (n=21,417)	4-4.99 g/d (n=26,012)	5-5.99g/d (n=21,093	6-6.99 g/d (n=12,458)	≥ 7 g/d (n=11,218)
	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
Stroke	252	418	577	548	345	386
Univariate	1.29 (1.11-1.50)	0.98 (0.86-1.11)	1.00	1.02 (0.91-1.15)	0.98 (0.85-1.12)	1.02 (0.89-1.16)
Multivariable (Primary)	1.24 (1.05-1.46)	0.98 (0.86-1.12)	1.00	1.02 (0.90-1.16)	1.02 (0.89-1.18)	1.15 (0.99-1.32)
Primary (+Diet)	1.20 (1.01-1.43)	0.98 (0.85-1.12)	1.00	1.02 (0.90-1.16)	1.03 (0.89-1.19)	1.16 (1.00-1.34)
Primary (+Diet + BP/HR)	1.23 (1.03-1.47)	0.98 (0.85-1.13)	1.00	0.98 (0.86-1.11)	0.97 (0.83-1.12)	1.00 (0.86-1.16)
Myocardial Infarction	210	402	443	384	248	206
Univariate	1.10 (0.93-1.30)	1.09 (0.95-1.25)	1.00	1.07 (0.93-1.22)	1.18 (1.01-1.38)	1.17 (0.99-1.39)
Multivariable (Primary)	1.10 (0.91-1.32)	1.16 (1.01-1.34)	1.00	1.06 (0.92-1.22)	1.12 (0.94-1.32)	1.17 (0.98-1.39)
Primary (+Diet)	1.07 (0.87-1.30)	1.16 (1.00-1.34)	1.00	1.05 (0.90-1.22)	1.07 (0.90-1.27)	1.19 (0.99-1.44)
Primary (+Diet + BP/HR)	1.05 (0.85-1.29)	1.15 (0.99-1.34)	1.00	1.06 (0.91-1.24)	1.04 (0.87-1.24)	1.11 (0.91-1.34)

	Estimated Sodium Excretion g/day					
	<3 g/d (n=10,810)	3-3.99 g/d (n=21,131)	4-4.99 g/d (n=26,012)	5-5.99g/d (n=21,093)	6-6.99 g/d (n=12,324)	≥ 7 g/d (n=11,017)
	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
Heart Failure	67	114	118	117	55	63
Univariate	1.19 (0.88-1.61)	1.12 (0.86-1.45)	1.00	1.28 (0.99-1.45)	1.08 (0.78-149)	1.52 (1.11-2.09)
Multivariable (Primary)	1.15 (0.81-1.63	1.20 (0.90-1.59)	1.00	1.30 (0.99-1.72)	1.09 (0.77-1.54)	1.34 (0.94-1.91)
Primary (+Diet)	1.19 (0.83-1.72)	1.17 (0.87-1.57)	1.00	1.33 (1.00-1.77)	1.09 (0.76-1.56)	1.38 (0.95-2.00)
Primary (+Diet + BP/HR)	1.15 (0.80-1.67)	1.19 (0.89-1.60)	1.00	1.30 (0.98-1.73)	1.05 (0.74-1.51)	1.22 (0.84-1.76)
Fatal Stroke	67	83	112	102	58	82
Univariate	1.56 (1.14-2.12)	0.94 (0.71-1.25)	1.00	1.06 (0.8-1.39)	0.99 (0.72-1.36)	1.54 (1.14-2.07)
Multivariable (Primary)	1.30 (0.90-1.87)	0.94 (0.69-1.29)	1.00	1.05 (0.78-1.40)	1.06 (0.75-1.50)	1.76 (1.28-2.41)
Primary (+Diet)	1.27 (0.86-1.90)	0.94 (0.68-1.29)	1.00	1.06 (0.79-1.44)	1.11 (0.78-1.58)	1.89 (1.36-2.63)
Primary (+Diet + BP/HR)	1.36 (0.90-2.07)	0.98 (0.70-1.37)	1.00	1.03 (0.75-1.41)	1.02 (0.71-1.48)	1.55 (1.10-2.19)
Fatal Myocardial Infarction	90	131	137	105	77	67
Univariate	1.49 (1.13-1.95)	1.12 (0.88-1.43)	1.00	0.97 (0.75-1.25)	1.25 (0.95-1.66)	1.33 (0.98-1.80)
Multivariable (Primary)	1.50 (1.11-2.04)	1.18 (0.91-1.53)	1.00	0.92 (0.70-1.21)	1.16 (0.86-1.57)	1.37 (1.00-1.87)
Primary (+Diet)	1.38 (0.98-1.94)	1.14 (0.87-1.50)	1.00	0.91 (0.68-1.20)	1.17 (0.85-1.61)	1.47 (1.05-2.05)
Primary (+Diet + BP/HR)	1.32 (0.92-1.91)	1.21 (0.91-1.61)	1.00	0.93 (0.69-1.24)	1.19 (0.86-1.66)	1.34 (0.95-1.89)

	Estimated Sodium Excretion g/day					
	<3 g/d (n=10,810)	3-3.99 g/d (n=21,131)	4-4.99 g/d (n=26,012)	5-5.99g/d (n=21,093)	6-6.99 g/d (n=12,324)	≥ 7 g/d (n=11,017)
	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
All-cause Mortality	637	939	1045	897	504	502
Univariate	1.33 (1.20-1.47)	1.06 (0.97-1.15)	1.00	1.09 (0.99-1.19)	1.07 (0.96-1.19)	1.30 (1.16-1.45)
Multivariable (Primary)	1.26 (1.12-1.41)	1.05 (0.96-1.16)	1.00	1.06 (0.96-1.17)	1.06 (0.94-1.19)	1.36 (1.20-1.53)
Primary (+Diet)	1.21 (1.07-1.38)	1.06 (0.96-1.17)	1.00	1.09 (0.99-1.21)	1.11 (0.98-1.25)	1.44 (1.27-1.63)
Primary (+Diet + BP/HR)	1.19 (1.04-1.37)	1.05 (0.94-1.19)	1.00	1.10 (0.99-1.23)	1.13 (1.00-1.28)	1.38 (1.22-1.58)
Cancer	443	765	863	612	329	251
Univariate	1.01 (0.90-1.13)	0.97 (0.88-1.07)	1.00	0.99 (0.89-1.10)	1.00 (0.88-1.13)	0.92 (0.88-1.13)
Multivariable (Primary)	0.99 (0.87-1.12)	0.96 (0.86-1.06)	1.00	0.97 (0.87-1.08)	1.01 (0.88-1.15)	0.95 (0.81-1.11)
Primary (+Diet)	0.99 (0.86-1.12)	0.98 (0.88-1.09)	1.00	1.00 (0.89-1.11)	1.03 (0.89-1.18)	0.99 (0.84-1.16)
Cancer Mortality	117	218	269	243	139	124
Univariate	1.08 (0.86-1.35)	0.99 (0.83-1.19)	1.00	1.12 (0.94-1.33)	1.10 (0.89-1.35)	1.09 (0.87-1.36)
Multivariable (Primary)	1.13 (0.89-1.43)	0.97 (0.80-1.18)	1.00	1.08 (0.90-1.30)	1.11 (0.89-1.38)	1.10 (0.88-1.39)
Primary (+Diet)	1.10 (0.85-1.41)	1.00 (0.82-1.21)	1.00	1.12 (0.93-1.35)	1.15 (0.92-1.44)	1.16 (0.91-1.47)

OR=Odds ratio, CI=confidence intervals. Primary model: age, sex, education, alcohol intake, diabetes mellitus, body mass index, a history of cardiovascular events and current smoking. Diet, adjusted for caloric intake, potassium excretion, mAHEI score and waist-to-hip ratio. BP=blood pressure, HR=heart rate.

Supplementary Table 3 Association between Estimated Urinary Potassium Excretion and Mortality and Cardiovascular Events

	Estimated Potassium Excretion g/day				
	<1.5 g/d (n=14,817)	1.5-1.99 g/d (n=31,765)	2-2.49 g/d (n=31,202)	2.5-3 g/d (n=17,257)	>3 g/d (n=8,159)
	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
Mortality and Cardiovascular Events	1351	2549	2295	1193	496
Univariate*	1.00	0.96 (0.90-1.03)	0.91 (0.84-0.97)	0.89 (0.82-0.96)	0.80 (0.72-0.89)
Multivariable (Primary)	1.00	0.99 (0.91-1.06)	0.91 (0.84-0.99)	0.95 (0.86-1.04)	0.83 (0.73-0.94)
Primary (+Diet)	1.00	0.99 (0.92-1.08)	0.91 (0.84-1.00)	0.93 (0.84-1.03)	0.80 (0.70-0.91)
Primary (+Diet + BP/HR)	1.00	1.03 (0.94-1.12)	0.98 (0.89-1.07)	1.03 (0.92-1.14)	0.90 (0.79-1.04)
Major Cardiovascular events	674	1571	1503	794	347
Univariate*	1.00	1.03 (0.93-1.13)	0.98 (0.89-1.08)	0.96 (0.86-1.07)	0.92 (0.80-1.06)
Multivariable (Primary)	1.00	0.98 (0.89-1.08)	0.92 (0.83-1.02)	0.93 (0.83-1.05)	0.87 (0.75-1.02)
Primary (+Diet)	1.00	0.98 (0.89-1.09)	0.92 (0.82-1.03)	0.92 (0.81-1.05)	0.85 (0.72-1.00)
Primary (+Diet + BP/HR)	1.00	1.04 (0.93-1.16)	1.01 (0.90-1.13)	1.04 (0.91-1.19)	1.01 (0.86-1.19)

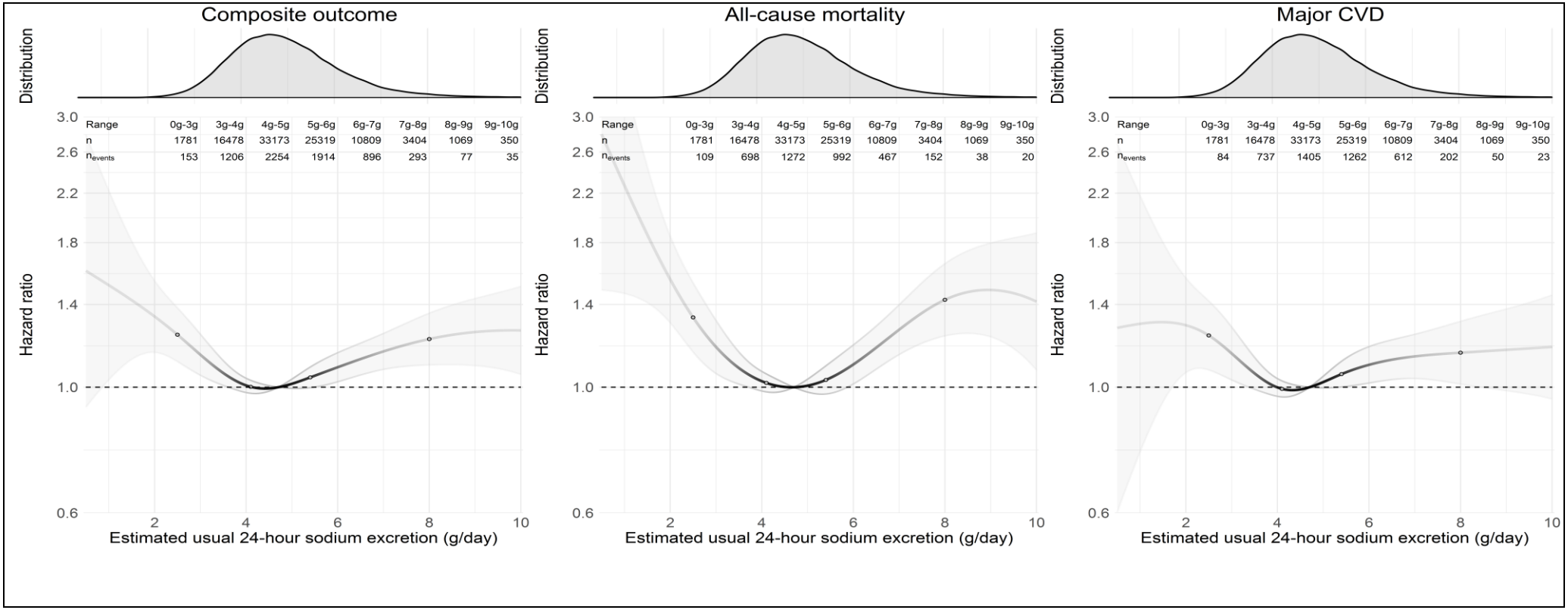
	Estimated Potassium Excretion g/day				
	<1.5 g/d (n=14,267)	1.5-1.99 g/d (n=31,473)	2-2.49 g/d (n=30,964)	2.5-3 g/d (n=17,173)	>3 g/d (n=8,068)
	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
CV Mortality	250	439	373	164	67
Univariate*	1.00	0.93 (0.79-1.09)	0.87 (0.74-1.04)	0.74 (0.60-0.91)	0.66 (0.50-0.88)
Multivariable (Primary)	1.00	0.91 (0.76-1.10)	0.85 (0.70-1.04)	0.79 (0.63-1.00)	0.69 (0.50-0.95)
Primary (+Diet)	1.00	0.95 (0.78-1.15)	0.87 (0.70-1.07)	0.79 (0.61-1.02)	0.61 (0.43-0.87)
Primary (+Diet + BP/HR)	1.00	1.01 (0.82-1.24)	0.96 (0.77-1.20)	0.94 (0.72-1.23)	0.80 (0.56-1.14)
Stroke	369	808	811	381	157
Univariate*	1.00	0.94 (0.83-1.07)	0.95 (0.84-1.08)	0.87 (0.75-1.01)	0.85 (0.70-1.03)
Multivariable (Primary)	1.00	0.89 (0.78-1.01)	0.91 (0.79-1.04)	0.86 (0.74-1.01)	0.85 (0.69-1.05)
Primary (+Diet)	1.00	0.92 (0.83-1.11)	0.94 (0.81-1.08)	0.89 (0.75-1.06)	0.85 (0.68-1.07)
Primary (+Diet + BP/HR)	1.00	0.96 (0.83-1.11)	1.04 (0.90-1.21)	1.03 (0.87-1.23)	1.04 (0.82-1.31)
Myocardial Infarction	226	618	566	328	155
Univariate*	1.00	1.25 (1.06-1.46)	1.12 (0.95-1.32)	1.16 (0.97-1.39)	1.14 (0.91-1.41)
Multivariable (Primary)	1.00	1.18 (1.00-1.40)	1.03 (0.86-1.23)	1.09 (0.90-1.33)	1.02 (0.80-1.29)
Primary (+Diet)	1.00	1.14 (0.96-1.36)	1.00 (0.83-1.21)	1.05 (0.85-1.30)	0.97 (0.75-1.26)
Primary (+Diet + BP/HR)	1.00	1.25 (1.03-1.51)	1.10 (0.90-1.35)	1.19 (0.95-1.49)	1.14 (0.86-1.49)

	Estimated Potassium Excretion g/day				
	<1.5 g/d (n=14,267)	1.5-1.99 g/d (n=31,473)	2-2.49 g/d (n=30,964)	2.5-3 g/d (n=17,173)	>3 g/d (n=8,068)
	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
Heart Failure	69	160	163	103	39
Univariate*	1.00	0.91 (0.69-1.22)	0.90 (0.67-1.21)	0.98 (0.71-1.35)	0.73 (0.48-1.10)
Multivariable (Primary)	1.00	0.91 (0.66-1.26)	0.84 (0.60-1.17)	0.96 (0.67-1.40)	0.65 (0.40-1.04)
Primary (+Diet)	1.00	0.90 (0.64-1.26)	0.78 (0.55-1.11)	0.87 (0.59-1.29)	0.62 (0.37-1.02)
Primary (+Diet + BP/HR)	1.00	0.85 (0.61-1.19)	0.76 (0.54-1.09)	0.89 (0.60-1.32)	0.66 (0.40-1.10)
Fatal Stroke	98	172	155	56	23
Univariate*	1.00	0.92 (0.71-1.19)	0.92 (0.70-1.20)	0.66 (0.47-0.94)	0.64 (0.40-1.03)
Multivariable (Primary)	1.00	0.85 (0.64-1.13)	0.94 (0.70-1.26)	0.73 (0.50-1.07)	0.68 (0.40-1.07)
Primary (+Diet)	1.00	0.92 (0.68-1.25)	0.98 (0.71-1.35)	0.71 (0.47-1.07)	0.56 (0.31-1.00)
Primary (+Diet + BP/HR)	1.00	0.90 (0.66-1.24)	1.05 (0.75-1.47)	0.79 (0.51-1.21)	0.72 (0.40-1.30)
Fatal Myocardial Infarction	111	215	178	73	30
Univariate*	1.00	1.04 (0.82-1.31)	0.95 (0.74-1.23)	0.75 (0.54-1.02)	0.65 (0.43-1.00)
Multivariable (Primary)	1.00	1.03 (0.79-1.34)	0.88 (0.66-1.17)	0.77 (0.55-1.09)	0.68 (0.43-1.08)
Primary (+Diet)	1.00	1.06 (0.80-1.41)	0.92 (0.68-1.26)	0.81 (0.55-1.18)	0.63 (0.38-1.06)
Primary (+Diet + BP/HR)	1.00	1.23 (0.90-1.69)	1.08 (0.76-1.52)	1.02 (0.68-1.53)	0.86 (0.50-1.47)

	Estimated Potassium Excretion g/day				
	<1.5 g/d (n=14,267)	1.5-1.99 g/d (n=31,473)	2-2.49 g/d (n=30,964)	2.5-3 g/d (n=17,173)	>3 g/d (n=8,068)
	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)	HR (95%CI)
All-cause Mortality	966	1492	1245	590	231 (
Univariate*	1.00	0.90 (0.83-0.98)	0.84 (0.77-0.92)	0.77 (0.69-0.86)	0.65 (0.56-0.75)
Multivariable (Primary)	1.00	0.96 (0.87-1.06)	0.88 (0.79-0.98)	0.88 (0.78-1.00)	0.71 (0.60-0.85)
Primary (+Diet)	1.00	0.99 (0.89-1.09)	0.89 (0.80-1.00)	0.87 (0.76-1.00)	0.67 (0.56-0.81)
Primary (+Diet + BP/HR)	1.00	1.00 (0.89-1.13)	0.94 (0.81-1.09)	0.94 (0.81-1.09)	0.73 (0.60-0.89)
Cancer	331	912	998	700	322
Univariate*	1.00	1.06 (0.93-1.20)	1.00 (0.87-1.14)	1.06 (0.92-1.22)	0.90 (0.76-1.06)
Primary (+Diet)	1.00	1.00 (0.87-1.15)	0.90 (0.78-1.04)	1.02 (0.87-1.18)	0.85 (0.71-1.01)
Primary (+Diet + BP/HR)	1.00	1.02 (0.89-1.18)	0.93 (0.80-1.07)	1.03 (0.88-1.21)	0.87 (0.72-1.06)
Cancer Mortality	148	363	338	188	73
Univariate*	1.00	1.13 (0.93-1.37)	1.07 (0.87-1.31)	1.04 (0.83-1.31)	0.83 (0.62-1.11)
Primary (+Diet)	1.00	1.09 (0.89-1.35)	1.02 (0.82-1.27)	1.09 (0.85-1.40)	0.82 (0.60-1.14)
Primary (+Diet + BP/HR)	1.00	1.15 (0.93-1.43)	1.08 (0.86-1.36)	1.09 (0.84-1.42)	0.85 (0.60-1.20)

OR=Odds ratio, CI=confidence intervals. Primary model: age, sex, education, alcohol intake, diabetes mellitus, body mass index, a history of cardiovascular events and current smoking. Diet, adjusted for caloric intake, potassium excretion, mAHEI score and waist-to-hip ratio. BP=blood pressure, HR=heart rate.

Supplementary Figure 1 Association of Estimated 'Usual' 24-hour Urinary Sodium Excretion with Mortality and Major Cardiovascular Event



Appendix 1: The Prospective Urban Rural Epidemiological Study (PURE Study) Design

The Prospective Urban Rural Epidemiological Study (PURE Study) enrolled 168,067 individuals between 35 and 70 years of age from 21low, middle and high-income countries (1,2). The study includes population samples from 664communities from 21countries from 5 continents representing a broad range of economic and social circumstances (1,2).PURE includes countries in four income strata based on World Bank classification in 2006: five low-income countries (Bangladesh, India, Pakistan, Tanzania, and Zimbabwe), five lower middle-income countries (China, Colombia, Iran, Occupied Palestinian Territory, and the Philippines), seven upper middle-income countries (Argentina, Brazil, Chile, Malaysia, Poland, South Africa, and Turkey), and four high-income countries (Canada, Saudi Arabia, Sweden, and United Arab Emirates). Recruitment began on Jan 1, 2003, and was completed in the first wave of 18 countries by March 31, 2013. The second wave of three countries (Philippines, Saudi Arabia, and Tanzania) began on January 1, 2012 and was completed by June 2014. The study is coordinated by the Population Health Research Institute, Hamilton Health Sciences and McMaster University, Canada.

Participant Selection Methodology as Excerpted from Teo et al. (1)

Selection of Countries

The choice and number of countries selected in PURE reflects a balance between involving a large number of communities in countries at different economic levels, with substantial heterogeneity in social and economic circumstances and policies, and the feasibility of centers to successfully achieve long-term follow-up. Thus, PURE included sites in which investigators are committed to collecting good-quality data for a low-budget study over the planned 10-year follow-up period and did not aim for a strict proportionate sampling of the entire world.

Selection of Communities

Within each country, urban and rural communities were selected based on broad guidelines. A common definition for "community" that is applicable globally is difficult to establish (3). In PURE, a

community was defined as a group of people who have common characteristics and reside in a defined geographic area. A city or large town was not usually considered to be a single community, rather communities from low-, middle-, and high-income areas were selected from sections of the city and the community area defined according to a geographical measure (e.g., a set of contiguous postal code areas or a group of streets or a village). The primary sampling unit for rural areas in many countries was the village. The reason for inclusion of both urban and rural communities is that for many countries, urban and rural environments exhibit distinct characteristics in social and physical environment, and hence, by sampling both, we ensured considerable variation in societal factors across PURE communities. The number of communities selected in each country varied, with the aim to recruit communities with substantial heterogeneity in social and economic circumstances balanced against the capacity of local investigators to maintain follow-up. In some countries (e.g. India, China, Canada, and Colombia), communities from several states/provinces were included to capture regional diversity, in policy, socioeconomic status, culture, and physical environment. In other countries (e.g., Iran, Poland, Sweden, and Zimbabwe), fewer communities were selected.

Selections of Households and Individuals

Within each community, sampling was designed to achieve a broadly representative sample of that community of adults aged between 35 and 70 years. The choice of sampling frame within each centre was based on both "representativeness" and feasibility of long-term follow-up, following broad study guidelines. Once a community was identified, where possible, common and standardized approaches were applied to the enumeration of households, identification of individuals, recruitment procedures, and data collection. The method of approaching households differed between regions. For example, in rural areas of India and China, a community announcement was made to the village through contact of a community leader, followed by in-person door-to-door visits of all households. In contrast in Canada, initial contact was by mail followed by telephone inviting members of the households to a central clinic. For each approach, at least 3 attempts at contact were made. Households were eligible if at least 1 member of the household was between the ages of 35 and 70 years and the household members intended to continue living in their current home for a further 4 years. All individuals within these households

between 35 and 70 years providing written informed consent were enrolled. When a household refused to participate, demographics and simple self-report risk factor data were recorded in a non-responder form.

References

1. Teo K, Chow CK, Vaz M, Rangarajan S, Yusuf S; PURE Investigators-Writing Group. The Prospective Urban Rural Epidemiology (PURE) study: examining the impact of societal influences on chronic noncommunicable diseases in low-, middle-, and high-income countries. Am Heart J 2009;158:1-7.e1.

2. Yusuf S, Islam S, Chow CK, et al.; Prospective Urban Rural Epidemiology (PURE) Study Investigators. Use of secondary prevention drugs for cardiovascular disease in the community in high-income, middle-income, and low-income countries (the PURE Study): a prospective epidemiological survey. Lancet 2011;378:1231-43.

3. MacQueen KM, McLellan E, Metzger DS, et al. What is community? An evidence-based definition for participatory public health. Am J Public Health 2001;91:1929-38.

Appendix 2. The Kawasaki method for estimating sodium intake

We used the Kawasaki formula (1) to estimate24-h urinary excretion of sodium and potassium (in grams /d) from a fasting morning specimen. Previous studies (1,2) and our validation of the method in 11 countries,(3) showed that the estimated sodium excretion from the morning urine specimen shows a good correlation with direct measures of sodium excretion from the actual 24-h urine collection (intra-class correlation coefficient of 0.70;95% CI 0.61–0.77]. The BP change per g of sodium was 2.11/0.78 mm Hg,(4) which is consistent with the results of a meta-analysis of randomised controlled trials of sodium lowering in which sodium intake was measured using repeated 24 hour urine collections (5)(see summary Table below).

Summary of validity, degree of bias, and reliability results for different methods of estimated 24-hour sodium excretion versus measured excretion (From Mente A, et al, 2014. J Hypertens 32:1005-14) (3).		
	24-hour measured excretion	Kawasaki method
Mean (±SD) sodium excretion, mg/day	4116± 1978	4430 ± 1253 †
Degree of bias (95% CI), mg/day	Reference	313 (182 to 444)
Validation ICC (95% CI)		
All	Reference	0.71 (0.65 to 0.76)
Excluding anti-hypertensive medication	Reference	0.73 (0.65 to 0.79)
Test-retest ICC (95% CI)		
All	0.72 (0.65 to 0.77)	0.68 (0.58 to 0.75)
Excluding anti-hypertensive medication	0.76 (0.68 to 0.81)	0.70 (0.59 to 0.77)
Pearson correlation coefficient vs. BP		

Systolic BP	0.14 (0.06 to 0.22)	0.16 (0.08 to 0.24)
Diastolic BP	0.18 (0.10 to 0.26)	0.19 (0.11 to 0.27)

ICC, intraclass correlation coefficient; BP, blood pressure.

† Significantly higher than 24-hour measured excretion.

‡ Significantly lower than 24-hour measured excretion and Kawasaki estimated excretion.

* Significantly greater bias than Kawasaki estimated excretion.

Measured vs. Kawasaki Sodium

Intraclass correlation coefficient (ICC) = 0.71 (95% CI: 0.65 to 0.76) (p<0.0001)

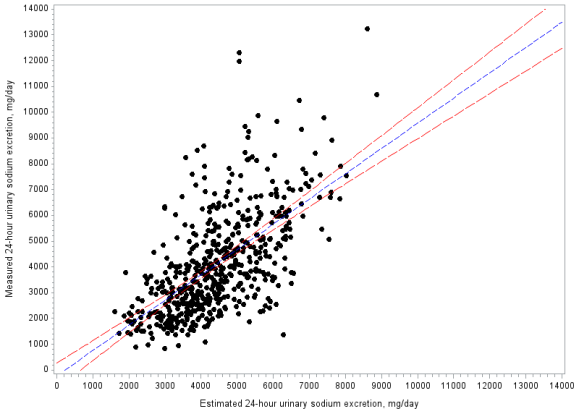


Figure. Scatter plot of estimated versus measured 24-hour urinary sodium excretion.

(From Mente A, et al, 2014. J Hypertens 32:1005-14) (3).

References

1. Kawasaki T, Itoh K, Uezono K, Sasaki H. Simple method for estimating 24 h urinary sodium and potassium excretion froms econd morning voiding urine specimen in adults. Clin Exp Pharmacol Physiol 1993; 20: 7–14.

2. Han W, Sun N, Chen Y, Wang H, Xi Y, Ma Z. Validation of the spot urine in evaluating 24-hour sodium excretion in Chinese hypertension patients. Am J Hypertens 2015; 28: 1368–75.

3. Mente A, O'Donnell MJ, Dagenais G, et al. Validation and comparison of three formulae to estimate sodium and potassium excretion from a single morning fasting urine compared to 24-hmeasures in 11 countries. J Hypertens 2014; 32: 1005–14.

4. Mente A, O'Donnell MJ, Rangarajan S, et al; PURE Investigators. Association of urinary sodium and potassium excretion with blood pressure. N Engl J Med 2014; 371: 601–11.

5. He FJ, Li J, Macgregor GA. Effect of longer-term modest salt reduction on blood pressure. Cochrane Database Syst Rev 2013;4: CD004937.

Project office (Population Health Research Institute, Hamilton Health Sciences and McMaster University, Hamilton, Canada): S Yusuf* (Principal Investigator). S Rangarajan (Program Manager Manager); K K Teo, S S Anand, C K Chow, M O'Donnell, A Mente, D Leong, A Smyth, P Joseph, M Duong, O Kurmi, R D'Souza, M Walli-Attaei, B Balaji, R Naito, S Islam (Statistician), W Hu (Statistician), C Ramasundarahettige (Statistician), P Sheridan (Statistician), S Bangdiwala, L Dyal, A Casanova, M Dehghan (Nutrition Epidemiologist), G Lewis (Associate Program Manager), D Agapay, A Aliberti, N Aoucheva, A Arshad, A Reyes, B Bideri, R Buthool, S Chin, M Di Marino, R Frances, S Gopal, M Jakymyshn, N Kandy, I Kay, J Lindeman, G McAlpine, E McNeice, M(a) Mushtaha, M(o) Mushtaha, R Patel, D Pattath, S Ramacham, E Ramezani, J Rimac, F Shifaly, J Swallow, M Trottier, S Trottier, R Solano, A Zaki, B Zhang, V Zhang

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

Argentina: R Diaz*, A Orlandini, P Lamelas, M L Diaz, A Pascual, M Salvador, C Chacon; **Bangladesh:** O Rahman*, R Yusuf*, S A K S. Ahmed, T Choudhury, M Sintaha, A Khan, O Alam, N, Nayeem, S N Mitra, S Islam, F Pasha; **Brazil:** A Avezum*, C S Marcilio, A C Mattos, G B Oliveira; **Canada:** K Teo***,** S Yusuf*****, Sumathy Rangarajan, A Arshad, B Bideri, I Kay, J Rimac, R Buthool, S Trottier, G Dagenais, P Poirier, G Turbide, D Auger, A LeBlanc De Bluts, M C Proulx, M Cayer, N Bonneville, S Lear, V de Jong, A N Saidy, V Kandola, E Corber, I Vukmirovich, D Gasevic, A Wielgosz, A Pipe, A Lefebvre, A Pepe, A Auclair, A Prémont, A S Bourlaud; **Chile:** F Lanas*, P Serón, M J Oliveros, F Cazor, Y Palacios; **China:** Li Wei*, Liu Lisheng*, Bo Jian, Hu Bo, Yin Lu, Zhao Wenhua, Zhang Hongye, Jia Xuan, Sun Yi, Wang Xingyu, Zhao Xiuwen, He Xinye, Chen Tao, Chen Hui, Chang Xiaohong, Deng Qing, Cheng Xiaoru, Deng Qing, Xie Liya, Liu Zhiguang, Li Juan, Li Jian, Liu Xu, Ren Bing, Sun Yi, Wang Wei, Wang Yang, Yang Jun, Zhai Yi, Zhang Hongye, Zhao Xiuwen,Zhu Manlu, Lu Fanghong, Wu Jianfang, Li Yindong, Hou Yan, Zhang Liangqing, Guo Baoxia, Liao Xiaoyang, Zhang Shiying, BianRongwen, TianXiuzhen, Li Dong, Chen Di, Wu Jianguo, Xiao Yize, Liu Tianlu, Zhang Peng, Dong Changlin, Li Ning, Ma Xiaolan, Yang Yuqing, Lei Rensheng, Fu Minfan, He Jing, Liu Yu, Xing Xiaojie, Zhou Qiang; **Colombia:** P Lopez-Jaramillo*, P A Camacho-Lopez, J Otero-Wandurraga, D I Molina, C Cure-Cure, M Perez, E Hernandez, E Arcos, C Narvaez, A Sotomayor, H Garcia, G Sanchez, F Cotes, A Rico, M Duran, C Torres; **India:** P Mony *, M Vaz*, S Swaminathan, K Shankar, A V Kurpad, K G Jayachitra, N Kumar, H A L Hospital, V Mohan*, M Deepa, K Parthiban, M Anitha, S Hemavathy, T Rahulashankiruthiyayan, D Anitha, R M Anjana, R.

Dhanasekar and S. Sureshkumar, D Anitha, K Sridevi, R Gupta*, R B Panwar, I Mohan, P Rastogi, S Rastogi, R Bhargava, R Kumar, J S Thakur, B Patro, R Mahajan, P Chaudary, V Raman Kutty, K Vijayakumar*, K Ajayan, G Rajasree, AR Renjini, A Deepu, B Sandhya, S Asha, H S Soumya, R Kumar*, M Kaur, P V M Lakshmi, V Sagar, **Iran:** R Kelishadi*, A Bahonar, N Mohammadifard, H Heidari, **Kazakhstan:** K Davletov*, B Assembekov, B Amirov; **Kyrgyzstan:** E Mirrakhimov*, S Abilova, U Zakirov, U Toktomamatov; **Malaysia:** K Yusoff*, R Ismail, T S T Ismail, K K Ng, A Devi, N M Nasir, M M Yasin, M Miskan, E A Rahman, M K M Arsad, F Ariffin, S A Razak, F A Majid, N A Bakar, M Y Yacob, N Zainon, R Salleh, M K A Ramli, N A Halim, S R Norlizan, N M Ghazali, M N Arshad, R Razali, S Ali, H R Othman, C W J C W Hafar, A Pit, N Danuri, F Basir, S N A Zahari, H Abdullah, M A Arippin, N A Zakaria, I Noorhassim, M J Hasni, M T Azmi, M I Zaleha, K Y Hazdi, A R Rizam, W Sazman, A Azman; **Occupied Palestinian Territory:** R Khatib*, U Khammash, R Giacaman; **Pakistan:** R Iqbal*, R Khawaja, I Azam, K Kazmi; **Peru:** J Miranda*, A Bernabe Ortiz, W Checkley, R H Gilman, L Smeeth, R M Carrillo, M de los Angeles, C Tarazona Meza**; Philippines:** A Dans*, H U Co, J T Sanchez, L Pudol, C Zamora-Pudol, L A M Palileo-Villanueva, M R Aquino, C Abaquin, SL Pudol, K Manguiat, S Malayang; **Poland:** W Zatonski*, A Szuba, K Zatonska, R Ilow[#], M Ferus, B Regulska-Ilow, D Różańska, M Wolyniec; **Saudi Arabia:** KF AlHabib*, M Alshamiri, HB Altaradi, O Alnobani, N Alkamel, M Ali, M Abdulrahman, R Nouri; **South Africa:** L Kruger[*], A Kruger[#], P Bestra, H H Voster, A E Schutte, E Wentzel-Viljoen, FC Eloff, H de Ridder, H Moss, J Potgieter, A A Roux, M Watson, G de Wet, A Olckers, J C Jerling, M Pieters, T Hoekstra, T Puoane, R Swart*, E Igumbor, L Tsolekile, K Ndayi, D Sanders, P Naidoo, N Steyn, N Peer, B Mayosi[#], B Rayner, V Lambert, N Levitt, T Kolbe-Alexander, L Ntyintyane, G Hughes, J Fourie, M Muzigaba, S Xapa, N Gobile , K Ndayi, B Jwili, K Ndibaza, B Egbujie; **Sweden** A Rosengren*, K Bengtsson Boström, A Rawshani, A Gustavsson, M Andreasson, L Wirdemann; **Tanzania:** K Yeates*, M Oresto, N West **Turkey:** A Oguz*, N Imeryuz, Y Altuntas, S Gulec, A Temizhan, K Karsidag, K B T Calik, A K Akalin, O T Caklili, M V Keskinler, K Yildiz; **United Arab Emirates:** A H Yusufali, F Hussain, M H S Abdelmotagali, D F Youssef, O Z S Ahmad, F H M Hashem, T M Mamdouh, F M AbdRabbou, S H Ahmed, M A AlOmairi, H M Swidan, M Omran, N A Monsef ; **Zimbabwe:** J Chifamba*, T Ncube, B Ncube, C Chimhete, G K Neya, T Manenji, L Gwaunza, V Mapara, G Terera, C Mahachi, P Murambiwa, R Mapanga, A Chinhara

*National Coordinator

[#] Deceased

PURE Country Institution Names:

	Institution
South Africa	Faculty of Health Science North-West University Potchefstroom Campus
	University of the Western Cape Department of Dietetics and Nutrition Private Bag X17, 7535 Bellville, South Africa
Zimbabwe	University of Zimbabwe College of Health Sciences Physiology Department Harare, Zimbabwe
Tanzania	Pamoja Tunaweza Women Center, Moshi, Tanzania Division of Nephrology, Department of Medicine Queen's University
China	National Centre for Cardiovascular Diseases Cardiovascular Institute & Fuwai Hospital Chinese Academy of Medical Sciences 167, Bei Li Shi Lu, Beijing, China
	Fuwai Hospital 167 Beilishi Rd. Xicheng District Beijing. 100037 China
Philippines	University of Philippines, Section of Adult Medicine & Medical Research Unit, Manila, Philippines
Pakistan	Department of Community Health Sciences and Medicine Aga Khan University Stadium Road, P.O Box 3500 Karachi Pakistan
India, Bangalore	Community Health & Epidemiology St John's Research Institute Bangalore 560034, India
India, Chennai	Madras Diabetes Research Foundation & Dr. Mohan's Diabetes Specialities Centre, Chennai
India Jaipur	Eternal Heart Care Centre and Research Institute, Jaipur
India, Trivandrum	Health Action by People, THIRUVANANTHAPURAM and Achutha Menon Centre for Health Science Studies, Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum 695011 INDIA
India, Chandigarh	School of Public Health, Post Graduate Institute of Medical Education & Research, Chandigarh (India)
Bangladesh	Independent University, Bangladesh Bashundhara, Dhaka Bangladesh
Malaysia	Universiti Teknologi MARA, Sungai Buloh, Selangor, Malaysia

	AND UCSI University, Cheras, Selangor, Malaysia
	Department of Community Health. Faculty of Medicine. University Kebangsaan Malaysia. Kuala Lumpur. Malaysia
Poland	Wroclaw Medical University Department of Internal Medicine; Department of Social Medicine Borowska 213 street; 50- 556 Wroclaw, Poland
	Department of Epidemiology, The Maria Skłodowska-Curie Memorial Cancer Center and Institute of Oncology 02-034 Warsaw, 15B Wawelska str. Poland
Turkey	Istanbul Medeniyet University Istanbul, Turkey
Sweden	Sahlgrenska Academy University of Gothenburg Sweden
Iran	Isfahan Cardiovascular Research Center, Isfahan Research Institute Isfahan University of Medical Sciences, Isfahan, Iran
UAE	Dubai Medical University, Hatta Hospital, Dubai Health Authority, Dubai, United Arab Emirates
Saudi Arabia	Department of Cardiac Sciences, King Fahad Cardiac Center College of Medicine King Saud University Riyadh, Saudi Arabia
Palestine	Institute of Community and Public Health, Birzeit University, Ramallah, occupied Palestinian territory
Canada	Université Laval Institut universitaire de cardiologie et de pneumologie de Québec, Quebec Canada G1V 4G5
	Simon Fraser University, Dept. of Biomedical Physiology & Kinesiology, BC, Canada
	Department of Medicine, University of Ottawa, Ottawa, Canada
	Population Health Research Institute, McMaster University, Hamilton Health Sciences, Hamilton, Ontario, Canada
Argentina	Estudios Clinicos Latinoamerica ECLA Rosario, Santa Fe Argentina Department of Chronic Diseases South American Center of Excellence for Cardiovascular Health (CESCAS) Institute for Clinical Effectiveness and Health Policy (IECS)
Brazil	Dante Pazzanese Institute of Cardiology Sao Paulo, SP Brazil
Colombia	Fundacion Oftalmologica de Santander (FOSCAL) Floridablanca-Santander, Colombia

Chile	Universidad de La Frontera Temuco, Chile
Ecuador	DECANO Facultad de Ciencias de la Salud Eugenio Espejo Universidad Tecnológica Equinoccial Dirección: Av. Mariscal Sucre s/n y Av. Mariana de Jesús, Quito Ecuador
Peru	CRONICAS Centro de Excelencia en Enfermedades Crónicas | www.cronicas-upch.pe Universidad Peruana Cayetano Heredia | www.upch.edu.pe Av. Armendáriz 497, Miraflores, Lima
Russia	Research Institute for Complex Issues of Cardiovascular Diseases, Kemerovo, Russia Institute For Medical Education, Yaroslav-the-Wise Novgorod State University Ministry of Education and Science of the Russian Federation Russia, Saint-Petersburg, 197022, Karpovka river emb., Bld.13, office 28
Kazakhstan	Research Institute of Cardiology & Internal Diseases, Almaty, Kazakhstan
Kyrgyzstan	Kyrgyz Society of Cardiology, National Center of Cardiology and Internal Disease, Bishkek, Kyrgyzstan