SUPPLEMENTAL MATERIAL

Body composition and risk factors for cardiovascular disease in global multi-ethnic populations

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Supplemental Table 1. Characteristics of the subsample of The Malaysia Cohort with HbA1c measurements available (N=12,031; 18.1%), and the UK Biobank sample with measurements available (N=413,737).

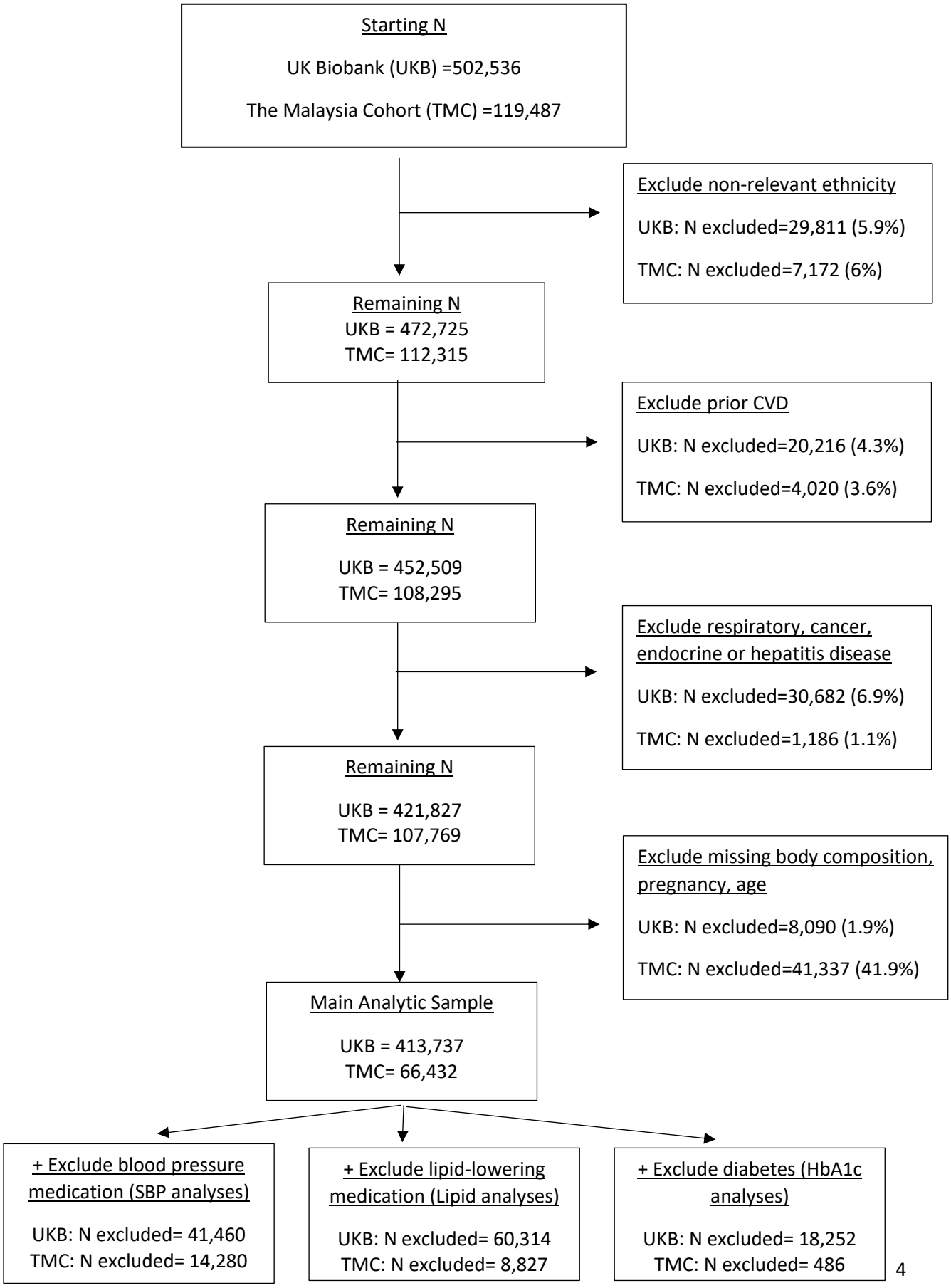
	MEN			
	White (n=184,433)	**Malay (N=2,323)**	**Chinese (N=1,908)**	**Indian (N=716)**
Age, years	56.4 (8.1)	50.4 (6.9)	52.5 (7.1)	51.3 (6.8)
Body composition				
Weight, kg	86.2 (14.1)	72.4 (11.3)	69.8 (10.6)	74.9 (12.0)
Height, cm	176.0 (6.7)	166.1 (5.8)	168.5 (5.7)	168.8 (6.3)
Body mass index, kg/m^2	27.8 (4.2)	26.2 (3.8)	24.6 (3.4)	26.3 (4.1)
Total fat mass, kg	22.2 (8.2)	21.1 (7.4)	18.6 (6.7)	23.1 (8.1)
Lean mass, kg	28.8 (4.0)	28.6 (3.5)	28.5 (3.5)	28.9 (3.6)
Waist circumference, cm	96.8 (11.1)	88.3 (10.1)	86.4 (9.4)	92.7 (10.8)
Cardiovascular risk factors				
SBP, mmHg	141 (17)	132.9 (18.5)	133.7 (17.9)	132.2 (17.7)
LDL cholesterol, mmol/L	3.5 (0.8)	4.0 (1.0)	3.5 (0.9)	3.7 (1.0)
Triglycerides, mmol/L	2.0 (1.2)	1.8 (1.2)	1.7 (1.4)	1.7 (1.0)
HbA1c, % *	5.4 (0.6)	5.9 (1.2)	5.8 (1.0)	6.2 (1.3)
Lifestyle (n, %)				
Current drinkers	175,785 (95.3)	30 (1.3)	321 (16.8)	93 (13.0)
Current smokers	21,727 (11.8)	813 (35.0)	481 (25.2)	168 (23.5)
Moderate physical activity	85,042 (46.1)	980 (42.2)	848 (44.4)	303 (42.3)
Tertiary education	108,146 (58.6)	731 (31.5)	545 (28.6)	205 (28.6)
	WOMEN			
	White (n=229,304)	**Malay (n=2,839)**	**Chinese (n=3,335)**	**Indian (n=910)**
Age, years	56.3 (8.0)	49.5 (6.3)	51.6 (6.8)	50.0 (6.5)
Body composition				
Weight, kg	71.3 (13.8)	64.8 (11.3)	57.8 (9.8)	66.0 (11.5)
Height, cm	162.7 (6.2)	154.3 (5.5)	156.7 (5.5)	155.5 (5.7)
Body mass index, kg/m^2	27.0 (5.1)	27.2 (4.4)	23.5 (3.8)	27.3 (4.5)
Total fat mass, kg	26.8 (9.9)	26.9 (7.9)	20.7 (6.7)	28.3 (8.2)
Lean mass, kg	19.5 (2.5)	20.31 (2.9)	19.8 (2.7)	20.2 (2.9)
Waist circumference, cm	84.3 (12.4)	83.9 (11.0)	78.4 (9.7)	86.9 (10.7)
Cardiovascular risk factors				
SBP, mmHg	135 (19)	130.8 (20.6)	129.5 (20.3)	129.3 (19.7)
LDL cholesterol, mmol/L	3.7 (0.9)	3.8 (1.0)	3.5 (0.9)	3.6 (0.9)
Triglycerides, mmol/L	1.5 (0.9)	1.3 (0.7)	1.2 (0.7)	1.3 (0.8)
HbA1c, % *	5.4 (0.5)	5.8 (1.1)	5.6 (0.7)	6.0 (1.3)
Lifestyle (n, %)				
Current drinkers	211,610 (92.3)	6 (0.2)	113 (3.4)	7 (0.8)
Current smokers	19,611 (8.6)	23 (0.8)	87 (2.6)	4 (0.4)
Moderate physical activity	109,023 (47.6)	1,390 (49.0)	1,793 (53.8)	430 (47.3)
Tertiary education	122,936 (53.6)	818 (28.8)	762 (22.9)	158 (17.4)

Supplemental Table 2. Fully adjusted associations with risk factors for cardiovascular disease for a 1 SD increase in waist (cm)-to-height (cm) ratio. [a]

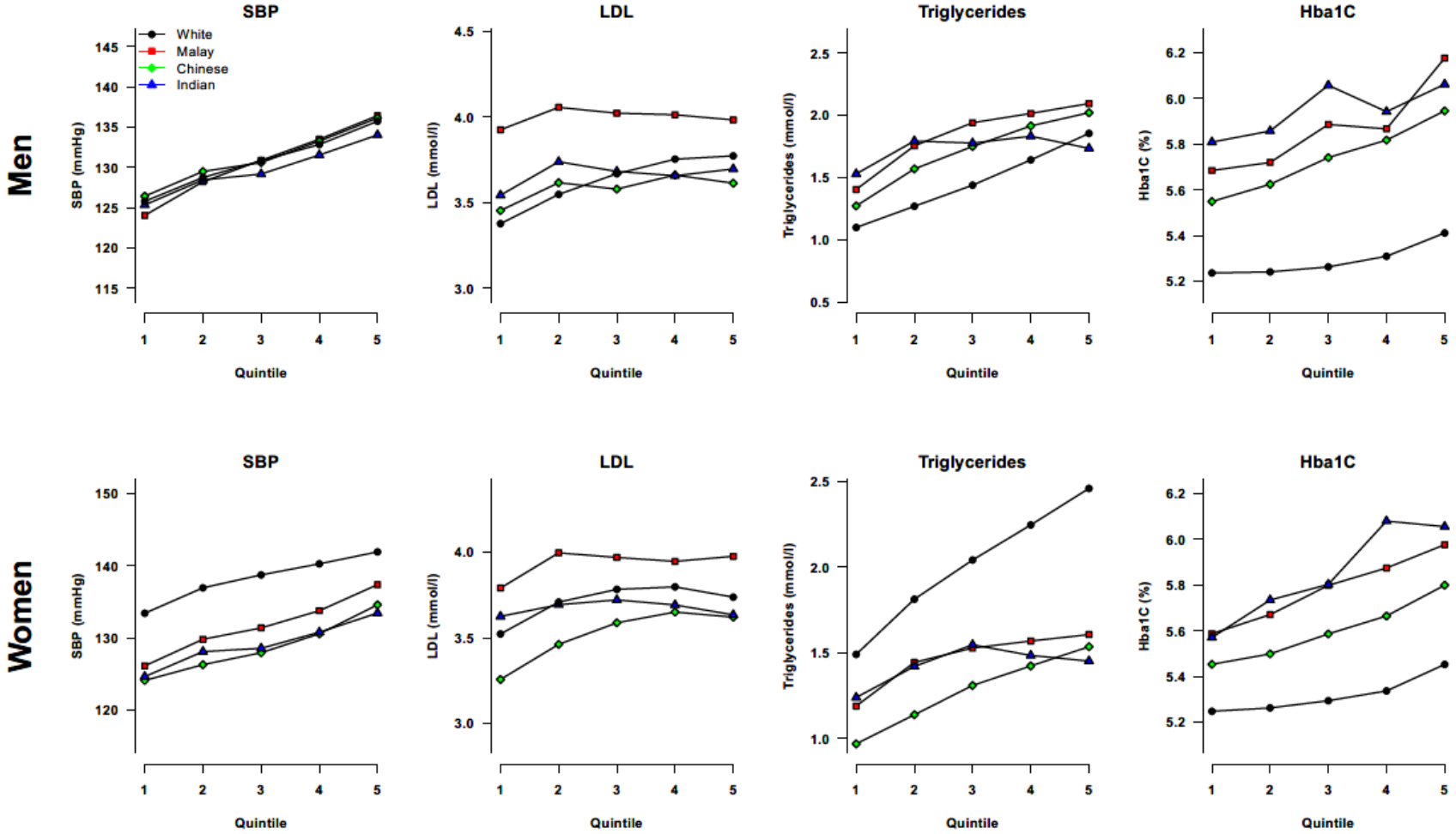
MEN		Standard Deviation	SBP, mmHg	LDL, mmol/L	TRIGLYCERIDES, mmol/L	HbA1c, %
	Chinese	0.06	3.63 (3.25, 4.01)	0.07 (0.05, 0.09)	0.28 (0.25, 0.30)	0.05 (0.04, 0.06)
	Malay	0.06	4.07 (3.74, 4.39)	0.04 (0.02, 0.06)	0.28 (0.26, 0.30)	0.06 (0.05, 0.08)
	Indian	0.06	2.95 (2.43, 3.48)	0.05 (0.02, 0.08)	0.08 (0.05, 0.12)	0.04 (0.02, 0.07)
	White	0.06	2.74 (2.66, 2.82)	0.00 (-0.01, 0.00)	0.32 (0.32, 0.33)	0.14 (0.14, 0.15)
WOMEN						
	Chinese	0.06	3.59 (3.27, 3.91)	0.14 (0.12, 0.16)	0.21 (0.19, 0.22)	0.03 (0.02, 0.03)
	Malay	0.07	3.41 (3.08, 3.74)	0.07 (0.05, 0.08)	0.18 (0.16, 0.20)	0.04 (0.03, 0.05)
	Indian	0.07	2.34 (1.84, 2.85)	0.03 (0.00, 0.05)	0.10 (0.08, 0.13)	0.07 (0.05, 0.09)
	White	0.08	3.51 (3.43, 3.58)	0.08 (0.08, 0.08)	0.31 (0.30, 0.31)	0.12 (0.12, 0.12)

[a] Adjusted for age, education, smoking, alcohol and physical activity. SBP= Systolic blood pressure; LDL=Low density lipoprotein; HbA1c=glycated haemoglobin.

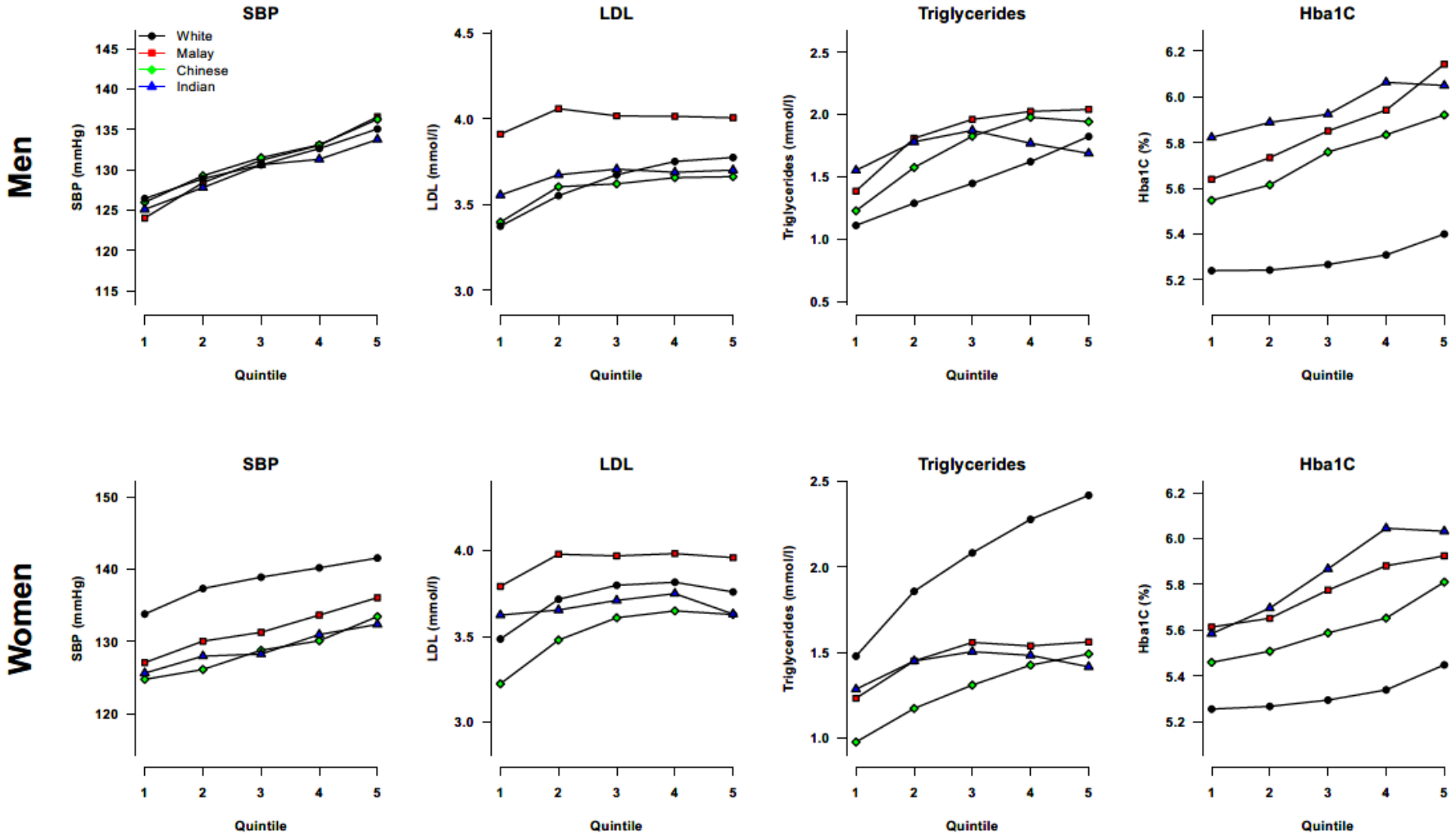
Supplemental Figure e1. Flow diagram of exclusions made to analytic samples of The Malaysia Cohort and UK Biobank.



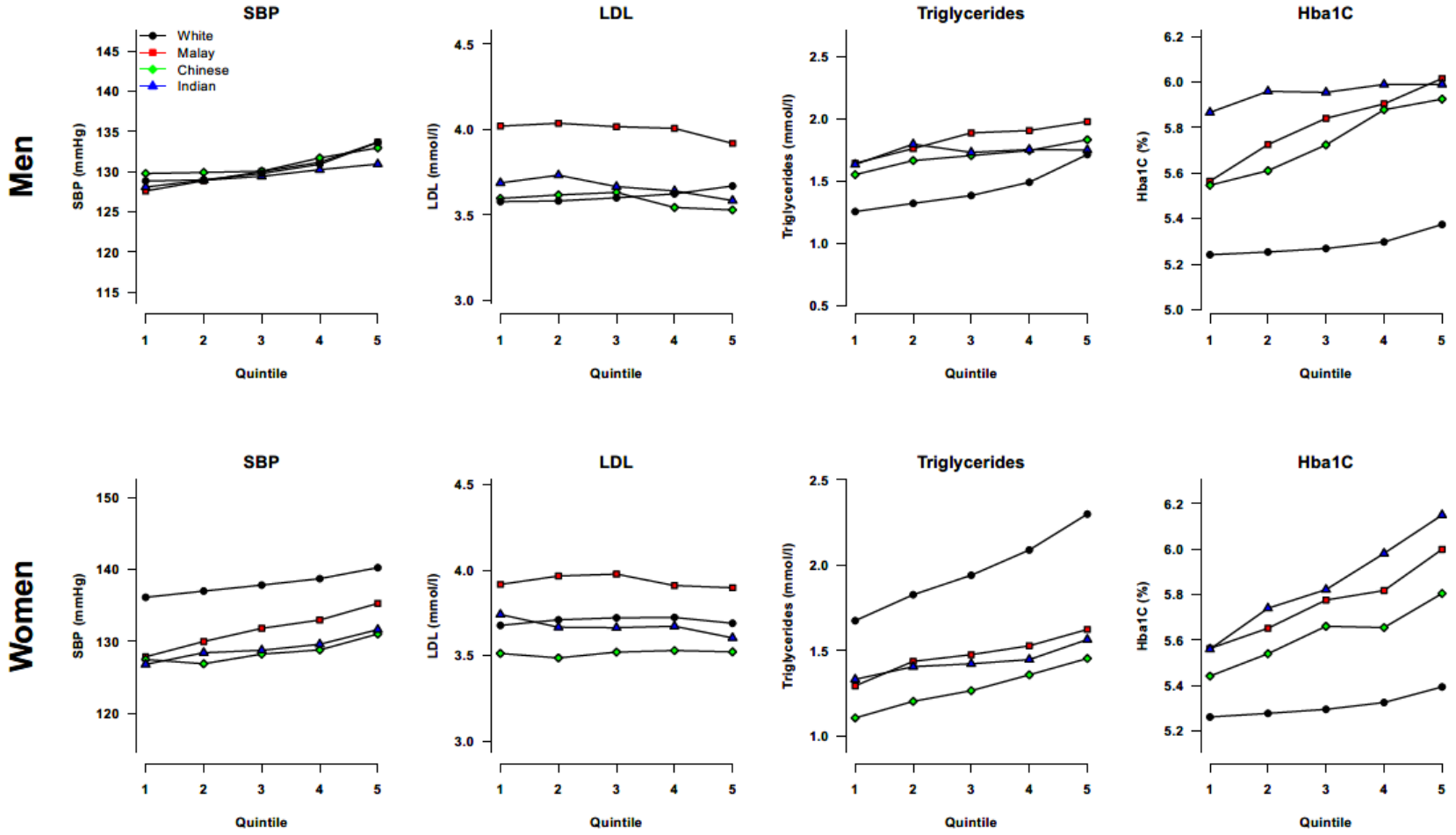
Supplemental Figure e2. Associations between body mass index (BMI) quintiles (adjusted for age) and cardiovascular risk factors across ethnicities.



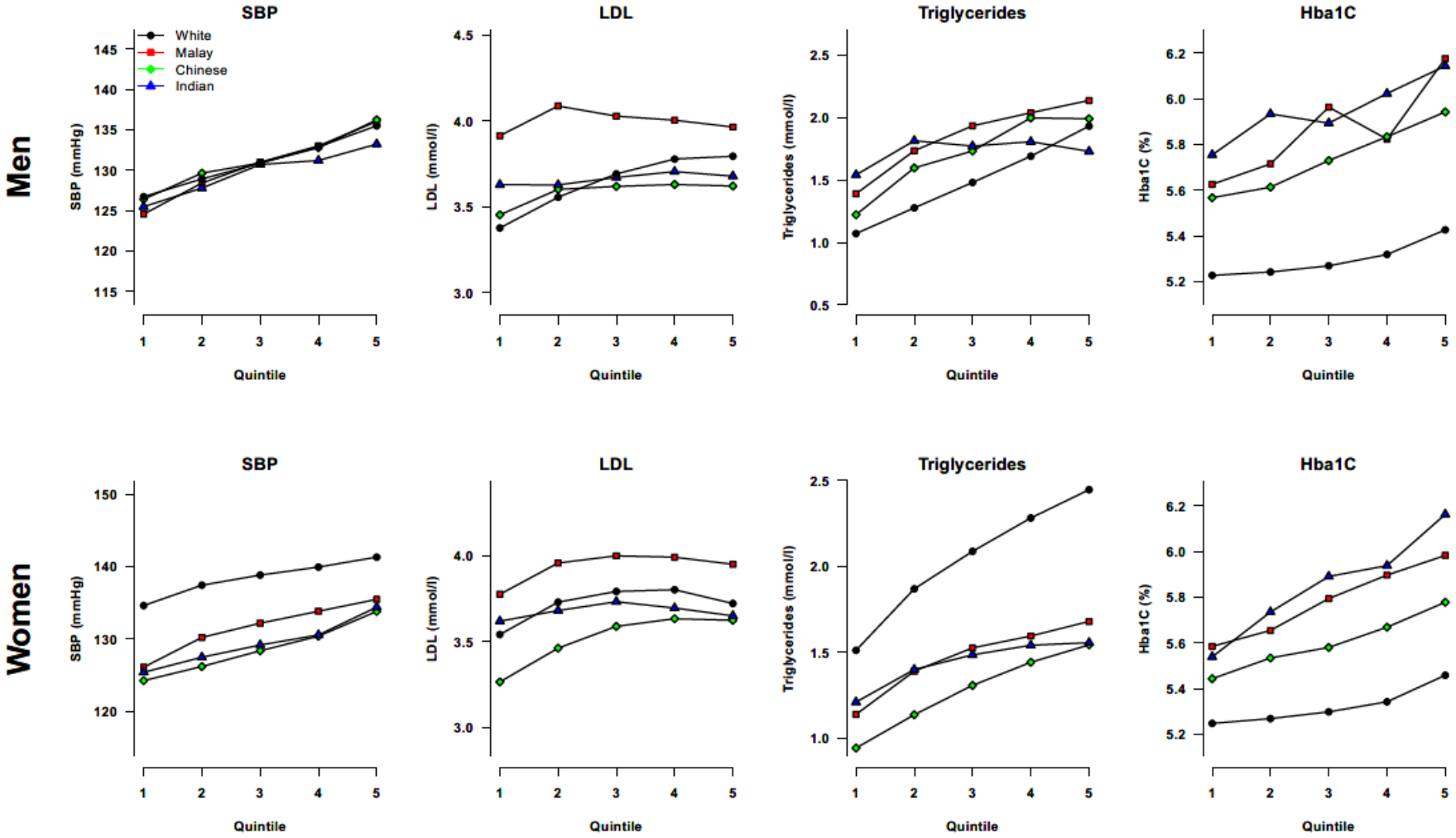
Supplemental Figure e3. Associations between fat mass quintiles (adjusted for age) and cardiovascular risk factors across ethnicities.



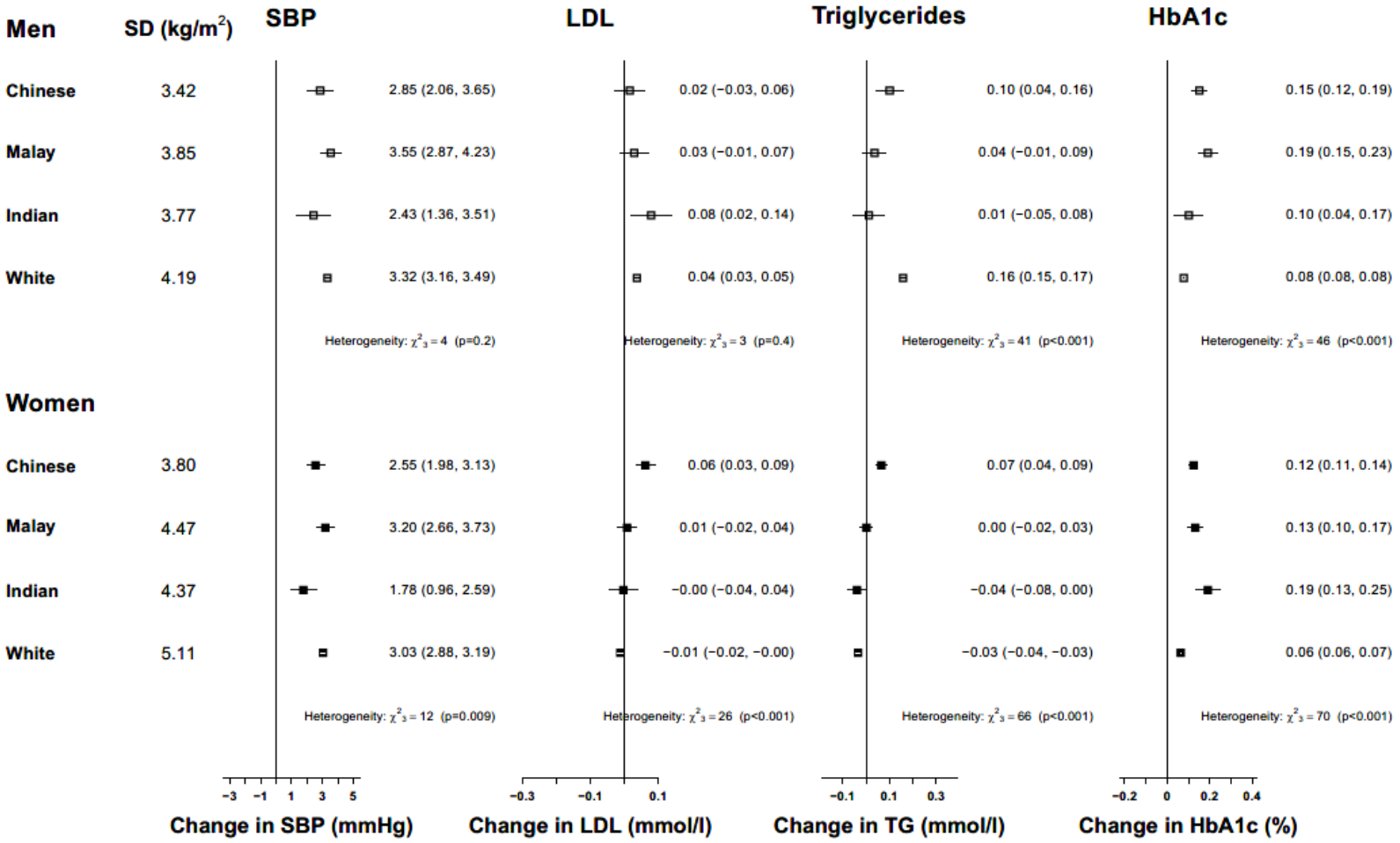
Supplemental Figure e4. Associations between lean mass quintiles (adjusted for age) and cardiovascular risk factors across ethnicities.



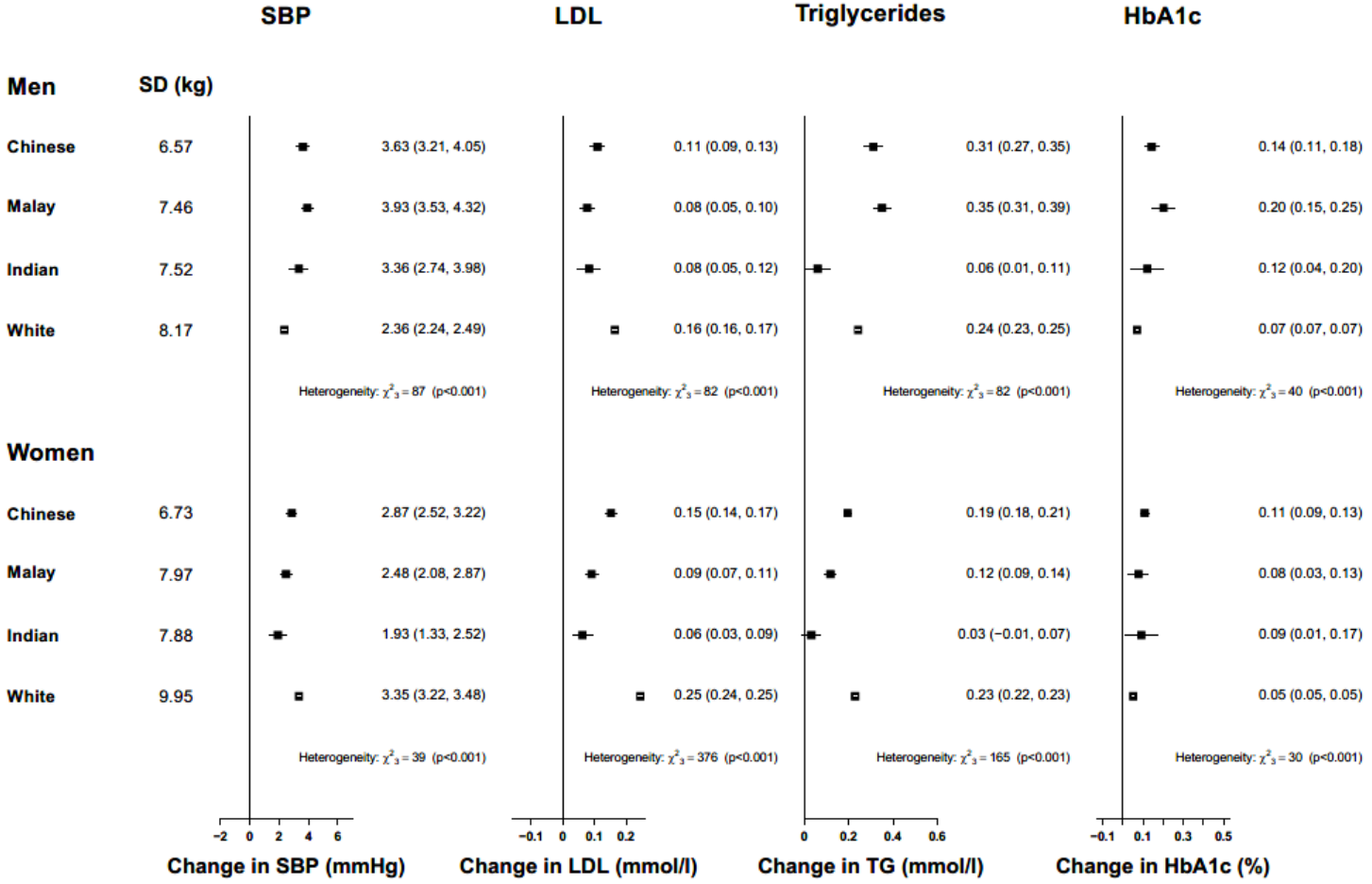
Supplemental Figure e5. Associations between <u>waist circumference</u> quintiles (adjusted for age) and cardiovascular risk factors across ethnicities.



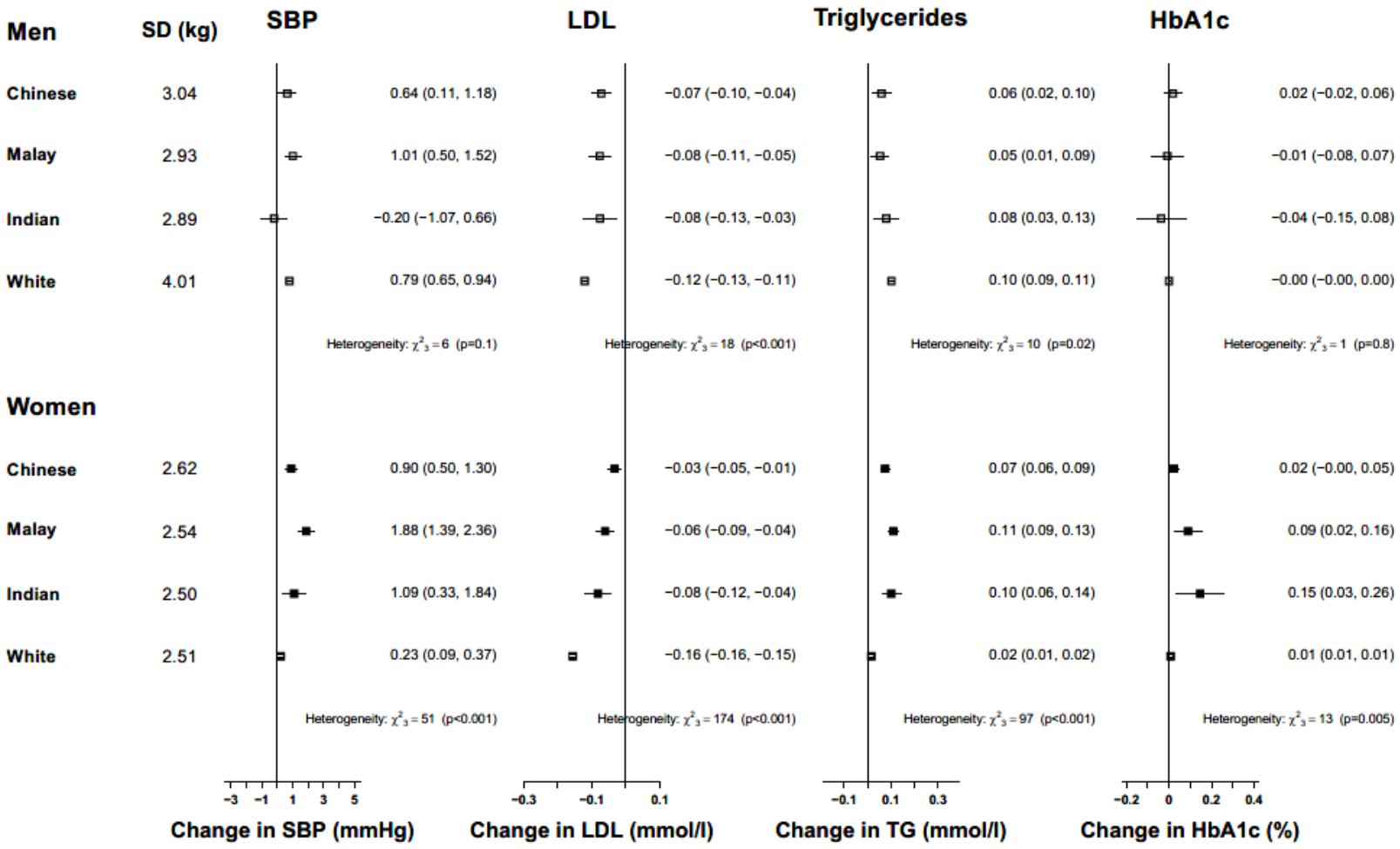
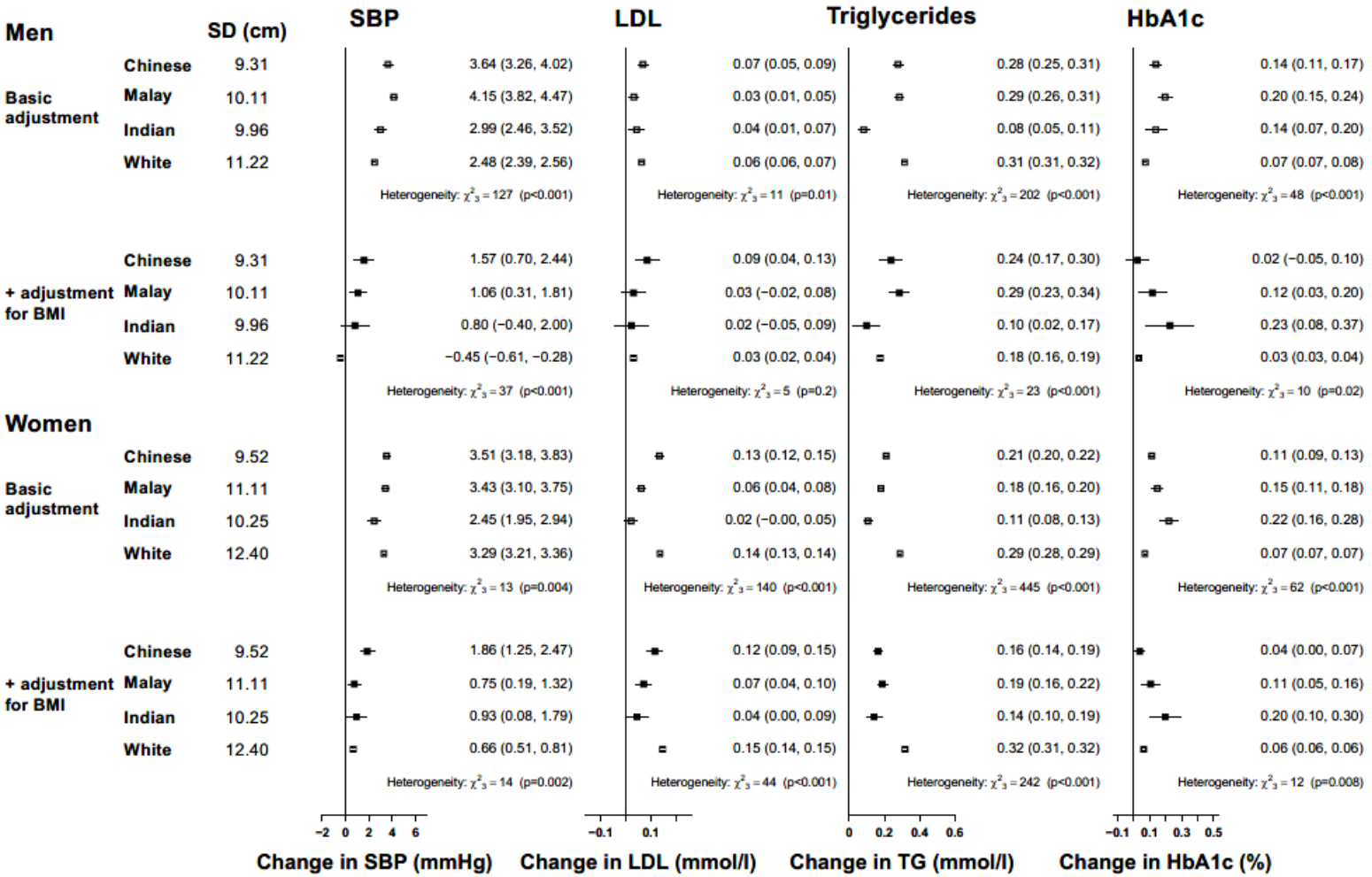
Supplemental Figure e6. Fully adjusted associations between cardiovascular risk factors a 1 sex- and ethnic- specific SD change in body mass index (BMI).



Supplemental Figure e7. Fully adjusted associations between cardiovascular risk factors a 1 sex- and ethnic- specific SD change in fat mass.



Supplemental Figure e8. Fully adjusted associations between cardiovascular risk factors a 1 sex- and ethnic- specific SD change in lean mass.



Supplemental Figure e9. Fully adjusted associations between cardiovascular risk factors a 1 sex- and ethnic- specific SD change in <u>waist circumference</u>.