

**Supplemental Table 1.** The attenuation of the hazard ratio for BMI as each mediator in model 2 is added separately to the model

	Non-smokers	Current Smokers
	Assoc. of BMI with SCD HR (95% CI)	Assoc. of BMI with SCD HR (95% CI)
BMI (per 1 SD)	1.34 (1.18-1.53)	0.96 (0.78-1.18)
Variables (added separately to BMI)		
Age (per 1 year)	1.38 (1.21-1.58)	0.98 (0.79 (1.21)
Race	1.25 (1.09-1.44)	0.89 (0.72-1.10)
Sex	1.44 (1.25-1.66)	0.94 (0.75-1.18)
Center	1.23 (1.09-1.42)	0.88 (0.71-1.09)
Education	1.24 (1.09-1.43)	0.93 (0.75-1.15)
Systolic blood pressure	1.18 (1.03-1.36)	0.88 (0.71-1.09)
Diabetes	1.15 (0.99-1.32)	0.86 (0.69-1.08)
Hypertension	1.15 (1.00-1.32)	0.88 (0.71-1.10)
LDL cholesterol	1.34 (1.17-1.53)	0.95 (0.76-1.17)
HDL cholesterol	1.26 (1.10-1.46)	0.83 (0.66-1.06)
Triglycerides	1.30 (1.13-1.49)	0.93 (0.74-1.15)
Prevalent CHD	1.29 (1.13-1.48)	0.90 (0.72-1.12)
Prevalent heart failure	1.28 (1.12-1.46)	0.94 (0.76-1.16)
Heart rate	1.32 (1.15-1.50)	0.94 (0.76-1.17)
LVH	1.33 (1.16-1.52)	0.95 (0.77-1.17)

Abbreviations: CHD= coronary heart disease, HDL= high density lipoprotein, LDL= low density lipoprotein, LVH= left ventricular hypertrophy

**Supplemental Table 2.** The attenuation of the hazard ratio for WC as each mediator in model 2 is added separately to the model

	Non-smokers	Current Smokers
	Assoc. of WC with SCD HR (95% CI)	Assoc. of WC with SCD HR (95% CI)
WC (per 1 SD)	1.57 (1.37-1.80)	1.08 (0.88-1.31)
Variables (added separately to WC)		
Age (per 1 year)	1.56 (1.35-1.80)	1.06 (0.87-1.30)
Race	1.50 (1.31-1.72)	1.05 (0.86-1.28)
Sex	1.59 (1.38-1.84)	1.01 (0.81-1.25)
Center	1.48 (1.29-1.69)	1.04 (0.86-1.27)
Education	1.47 (1.28-1.69)	1.05 (0.86-1.27)
Systolic blood pressure	1.40 (1.22-1.62)	0.99 (0.81-1.20)
Diabetes	1.34 (1.16-1.56)	0.98 (0.79-1.20)
Hypertension	1.36 (1.18-1.57)	1.01 (0.83-1.23)
LDL cholesterol	1.56 (1.36-1.80)	1.06 (0.87-1.30)
HDL cholesterol	1.46 (1.26-1.70)	0.93 (0.74-1.16)
Triglycerides	1.51 (1.30-1.74)	1.04 (0.85-1.28)

Prevalent CHD	1.48 (1.28-1.70)	0.99 (0.81-1.22)
Prevalent heart failure	1.50 (1.31-1.73)	1.06 (0.87-1.29)
Heart rate	1.54 (1.34-1.76)	1.05 (0.87-1.28)
LVH	1.55 (1.36-1.78)	1.07 (0.88-1.30)

**Supplemental Table 3.** The attenuation of the hazard ratio for WHR as each mediator in model 2 is added separately to the model

	Non-smokers	Current Smokers
	Assoc. of Waist to hip with SCD HR (95% CI)	Assoc. of Waist to hip with SCD HR (95% CI)
Waist to hip (per 1 SD)	2.29 (1.95-2.70)	1.54 (1.24-1.91)
Variables (added separately to WHR)		
Age (per 1 year)	2.15 (1.81-2.56)	1.48 (1.18-1.84)
Race	2.39 (2.02-2.82)	1.58 (1.27-1.96)
Sex	2.16 (1.81-2.58)	1.37 (1.08-1.74)
Center	2.34 (1.99-2.76)	1.58 (1.27-1.96)
Education	2.23 (1.87-2.66)	1.49 (1.20-1.86)
Systolic blood pressure	2.19 (1.83-2.62)	1.40 (1.13-1.76)
Diabetes	2.05 (1.70-2.46)	1.43 (1.14-1.78)
Hypertension	2.05 (1.74-2.43)	1.48 (1.19-1.84)
LDL cholesterol	2.29 (1.93-2.71)	1.53 (1.23-1.90)
HDL cholesterol	2.19 (1.83-2.62)	1.38 (1.09-1.75)
Triglycerides	2.23 (1.87-2.64)	1.53 (1.22-1.92)
Prevalent CHD	2.11 (1.76-2.54)	1.37 (1.09-1.71)
Prevalent heart failure	2.26 (1.91-2.67)	1.52 (1.23-1.90)
Heart rate	2.27 (1.92-2.68)	1.50 (1.21-1.87)
LVH	2.29 (1.94-2.70)	1.52 (1.22-1.87)

**Supplemental Table 4.** Incidence rate and hazard ratio of SCD in relation to BMI after

	BMI categories <18.5	18.5-24.9	25-29.9	30-34.9	35+	P for trend
Non-smokers (n=11036)						
Model 2 HR <sup>c</sup>	0	1 (ref.)	1.25 (0.75-2.10)	1.05 (0.58-1.88)	1.49 (0.77-2.90)	0.41
Current smokers (n=3905)						
Model 2 HR <sup>c</sup>	1.80 (0.50-6.46)	1 (ref.)	0.66 (0.41-1.06)	0.60 (0.33-1.10)	0.16 (0.04-0.66)	0.003

considering non-sudden deaths as a competing risk

**Supplemental Table 5.** Incidence rate and hazard ratio of SCD in relation to WC after

considering non-sudden deaths as a competing risk

	Waist circumference categories <sup>a</sup>				P for trend
	Reference	High category 1	High category 2	High category 3	
Non-smokers					
Model 2 HR <sup>d</sup>	1 (Ref.)	0.87 (0.52-1.45)	0.88 (0.53-1.47)	1.28 (0.80-1.95)	0.40
Current smokers					
Model 2 HR <sup>d</sup>	1 (Ref.)	1.08 (0.61-1.91)	0.65 (0.36-1.18)	0.41 (0.20-0.84)	0.007

**Supplemental Table 6.** Incidence rate and hazard ratio of SCD in relation to WHR after

considering non-sudden deaths as a competing risk

	Waist to hip ratio categories <sup>a</sup>				P for trend
	Reference	High category 1	High category 2	High category 3	
Non-smokers					
Model 2 HR <sup>d</sup>	1 (Ref.)	1.00 (0.54-1.82)	1.45(0.85-2.48)	1.98 (1.16-3.38)	0.005
Current smokers					
Model 2 HR <sup>d</sup>	1 (Ref.)	0.72 (0.35-1.47)	1.31 (0.76-2.26)	0.77 (0.42-1.43)	0.81