## **Supplementary Online Content**

Khan SS, Ning H, Wilkins JT, et al. Association of body mass index with lifetime risk of cardiovascular disease and compression of morbidity. *JAMA Cardiol*. Published online February 28, 2018. doi:10.1001/jamacardio.2018.0022

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This supplementary material has been provided by the authors to give readers additional information about their work.

## eMethods. Cardiovascular Disease Lifetime Risk Pooling Project supplemental methods

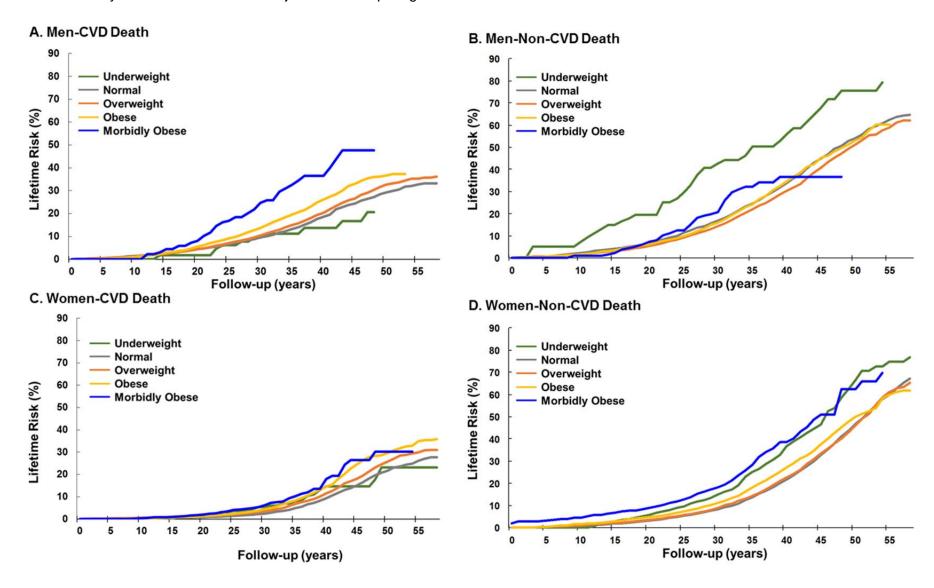
The Cardiovascular Disease Lifetime Risk Pooling Project (LRPP) was designed as an individual-level pooled dataset from 20 US community-based cardiovascular disease cohorts and extensive details of the methods have been previously published. Briefly, cohorts were included if they represented community-based samples, included a baseline examination with direct measurement of anthropometric variables and physiologic measures, and included at least 5 years of follow-up for cardiovascular disease with high-quality assessment for events and vital status. The overall LRPP dataset includes data from the three National Health and Nutrition Exam Surveys, Framingham Heart Study, Framingham Offspring Study, Western Electric, People's Gas, Tecumseh Study, Honolulu Heart Program, Puerto Rico Health, Chicago Heart Association Detection Project, Kaiser Permanente Study of the Oldest Old, Established Populations for Epidemiologic Study of the Elderly, Hispanic Established Populations for Epidemiologic Study of the Elderly, Coronary Artery Risk Development in Young Adults, Atherosclerosis Risk in Communities Study, Cardiovascular Health Study, Women's Health Initiative, Jackson Heart Study, and the Multi-Ethnic Study of Atherosclerosis. Studies were funded by the National Heart, Lung, and Blood Institute, National Institute of Aging, US Department of Health and Human Services, and the Centers for Disease Control and Prevention. As previously published, the association between risk factors and cardiovascular disease are similar across cohorts and birth cohorts. Baseline demographics of age, sex, race, and smoking status were self-reported. Trained clinical staff measured blood pressure, height, and weight using standard methods. Measurements of fasting glucose and lipid fractions were directly obtained. Diagnosis of diabetes and/or use of diabetes medications and use of hypertensive therapies were determined by self-report.

For the current analysis, we included the ten cohorts with at least 10 years of follow-up and adjudication for all subtypes of cardiovascular events of interest (fatal and non-fatal myocardial infarction, fatal and non-fatal stroke, congestive heart failure, and cardiovascular death) and non-cardiovascular death, including the Atherosclerosis Risk in Communities (ARIC) Study, Coronary Artery Risk Development in Young Adults (CARDIA) Study, Chicago Heart Association Detection Project in Industry (CHA) Study, Cardiovascular Health Study (CHS), Framingham Heart Study (FHS), Framingham Offspring Study (FOF), Kaiser Permanente Study of the Oldest Old, Multi-Ethnic Study of Atherosclerosis (MESA), NHANES I Epidemiologic Follow-up Study (NHEFS), and Women's Health Initiative (WHI).

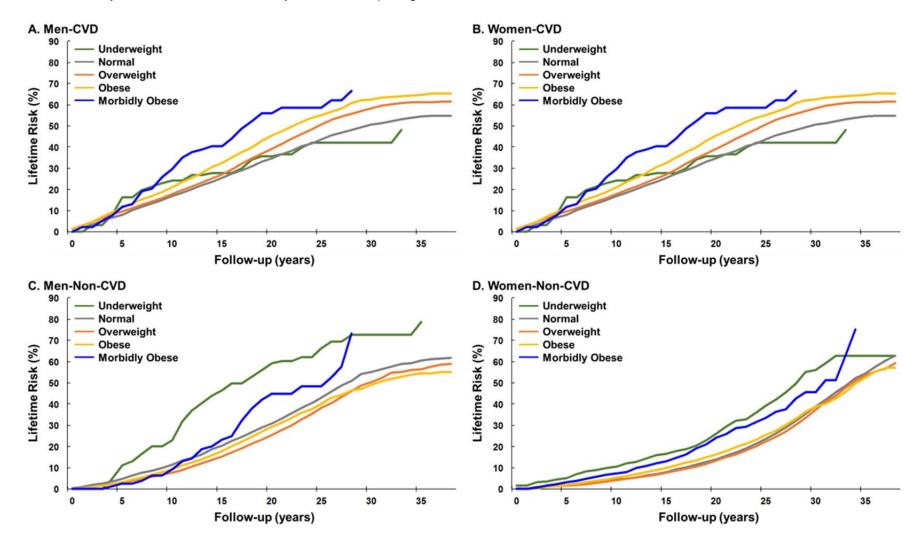
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Fatal and non-fatal myocardial infarction was adjudicated using standardized clinical criteria that consisted of at least two of the following: electrocardiographic changes consistent with myocardial infarction, biomarker elevations consistent with myocardial damage, and/or typical chest pain or ICD-8/ICD-9 codes. Stroke was adjudicated using clinical criteria of new neurological deficit persisting greater than 24 hours consistent with neurological injury and/or ICD-8/ICD-9 codes. Congestive heart failure was determined by clinical criteria and/or ICD-8/ICD-9 codes. Vital status was obtained by linkage to National Death Index and cause of death was adjudicated by review of medical records and/or autopsies by study investigators as cardiovascular, non-cardiovascular, and cancer-related.

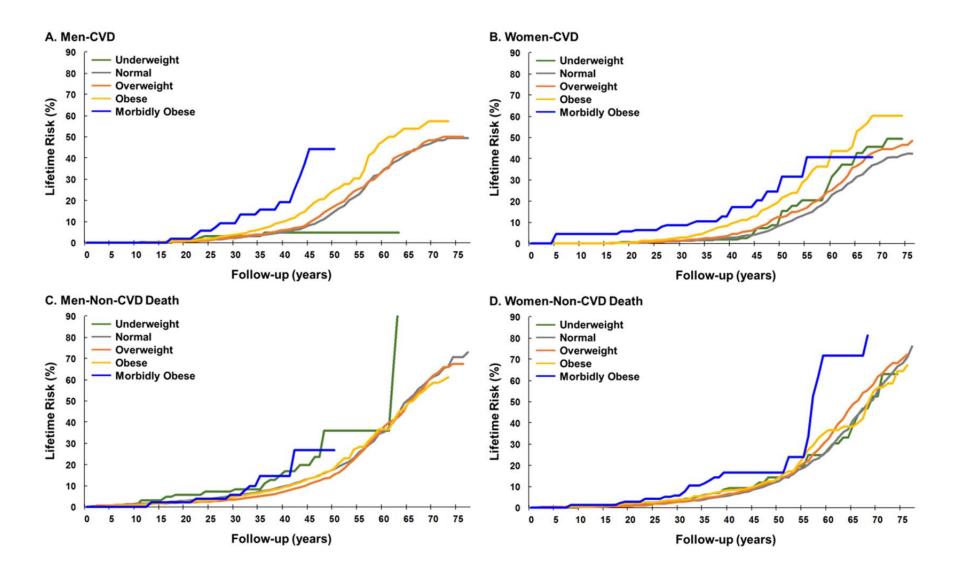
**eFigure 1.** Lifetime risk of cardiovascular and noncardiovascular mortality among middle-aged men and women (index age, 40-59 years) based on body mass index strata and adjusted for competing risks



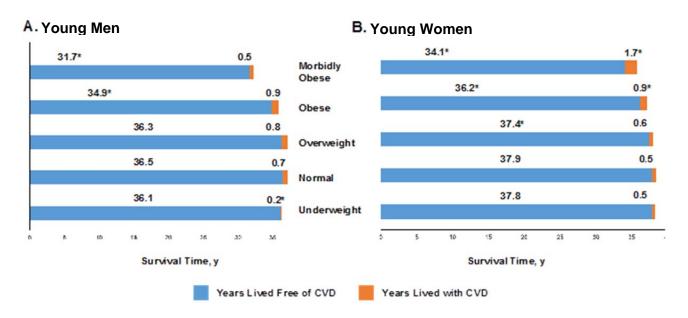
**eFigure 2.** Lifetime risk of cardiovascular events and noncardiovascular mortality among older men and women (index age, 60-79 years) based on body mass index strata and adjusted for competing risks



**eFigure 3.** Lifetime risk of cardiovascular events and noncardiovascular mortality among young men and women (index age, 20-39 years) based on body mass index strata and adjusted for competing risks



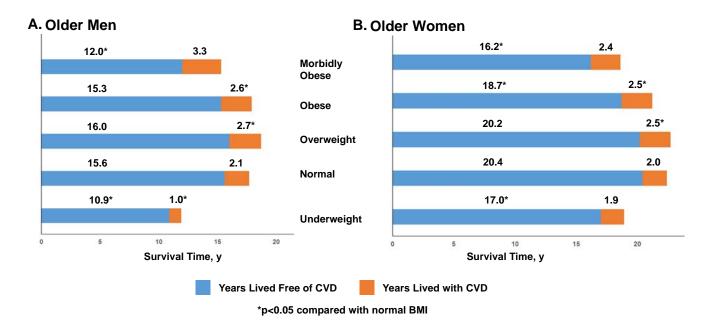
**eFigure 4.** Years lived<sup>a</sup> free from and with cardiovascular disease among young men and women (index age, 20-39 years) by body mass index strata



<sup>&</sup>lt;sup>a</sup>Cumulative years lived under observation-to-date

<sup>\*</sup>p<0.05 compared with normal BMI

**eFigure 5.** Years lived free from and with cardiovascular disease among older men and women (index age, 60-79 years) by body mass index strata



**eTable 1.** Risk factors and unadjusted event rates for young men and women (index age, 20-39 years) by body mass index strata

	Underweight (BMI <18.5 kg/m²)	Normal (BMI 18.5-24.9 kg/m²)	Overweight (BMI 25-29.9 kg/m²)	Obesity (BMI 30-39.9 kg/m²)	Morbid Obesity (BMI ≥40 kg/m²)
MEN	N=123	N=6,430	N=6,471	N=1,711	N=55
Age, years <sup>1</sup>	27.1 (5.4)	28.5 (5.3)	30.4 (5.2)	30.6 (5.3)	28.6 (4.6)
Black, n(%)	35 (28.5)	1107 (17.2)	618 (9.6)	222 (13.0)	16 (29.1)
Risk Factors					
Diabetes, n (%)	0 (0)	67 (1.1)	47 (0.7)	26 (1.5)	1 (1.8)
Current Smoking, n (%)	66 (53.7)	3159 (49.2)	3016 (46.6)	823 (48.2)	25 (45.5)
Mean Systolic Blood Pressure, mm Hg	120 (16)	126 (15)	133 (16)	139 (18)	151 (31)
Mean Body Mass Index, kg/m <sup>2</sup>	17.6 (1.0)	22.8 (1.6)	27.1 (1.4)	32.4 (2.2)	43.4 (3.4)
<b>Unadjusted Event Rates</b>					
CVD Death/1000PY	0.56	1.35	1.84	3.16	5.94
CVD Event/1000PY	1.40	2.63	3.43	5.30	8.73
Non-CVD Death/1000 PY	5.58	3.86	3.43	4.37	5.94
Median follow-up time, years	31.1	31.9	32.4	32.1	30.7
WOMEN	N=792	N=8,197	N=2,094	N=850	N=139
Age, years <sup>1</sup>	25.9 (5.0)	27.8 (5.6)	28.9 (5.8)	28.7 (5.0)	25.9 (5.0)
Black, n(%)	232 (29.3)	1766 (21.5)	671 (32.0)	364 (42.8)	80 (57.6)
Risk Factors					
Diabetes, n (%)	5 (0.6)	60 (0.7)	16 (0.8)	18 (2.1)	5 (3.6)
Current Smoking, n (%)	363 (45.8)	3718 (45.4)	904 (43.2)	352 (41.4)	50 (36.0)
Mean Systolic Blood Pressure, mm Hg	114 (13)	117 (14)	121 (16)	124 (17)	128 (21)
Mean Body Mass Index, kg/m <sup>2</sup>	17.6 (0.8)	21.7 (1.7)	27.0 (1.4)	33.5 (2.6)	44.4 (3.5)
<b>Unadjusted Event Rates</b>					
CVD Death/1000PY	0.73	0.72	1.22	1.80	1.85
CVD Event/1000PY	1.50	1.80	2.89	4.15	4.57
Non-CVD Death/1000 PY	2.91	2.95	3.94	3.57	6.07
Median follow-up time, years	31.9	32.3	32.0	30.4	26.9

**eTable 2.** Risk factors and unadjusted event rates for middle-aged men and women (index age, 40-59 years) by body mass index strata

	Underweight (BMI <18.5 kg/m²)	Normal (BMI 18.5-24.9 kg/m²)	Overweight (BMI 25-29.9 kg/m²)	Obesity (BMI 30-39.9 kg/m²)	Morbid Obesity (BMI ≥40 kg/m²)
MEN	N=76	N=5,861	N=10,831	N=4,400	N=222
Age, years	48.4 (5.5)	48.6 (5.7)	48.8 (5.6)	49.0 (5.6)	48.0 (5.6)
Black, n (%)	19 (25.0)	703 (12.0)	1165 (10.8)	791 (18.0)	84 (37.8)
Risk Factors					
Diabetes, n (%)	4 (5.4)	207 (3.6)	498 (4.6)	416 (9.6)	50 (22.6)
Current Smoking, n (%)	53 (69.7)	2814 (48.0)	4179 (38.6)	1439 (32.7)	51 (23.0)
Mean Systolic Blood Pressure,	129 (22)	127 (20)	132 (20)	136 (22)	139 (23)
Mean Body Mass Index, kg/m <sup>2</sup>	17.6 (0.8)	23.1 (1.5)	27.3 (1.4)	32.7 (2.3)	44.0 (4.7)
<b>Unadjusted Event Rates</b>					
CVD Death/1000PY	7.02	6.88	7.46	9.35	13.34
CVD Event/1000PY	12.43	13.72	15.53	20.21	30.15
Non-CVD Death/1000 PY	25.96	12.82	11.33	12.21	12.10
Median follow-up time, years	17.8	21.2	21.3	18.8	11.8
WOMEN	N=592	N=21,807	N=15,946	N=10,630	N=2,125
Age, years	51.0 (5.8)	51.9 (5.4)	52.6 (5.0)	52.8 (5.0)	52.3 (5.1)
Black, n (%)	52 (8.8)	1189 (5.5)	2152 (13.5)	2563 (24.1)	744 (35.0)
Risk Factors					
Diabetes, n (%)	12 (2.0)	313 (1.4)	523 (3.3)	931 (8.8)	343 (16.3)
Current Smoking, n (%)	234 (52.4)	4741 (30.3)	2751 (24.4)	1532 (20.5)	242 (16.5)
Mean Systolic Blood Pressure,	118 (21)	119 (18)	124 (19)	128 (19)	130 (19)
Mean Body Mass Index, kg/m <sup>2</sup>	17.7 (0.7)	22.4 (1.6)	27.2 (1.4)	33.6 (2.7)	44.7 (4.2)
<b>Unadjusted Event Rates</b>					
CVD Death/1000 PY	4.14	2.67	3.35	3.71	3.80
CVD Event/1000PY	8.73	6.37	8.05	9.97	11.89
Non-CVD Death/1000 PY	12.16	6.82	7.18	7.36	8.67
Median follow-up time, years	14.1	13.9	13.8	12.9	12.0

**eTable 3.** Risk factors and unadjusted event rates for older men and women (index age, 60-79 years) by body mass index strata

	Underweight (BMI <18.5 kg/m²)	Normal (BMI 18.5-24.9 kg/m²)	Overweight (BMI 25-29.9 kg/m²)	Obesity (BMI 30-39.9 kg/m²)	Morbid Obesity (BMI ≥40 kg/m²)
MEN	N=90	N=3863	N=6769	N=2836	N=99
Age, years <sup>1</sup>	66.8 (5.9)	65.7 (5.8)	65.0 (5.4)	64.0 (4.8)	63.3 (4.2)
Black, n (%)	23 (25.6)	444 (11.5)	815 (12.0)	494 (17.4)	31 (31.3)
Risk Factors					
Diabetes, n (%)	5 (5.7)	234 (6.1)	700 (10.5)	570 (20.4)	35 (36.8)
Current Smoking, n (%)	42 (48.3)	1095 (29.8)	1314 (20.2)	418 (15.1)	13 (13.3)
Mean Systolic Blood Pressure, mm Hg	136 (26)	133 (23)	136 (22)	137 (22)	136 (18)
Mean Body Mass Index, kg/m <sup>2</sup>	17.4 (0.9)	23.0 (1.5)	27.3 (1.4)	32.7 (2.2)	42.7 (0.9)
<b>Unadjusted Event Rates</b>					
CVD Death/1000 PY	16.18	14.38	14.46	15.11	12.58
CVD Event/1000PY	35.11	29.36	32.00	35.13	45.74
Non-CVD Death/1000 PY	57.80	27.47	22.88	22.13	30.54
Median follow-up time, years	9.0	10.8	11.2	10.9	9.5
WOMEN	N=814	N=30340	N=27266	N=16920	N=2323
Age, years <sup>1</sup>	67.7 (5.5)	67.4 (5.3)	67.3 (5.2)	66.6 (5.1)	65.5 (4.7)
Black, n (%)	47 (5.8)	1273 (4.2)	2377 (8.7)	2699 (16.0)	555 (23.9)
Risk Factors					
Diabetes, n (%)	15 (1.9)	681 (2.3)	1359 (5.0)	1905 (11.3)	426 (18.5)
Current Smoking, n (%)	168 (33.1)	2968 (17.8)	2073 (13.4)	1015 (10.5)	120 (8.9)
Mean Systolic Blood Pressure, mm Hg	126 (22)	128 (20)	132 (19)	134 (19)	136 (18)
Mean Body Mass Index, kg/m <sup>2</sup>	17.7 (0.7)	22.6 (1.6)	27.3 (1.4)	33.4 (2.6)	44.4 (4.1)
<b>Unadjusted Event Rates</b>					
CVD Death/1000 PY	8.93	5.27	5.59	6.65	7.34
CVD Event/1000PY	19.29	12.56	14.52	17.88	23.24
Non-CVD Death/1000 PY	22.27	11.82	11.20	12.10	15.02
Median follow-up time, years	11.1	11.9	11.8	11.6	9.8

**eTable 4.** Cumulative incidences for CVD death or non-CVD death among middle-aged men and women (index age, 40-59 years) according to body mass index strata\*

	BMI <18.5	BMI 18.5-24.9	BMI 25-29.9	BMI 30-39.9	BMI 40+
Male					
Adjusted Hazards Ratio of	0.27	0.54	0.66	0.77	1.10
CVD Death vs. non-CVD death**	(0.13 - 0.54)	(0.50 - 0.58)	(0.62 - 0.70)	(0.70 - 0.84)	(0.72 - 1.70)
CVD death, %	15.0%	16.2%	18.2%	24.0%	35.0%
Non CVD death, %	52.7%	28.8%	26.6%	30.2%	36.3%
Total Mortality, %	67.7%	45.0%	44.8%	54.2%	71.3%
Female					
Adjusted Hazards Ratio of	0.34	0.39	0.47	0.50	0.44
CVD Death vs. non-CVD death**	(0.24 - 0.48)	(0.37 - 0.42)	(0.43 - 0.51)	(0.46 - 0.56)	(0.35 - 0.55)
CVD death, %	10.3%	8.9%	12.0%	18.3%	19.5%
Non CVD death, %	29.1%	19.9%	22.2%	26.5%	38.1%
Total Mortality, %	39.4%	28.8%	34.2%	44.8%	57.6%

<sup>\*</sup> Lunn and McNeil Method

CVD = Cardiovascular disease

<sup>\*\*</sup>Adjusted for age, race/ethnicity, and smoking status

**eTable 5.** Cumulative incidences for first event (CVD event or non-CVD death) among young men and women (index age, 20-39 years) according to body mass index strata\*

		Underweight (BMI <18.5 kg/m²)	Normal (BMI 18.5-24.9 kg/m²)	Overweight (BMI 25-29.9 kg/m <sup>2</sup> )	Obesity (BMI 30-39.9 kg/m <sup>2</sup> )	Morbid Obesity (BMI ≥40 kg/m²)
Ma	le	,	<u> </u>	, , , , , , , , , , , , , , , , , , ,	<u> </u>	,
Adj	usted Hazards Ratio of CVD	0.28	0.78	1.15	1.43	1.63
eve	nt vs. non-CVD death**	(0.10-0.75)	(0.69 - 0.87)	(1.03-1.28)	(1.19-1.72)	(0.67-3.92)
No	n-CVD death, %	13.4%	7.9%	6.3%	8.3%	11.2%
CV	D event, %	4.5%	5.2%	7.1%	12.0%	16.9%
	Fatal and nonfatal MI, %	1.3%	3.4%	4.8%	7.4%	7.4%
	Fatal and nonfatal stroke, %	1.6%	0.7%	0.8%	1.1%	0%
	CHF, %	0.8%	0.4%	0.6%	1.7%	5.7%
	CVD death, %	0.8%	0.6%	0.9%	1.7%	3.8%
Fer	nale					
Adj	usted Hazards Ratio of CVD	0.60	0.72	0.90	1.49	0.94
eve	nt vs. non-CVD death**	(0.40 - 0.90)	(0.64-0.81)	(0.74-1.09)	(1.10-2.01)	(0.49-1.83)
No	n-CVD death, %	6.2%	4.9%	5.8%	5.4%	9.8%
CV	D event, %	2.3%	2.7%	5.0%	8.4%	9.9%
	Fatal and nonfatal MI, %	0.6%	1.1%	2.3%	3.9%	3.9%
	Fatal and nonfatal stroke, %	0.9%	0.9%	1.3%	2.2%	2.2%
	CHF, %	0.4%	0.4%	1.0%	1.3%	3.8%
	CVD death, %	0.4%	0.4%	0.4%	1.0%	0%

<sup>\*</sup> Lunn and McNeil Method

CVD = Cardiovascular disease; MI = myocardial infarction; CHF = congestive heart failure

<sup>\*\*</sup>Adjusted for age, race/ethnicity, and smoking status

**eTable 6.** Cumulative incidences for first event (CVD event or non-CVD death) among older men and women (index age, 60-79 years) according to body mass index strata\*

		Underweight (BMI <18.5 kg/m²)	Normal (BMI 18.5-24.9 kg/m²)	Overweight (BMI 25-29.9 kg/m²)	Obesity (BMI 30-39.9 kg/m <sup>2</sup> )	Morbid Obesity (BMI ≥40 kg/m²)
Ma	le					
	usted Hazards Ratio of CVD	0.73	1.34	1.86	2.30	2.28
	nt vs. non-CVD death**	(0.44-1.20)	(1.23-1.46)	(1.74-1.99)	(2.06-2.56)	(1.31-3.97)
No	n-CVD death, %	51.9%	28.3%	22.4%	22.1%	30.0%
CV	D event, %	32.7%	37.7%	43.3%	50.0%	60.1%
	Fatal and nonfatal MI, %	7.8%	17.7%	19.4%	22.4%	24.0%
	Fatal and nonfatal stroke, %	7.2%	8.5%	10.3%	8.9%	4.6%
	CHF, %	14.3%	8.9%	11.1%	16.0%	29.2%
	CVD death, %	3.4%	2.6%	2.5%	2.7%	2.2%
Fei	nale					
Adj	usted Hazards Ratio of CVD	0.97	1.20	1.52	1.93	2.10
eve	nt vs. non-CVD death**	(0.7724)	(1.14-1.27)	(1.43-1.61)	(1.80-2.07)	(1.75-2.52)
No	n-CVD death, %	30.0%	20.6%	19.5%	18.4%	23.8%
CV	D event, %	30.9%	26.0%	29.0%	34.5%	46.7%
	Fatal and nonfatal MI, %	10.2%	10.0%	11.0%	12.2%	13.4%
	Fatal and nonfatal stroke, %	9.4%	8.5%	9.2%	8.8%	8.8%
	CHF, %	9.6%	5.4%	6.6%	11.4%	21.4%
	CVD death, %	1.7%	2.1%	2.2%	2.1%	3.1%

<sup>\*</sup>Lunn and McNeil Method

CVD = Cardiovascular disease; MI = myocardial infarction; CHF = congestive heart failure

<sup>\*\*</sup>Adjusted for age, race/ethnicity, and smoking status

**eTable 7.** Adjusted\* competing hazard ratios for CVD death or non-CVD death among middle-aged men and women (index age, 40-59 years) according to body mass index strata<sup>a</sup>

	Underweight	Normal	Overweight	Obese	Morbidly
		Weight			Obese
		(Referent)			
Male					
CVD death	0.84	1.00	1.10	1.41	2.32
	(0.45 - 1.57)		(1.02 - 1.19)	(1.28 - 1.55)	(1.69 - 3.18)
Non-CVD death	2.12	1.00	0.87	0.94	0.96
	(1.50 - 2.98)		(0.82 - 0.92)	(0.87 - 1.01)	(0.68 - 1.35)
Female					
CVD death	1.41	1.00	1.26	1.61	1.99
	(1.04 - 1.91)		(1.15-1.38)	(1.46 - 1.79)	(1.62 - 2.45)
Non-CVD death	1.69	1.00	1.07	1.24	1.82
	(1.43 - 2.00)		(1.01 - 1.13)	(1.15 - 1.33)	(1.59 - 2.09)

<sup>\*</sup>Adjusted for age, race/ethnicity, and smoking status only accounting for two events jointly: CVD death or non-

CVD death

<sup>a</sup>Fine and Gray Method

CVD = Cardiovascular disease

**eTable 8.** Adjusted\* competing hazard ratios for first event (CVD event or non-CVD death) among young men and women (index age, 20-39 years) according to body mass index strata<sup>a</sup>

	Underweight (BMI <18.5 kg/m²)	Normal (BMI 18.5-24.9 kg/m²) (Referent)	Overweight (BMI 25-29.9 kg/m²)	Obesity (BMI 30-39.9 kg/m²)	Morbid Obesity (BMI ≥40 kg/m²)
Male					
Non-CVD death	1.65 (1.06-2.57)	1.00	0.83 (0.75-0.93)	0.99 (0.84-1.16)	1.64 (0.81-3.30)
CVD event	0.56 (0.22-1.44)	1.00	1.15 (1.03-1.29)	1.77 (1.53-2.06)	4.05 (2.27-7.25)
Fatal and nonfatal MI	0.19 (0.03-1.36)	1.00	1.19 (1.02-1.38)	1.73 (1.43-2.10)	2.84 (1.21-6.72)
Fatal and nonfatal stroke	1.18 (0.26-5.18)	1.00	1.00 (0.77-1.56)	1.07 (0.73-1.56)	**
CHF	1.39 (0.18-10.4)	1.00	1.29 (0.89-1.87)	2.76 (1.82-4.19))	13.7 (4.81-39.0)
CVD death	0.98 (0.13-7.21)	1.00	1.06 (0.75-1.51)	1.77 (1.17-2.70)	5.86 (1.82-18.9)
Female					
Non-CVD death	1.19 (0.91-1.56)	1.00	1.15 (0.98-1.34)	1.06 (0.83-1.36)	2.22 (1.40-3.51)
CVD event	1.14 (0.82-1.58)	1.00	1.35 (1.14-1.61)	2.45 (1.96-3.08)	2.83 (1.60-4.99)
Fatal and nonfatal MI	1.00 (0.56-1.77)	1.00	1.38 (1.03-1.84)	2.48 (1.73-3.56)	2.77 (1.17-6.57)
Fatal and nonfatal stroke	1.63 (1.00-2.66)	1.00	1.26 (0.93-1.69)	2.09 (1.42-3.06)	2.42 (0.97-6.07)
CHF	0.73 (0.13-1.37)	1.00	1.48 (1.05-2.09)	1.90 (1.16-3.12)	4.07 (1.67-9.92)
CVD death	1.06 (0.38-2.93)	1.00	0.96 (0.51-1.82)	2.56 (1.32-4.96)	**

<sup>\*</sup>Adjusted for age, race/ethnicity, and smoking status; <sup>a</sup>Fine and Gray Method; \*\*Insufficient data for robust

estimate of hazards

CVD = Cardiovascular disease; MI = myocardial infarction; CHF = congestive heart failure

**eTable 9.** Adjusted\* competing hazard ratios for first event (CVD event or non-CVD death) among older men and women (index age, 60-79 years) according to body mass index strata<sup>a</sup>

	Underweight (BMI <18.5 kg/m²)	Normal (BMI 18.5-24.9 kg/m²) (Referent)	Overweight (BMI 25-29.9 kg/m²)	Obesity (BMI 30-39.9 kg/m²)	Morbid Obesity (BMI ≥40 kg/m²)
Male					
Non-CVD death	1.81 (1.26-2.59)	1.00	0.81 (0.75-0.88)	0.74 (0.66-0.83)	0.92 (0.58-1.47)
CVD event	0.88 (0.58-1.32)	1.00	1.22 (1.14-1.30)	1.43 (1.32-1.55)	1.81 (1.31-2.50)
Fatal and nonfatal MI	0.51 (0.24-1.08)	1.00	1.15 (1.04-1.26)	1.26 (1.12-1.43)	1.52 (0.95-2.41)
Fatal and nonfatal stroke	0.85 (0.38-1.91)	1.00	1.18 (1.02-1.37)	1.02 (0.85-1.23)	0.49 (0.15-1.52)
CHF	1.80 (1.01-3.20)	1.00	1.25 (1.09-1.44)	1.79 (1.53-2.09)	3.14 (1.94-5.08)
CVD death	0.36 (0.05-2.55)	1.00	1.02 (0.80-1.31)	0.95 (0.69-1.32)	0.51 (0.07-3.66)
Female					
Non-CVD death	1.59 (1.33-1.90)	1.00	0.92 (0.87-0.98)	0.94 (0.87-1.00)	1.17 (1.00-1.37)
CVD event	1.22 (1.01-1.47)	1.00	1.18 (1.12-1.24)	1.57 (1.48-1.66)	2.22 (1.98-2.49)
Fatal and nonfatal MI	1.33 (0.99-1.78)	1.00	1.20 (1.11-1.31)	1.40 (1.28-1.54)	1.55 (1.26-1.89)
Fatal and nonfatal stroke	1.01 (0.71-1.44)	1.00	1.11 (1.01-1.22)	1.16 (1.05-1.30)	1.04 (0.81-1.35)
CHF	1.39 (0.97-1.99)	1.00	1.22 (1.10-1.36)	2.13 (1.91-2.38)	4.20 (3.53-5.00)
CVD death	1.00 (0.51-1.94)	1.00	1.00 (0.83-1.21)	1.15 (0.93-1.43)	1.26 (0.76-2.09)

<sup>\*</sup>Adjusted for age, race/ethnicity, and smoking status; <sup>a</sup>Fine and Gray Method;

CVD = Cardiovascular disease; MI = non-fatal myocardial infarction; CHF = congestive heart failure

**eTable 10.** Summary of years lived (means and standard errors) free from and with cardiovascular disease (CVD) by index age groups, sex, and body mass index strata

	Male			Female					
	CVD Free, years	Years with CVD,	Overall Survival,	CVD Free, years	Years with CVD,	Overall Survival,			
	*V	years	years		years	years			
Young Adulthood <sup>4</sup> (Index Age 20-39 years)									
Underweight	36.1 (0.8)	0.2 (0.2)	36.4 (0.8)	37.8 (0.3)	0.5 (0.2)	38.3 (0.2)			
Normal	36.5 (0.1)	0.7 (0.1)	37.2 (0.1)	37.9 (0.1)	0.5 (0.0)	38.4 (0.1)			
Overweight	36.3 (0.1)	0.8 (0.1)	37.1 (0.1)	37.4 (0.2)	0.6(0.1)	38.0 (0.1)			
Obese	34.9 (0.2)	0.9 (0.1)	35.8 (0.2)	36.2 (0.3)	0.9 (0.2)	37.1 (0.3)			
Morbidly	31.7 (1.5)	0.5 (0.8)	32.2 (1.5)	34.1 (0.9)	1.7 (0.6)	35.8 (0.8)			
Obese									
Middle-aged (In	ndex Age 40-59 years)								
Underweight	22.5 (1.5)	0.9 (0.4)	23.4 (1.6)	28.3 (0.6)	1.6 (0.3)	30.0 (0.6)			
Normal	26.8 (0.2)	2.3 (0.1)	29.1 (0.2)	31.3 (0.1)	1.9 (0.1)	33.2 (0.1)			
Overweight	26.6 (0.1)	2.7 (0.1)	29.3 (0.1)	29.5 (0.1)	2.3 (0.1)	31.8 (0.1)			
Obese	23.7 (0.2)	3.5 (0.1)	27.2 (0.2)	27.0 (0.2)	2.8 (0.1)	29.8 (0.2)			
Morbidly	19.3 (0.9)	4.2 (0.8)	23.4 (1.1)	24.2 (0.6)	2.9 (0.4)	27.2 (0.6)			
Obese									
Older Adulthoo	od (Index Age 60-79 ye	ars)							
Underweight	10.9 (1.0)	1.0 (0.4)	11.9 (1.0)	17.0 (0.5)	1.9 (0.4)	18.9 (0.6)			
Normal	15.6 (0.2)	2.1 (0.1)	17.7 (0.2)	20.4 (0.1)	2.0 (0.1)	22.4 (0.1)			
Overweight	16.0 (0.1)	2.7 (0.1)	18.7 (0.1)	20.2 (0.1)	2.5 (0.1)	22.7 (0.2)			
Obese	15.3 (0.2)	2.6 (0.1)	17.9 (0.2)	18.7 (0.2)	2.5 (0.1)	21.2 (0.2)			
Morbidly	12.0 (0.9)	3.3 (0.8)	15.3 (0.9)	16.2 (0.5)	2.4 (0.4)	18.5 (0.5)			
Obese									

<sup>&</sup>lt;sup>§</sup>Overall survival in participants in young adult calculated as cumulative years lived under observation-to-date