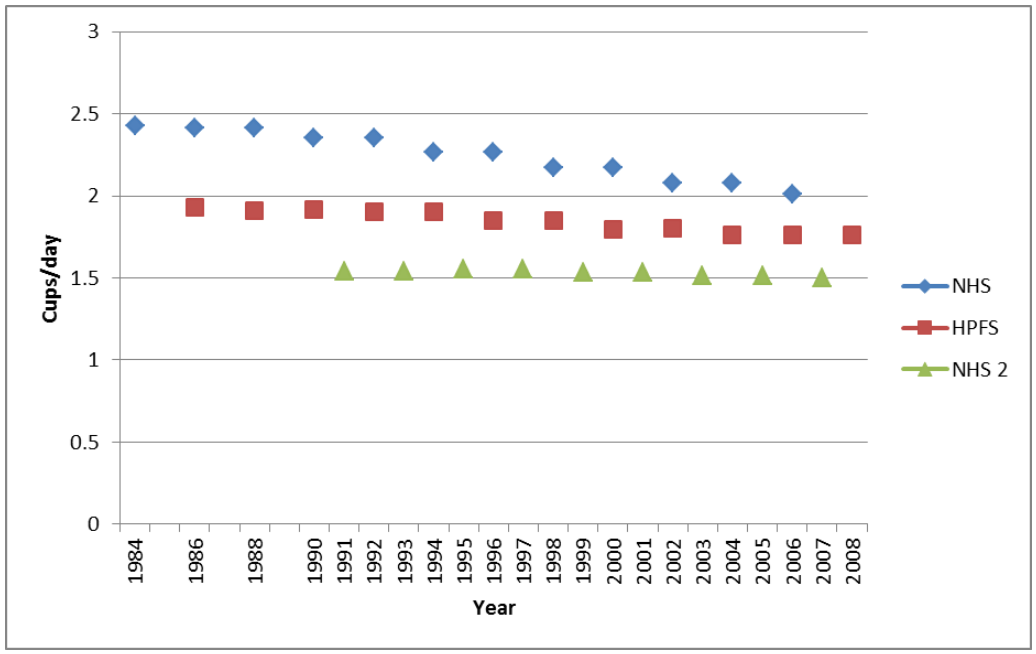
SUPPLEMENTAL MATERIAL



Supplemental Figure 1. Mean coffee consumption in NHS, NHS 2, and HPFS over follow-up period.

Supplemental Table 1. Categories for causes of death.

Causes of death	ICD-8 code
Cardiovascular disease	390-458
Heart disease	390-429, 440-458
Stroke	430-438
Cancer	140-207
Colorectal cancer	153, 154
Lung cancer	162
Pancreatic cancer	157
Breast cancer	174
Ovary cancer	183
Prostate cancer	185
Respiratory disease	460-519
Diabetes	250
Neurological disease	290, 340, 342, 348
Injury	800-950, 959-999
Suicide	950-959
All other causes	The rest of the ICD codes

Supplemental Table 2. The disease composition of overall mortality.

	NHS	NHS 2	HPFS	Total population
Cardiovascular disease	3844	211	3781	7836
Coronary heart disease	2545	157	2966	5668
Stroke	1062	43	750	1855
Other diseases	4667	680	2925	8272
Respiratory disease	1383	52	924	2359
Injury	144	10	500	654
Neurological disease	460	48	22	530
Suicide	84	98	192	374
Type 2 diabetes	214	32	92	338
Renal disease	48	3	26	77
Cancer	6624	922	3970	11516
Lung cancer	1596	107	745	2448
Breast cancer	961	261	0	1222
Premenopausal breast cancer	42	83	0	125
Postmenopausal breast cancer	911	178	0	1089
Colorectal cancer	549	69	417	1035
Pancreatic cancer	487	49	338	874
Non-Hodgkin lymphoma	398	54	295	747
Prostate cancer	0	0	572	572
Ovary cancer	496	82	0	578
Brain cancer	195	58	167	420
Leukemia	193	30	175	398
Myeloma	162	7	145	314
Renal cell cancer	142	10	119	271
Bladder cancer	107	5	160	272
Skin cancer	105	26	126	257
Endometrial cancer	211	31	0	242
Esophagus cancer	71	5	133	209
Stomach cancer	102	9	87	198
Head and neck cancer	83	8	84	175

Liver cancer	72	5	60	137
Gall bladder cancer	89	13	32	134
Small intestine cancer	26	8	9	43
Cervix cancer	28	11	0	39
Hodgkin lymphoma	14	4	11	29
Total mortality	17,468	2,056	12,432	31,956

Supplemental Table 3. HRs (95% CI) for the association between consumption of total coffee and risk of cause-specific mortality

	0 cup/d	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d	**P** non-linearity*
CVD mortality (7836 cases)	1.00	1.01 (0.93, 1.09)	0.95 (0.87, 1.01)	0.88 (0.81, 0.96)	1.02 (0.91, 1.14)	0.49
*CHD mortality (*5668 *cases)*	1.00	0.98 (0.90, 1.07)	0.92 (0.85, 1.01)	0.90 (0.81, 0.99)	1.03 (0.91, 1.17)	0.21
Stroke mortality (1855 cases)	1.00	1.05 (0.89, 1.23)	0.95 (0.81, 1.11)	0.81 (0.67, 0.97)	1.00 (0.79, 1.25)	0.89
Cancer mortality (11,516 cases)	1.00	1.01 (0.94, 1.08)	1.01 (0.95, 1.08)	1.03 (0.95, 1.10)	1.16 (1.06, 1.27)	0.88
Colorectal cancer mortality (1,035 cases)	1.00	1.03 (0.83, 1.28)	0.95 (0.77, 1.17)	0.95 (0.75, 1.20)	0.94 (0.69, 1.29)	0.91
*Lung cancer mortality (*2448 *cases)*	1.00	1.03 (0.86, 1.23)	1.15 (0.98, 1.36)	1.39 (1.17, 1.65)	1.82 (1.51, 2.19)	0.39
*Pancreatic cancer mortality (*874 *cases)*	1.00	1.35 (1.05, 1.72)	1.17 (0.92, 1.49)	1.08 (0.83, 1.42)	1.25 (0.89, 1.74)	0.64
Liver cancer (137 cases)	1.00	1.72 (0.89, 3.33)	1.37 (0.71, 2.61)	1.76 (0.88, 3.52)	0.62 (0.19, 1.94)	0.53
*Breast cancer mortality (*1222 *cases)*	1.00	0.97 (0.81, 1.18)	0.97 (0.81, 1.16)	0.92 (0.75, 1.14)	1.00 (0.77, 1.31)	0.50
*Postmenopausal breast cancer mortality (*1089 *cases)*	1.00	0.96 (0.78, 1.19)	0.94 (0.78, 1.14)	0.93 (0.74, 1.16)	1.05 (0.80, 1.39)	0.80
*Ovary cancer mortality (*578 *cases)*	1.00	0.72 (0.54, 0.97)	0.88 (0.68, 1.14)	0.82 (0.61, 1.10)	0.90 (0.62, 1.31)	0.73
Endometrial Cancer (242 cases)	1.00	1.11 (0.70, 1.75)	1.19 (0.78, 1.82)	1.12 (0.69, 1.82)	1.18 (0.63, 2.21)	0.17
*Prostate cancer mortality (*572 *cases)*	1.00	0.76 (0.59, 0.98)	0.76 (0.59, 0.98)	0.73 (0.54, 1.00)	0.50 (0.30, 0.85)	0.08
Respiratory disease mortality (2,359 cases)	1.00	0.90 (0.77, 1.05)	0.84 (0.73, 0.97)	1.04 (0.89, 1.22)	1.32 (1.10, 1.58)	< 0.001

Neurological disease mortality (530 cases)	1.00	0.91 (0.68, 1.21)	0.80 (0.61, 1.04)	0.69 (0.50, 0.95)	0.60 (0.38, 0.94)	0.17
Diabetes mortality (338 cases)	1.00	0.90 (0.65, 1.24)	0.59 (0.43, 0.82)	0.65 (0.43, 0.97)	0.57 (0.32, 1.01)	0.03
Injury mortality (654 cases)	1.00	0.88 (0.68, 1.13)	0.91 (0.71, 1.16)	0.84 (0.62, 1.12)	0.98 (0.67, 1.44)	0.58
Suicide (374 cases)	1.00	1.10 (0.81, 1.48)	0.76 (0.56, 1.03)	0.58 (0.39, 0.86)	0.54 (0.31, 0.92)	0.70
Other disease mortality (8,272 cases)	1.00	0.88 (0.82, 0.95)	0.80 (0.75, 0.86)	0.81 (0.74, 0.87)	0.79 (0.71, 0.88)	< 0.001

* A likelihood ratio test was performed.

The model adjusted for age, baseline disease status (hypertension, hypercholesterolemia, diabetes), BMI (< 20.9, 21-22.9, 23-24.9, 25-29.9, 30-34.9, ≥ 35 kg/m^2), physical activity (< 3, 3-8.9, 9-17.9, 18-26.9, ≥ 27 MET-h/wk), overall dietary pattern (AHEI score, in quintiles), total energy intake (quintiles), smoking status (never, former (1 - 4 cigarettes/d), former (5 - 14 cigarettes/d), former (15 - 24 cigarettes/d), former (25 - 34 cigarettes/d), former (35 - 44 cigarettes/d), former (≥ 45 cigarettes/d), former (unknown cigarettes/d), current (1 - 4 cigarettes/d), current (5 - 14 cigarettes/d), current (15 - 24 cigarettes/d), current (25 - 34 cigarettes/d), current (35 - 44 cigarettes/d), current (≥ 45 cigarettes/d), current (unknown cigarettes/d)), sugar-sweetened beverages consumption (quintiles) and alcohol consumption (0, 0-5, 5-10, 10-15, ≥ 15 g/d). We additionally adjusted for menopausal status (yes vs. no), and postmenopausal hormone use (yes vs. no) for women. Caffeinated and decaffeinated coffee adjusted for each other.

Supplemental Table 4. Stratified analysis for the association between coffee consumption and risk of total mortality

	Categories of total coffee consumption					
	0	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d	P for interaction†
Stratified by age						0.003
Age ≤ 70 years						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.97 (0.92-1.03)	0.87 (0.83-0.92)	0.86 (0.81-0.92)	0.96 (0.88-1.04)	
Age > 70 years						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.96 (0.91-1.01)	0.93 (0.89-0.98)	0.95 (0.89-1.00)	1.06 (0.99-1.14)	
Stratified by BMI						0.076
BMI ≤ 25 kg/m^2						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.93 (0.88-0.99)	0.92 (0.87-0.97)	0.93 (0.87-0.99)	1.03 (0.95-1.11)	
BMI > 25 kg/m^2						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.97 (0.92-1.02)	0.90 (0.86-0.95)	0.91 (0.86-0.97)	0.98 (0.91-1.05)	
Stratified by aHEI						0.96
aHEI ≤ median level						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.95 (0.90-1.00)	0.90 (0.86-0.95)	0.92 (0.87-0.98)	1.00 (0.93-1.07)	
aHEI > median level						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.95 (0.90-1.01)	0.92 (0.87-0.97)	0.94 (0.88-1.00)	1.04 (0.96-1.13)	
Stratified by physical activity						0.20
Physical activity ≤ median level						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.91 (0.87-0.96)	0.88 (0.84-0.92)	0.92 (0.87-0.97)	1.00 (0.93-1.07)	

Physical activity > median level						
Multivariate-adjusted hazard ratio (95% CI)	1.00	1.01 (0.94-1.07)	0.96 (0.91-1.02)	0.95 (0.88-1.02)	1.06 (0.97-1.16)	
Stratified by smoking status						< 0.001
Never						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.94 (0.89-1.00)	0.92 (0.87-0.97)	0.85 (0.79-0.92)	0.88 (0.78-0.99)	
Ever						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.96 (0.91-1.01)	0.92 (0.87-0.97)	0.96 (0.91-1.01)	1.04 (0.98-1.11)	
Stratified by sex						0.39
Female						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.93 (0.88-0.97)	0.89 (0.85-0.93)	0.93 (0.88-0.98)	1.02 (0.95-1.08)	
Male						
Multivariate-adjusted hazard ratio (95% CI)	1.00	1.00 (0.94, 1.06)	0.97 (0.91, 1.03)	0.96 (0.90, 1.03)	1.05 (0.96, 1.14)	
Stratify by individual cohort (cohort effect)						
NHS						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.94 (0.88, 1.00)	0.90 (0.85, 0.95)	0.92 (0.88, 0.98)	1.02 (0.96, 1.10)	
NHS 2						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.92 (0.81, 1.04)	0.85 (0.75, 0.95)	0.86 (0.73, 1.01)	0.97 (0.78, 1.20)	
HPFS						

	1.00	1.00	0.97	0.96	1.05
Multivariate-adjusted hazard ratio (95% CI)		(0.94, 1.06)	(0.91, 1.03)	(0.90, 1.03)	(0.96, 1.14)

Abbreviations: CI, confidence interval; BMI, body mass index; aHEI, alternative health eating index

* Models were adjusted for age, baseline disease status (hypertension, hypercholesterolemia, diabetes), BMI (< 20.9, 21-22.9, 23-24.9, 25-29.9, 30-34.9, ≥ 35 kg/m^2), physical activity (< 3, 3-8.9, 9-17.9, 18-26.9, ≥ 27 MET-h/wk), overall dietary pattern (AHEI score, in quintiles), total energy intake (quintiles), smoking status (never, former (1 - 4 cigarettes/d), former (5 - 14 cigarettes/d), former (15 - 24 cigarettes/d), former (25 - 34 cigarettes/d), former (35 - 44 cigarettes/d), former (≥ 45 cigarettes/d), former (unknown cigarettes/d), current (1 - 4 cigarettes/d), current (5 - 14 cigarettes/d), current (15 - 24 cigarettes/d), current (25 - 34 cigarettes/d), current (35 - 44 cigarettes/d), current (≥ 45 cigarettes/d), current (unknown cigarettes/d)), sugar-sweetened beverages consumption (quintiles) and alcohol consumption (0, 0-5, 5-10, 10-15, ≥ 15 g/d). We additionally adjusted for menopausal status (yes vs. no), and postmenopausal hormone use (yes vs. no) for women.

* † Likelihood ratio tests were performed.

Supplemental Table 5. The tests of proportional hazard assumption in NHS, NHS 2, and HPFS.

	Categories of total coffee consumption					$P_{interaction}$†
	0	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d	
Stratified by follow-up time in NHS						< 0.001
< 20 years						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.93 (0.85, 1.02)	0.87 (0.80, 0.94)	0.84 (0.76, 0.92)	0.89 (0.79, 0.99)	
≥ 20 years						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.94 (0.87, 1.01)	0.93 (0.87, 0.99)	1.00 (0.92, 1.07)	1.12 (1.02, 1.22)	
Stratified by follow-up time in NHS2						0.49
< 14 years						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.92 (0.74, 1.13)	0.99 (0.81, 1.21)	0.96 (0.74, 1.25)	1.04 (0.72, 1.48)	
≥ 14 years						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.91 (0.78, 1.06)	0.78 (0.67, 0.91)	0.83 (0.68, 1.00)	1.01 (0.78, 1.31)	
Stratified by follow-up time in HPFS						0.53
< 20 years						
Multivariate-adjusted hazard ratio (95% CI)	1.00	1.00 (0.92, 1.09)	0.96 (0.88, 1.04)	0.93 (0.85, 1.03)	1.00 (0.88, 1.14)	
≥ 20 years						
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.98 (0.90, 1.07)	0.95 (0.87, 1.03)	0.96 (0.87, 1.06)	1.03 (0.90, 1.17)	

* Models were adjusted for age, baseline disease status (hypertension, hypercholesterolemia, diabetes), BMI (< 20.9, 21-22.9, 23-24.9, 25-29.9, 30-34.9, ≥ 35 kg/m^2), physical activity (< 3, 3-8.9, 9-17.9, 18-26.9, ≥ 27 MET-h/wk), overall dietary pattern (AHEI score, in quintiles), total energy intake (quintiles), smoking status (never, former (1 - 4 cigarettes/d), former (5 - 14 cigarettes/d), former (15 - 24 cigarettes/d), former (25 - 34 cigarettes/d), former (35 - 44 cigarettes/d), former (≥ 45 cigarettes/d), former (unknown cigarettes/d), current (1 - 4 cigarettes/d), current (5 - 14 cigarettes/d), current (15 - 24 cigarettes/d), current (25 - 34 cigarettes/d), current (35 - 44 cigarettes/d), current (≥ 45 cigarettes/d), current (unknown cigarettes/d)), sugar-sweetened beverages consumption (quintiles) and alcohol consumption (0, 0-5, 5-10, 10-15, ≥ 15 g/d). We additionally adjusted for menopausal status (yes vs. no), and postmenopausal hormone use (yes vs. no) for women.

* † Likelihood ratio tests were performed.

Supplemental Table 6. Sensitivity analyses for the association between coffee consumption and total mortality in the overall population, and pooled multivariate-adjusted hazard ratio was shown.

	Categories of total coffee					$P_{non\text{-}linearity*}$
	0	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d	
Using cumulative coffee consumption, and stopping updating after cancer and diabetes	1.00	0.96 (0.92, 1.00)	0.89 (0.86, 0.92)	0.91 (0.87, 0.95)	0.94 (0.88, 0.99)	< 0.001
Using cumulative coffee consumption, and further stopping updating after hypertension, hypercholesterolemia, and CVD	1.00	0.96 (0.92, 1.00)	0.89 (0.86, 0.92)	0.91 (0.87, 0.95)	0.97 (0.92, 1.03)	< 0.001
Continue updating after diagnosis of chronic disease with 4-year lag	1.00	0.99 (0.96, 1.04)	0.93 (0.88, 0.97)	0.94 (0.89, 0.98)	0.94 (0.87, 1.00)	< 0.001
Continue updating after diagnosis of chronic disease adjusting for time-varying hypercholesterolemia	1.00	1.02 (0.97, 1.06)	0.92 (0.88, 0.96)	0.92 (0.87, 0.96)	0.86 (0.80, 0.92)	0.04
Using baseline exposure with exclusion of hypertension and hypercholesterolemia at baseline	1.00	0.98 (0.93, 1.02)	0.93 (0.88, 0.97)	0.95 (0.91, 1.00)	1.04 (0.98, 1.10)	< 0.001

	Categories of caffeinated coffee					
	0	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d	
Using cumulative coffee consumption, and stopping updating after cancer and diabetes	1.00	0.98 (0.95, 1.01)	0.93 (0.90, 0.96)	0.98 (0.94, 1.03)	0.98 (0.91, 1.04)	< 0.001
Using cumulative coffee consumption, and further stopping updating after hypertension, hypercholesterolemia, and CVD	1.00	0.98 (0.95, 1.01)	0.91 (0.88, 0.94)	0.98 (0.94, 1.03)	1.02 (0.96, 1.09)	< 0.001
Continue updating after diagnosis of chronic disease with 4-year lag	1.00	1.00 (0.97, 1.04)	0.95 (0.92, 0.99)	0.99 (0.95, 1.03)	0.98 (0.91, 1.07)	0.014
Continue updating after diagnosis of chronic disease adjusting for time-varying hypercholesterolemia	1.00	1.00 (0.97, 1.04)	0.94 (0.91, 0.97)	0.95 (0.91, 1.00)	0.87 (0.80, 0.95)	< 0.001
Using baseline exposure with exclusion of hypertension and hypercholesterolemia at baseline	1.00	0.98 (0.95, 1.01)	0.93 (0.90, 0.96)	1.00 (0.96, 1.06)	1.10 (1.03, 1.14)	< 0.001

	Categories of decaffeinated coffee				
	0	≤ 1 cup/d	1.1-3 cups/d	>3 cups/d	

Using cumulative coffee consumption, and stopping updating after cancer and diabetes	1.00	0.89 (0.86, 0.91)	0.87 (0.84, 0.90)	0.94 (0.88, 0.99)	< 0.001
Using cumulative coffee consumption, and further stopping updating after hypertension, hypercholesterolemia, and CVD	1.00	0.86 (0.86, 0.88)	0.84 (0.82, 0.88)	0.95 (0.88, 1.01)	< 0.001
Continue updating after diagnosis of chronic disease with 4-year lag	1.00	0.90 (0.88, 0.92)	0.89 (0.87, 0.93)	0.91 (0.85, 0.98)	< 0.001
Continue updating after diagnosis of chronic disease adjusting for time-varying hypercholesterolemia	1.00	0.90 (0.87, 0.92)	0.88 (0.86, 0.92)	0.90 (0.84, 0.97)	< 0.001
Using baseline exposure with exclusion of hypertension and hypercholesterolemia at baseline	1.00	0.93 (0.89, 0.96)	0.93 (0.89, 0.97)	0.93 (0.86, 1.00)	< 0.001

Models were adjusted for age, baseline disease status (hypertension, hypercholesterolemia, diabetes), BMI (< 20.9, 21-22.9, 23-24.9, 25-29.9, 30-34.9, ≥ 35 kg/m^2), physical activity (< 3, 3-8.9, 9-17.9, 18-26.9, ≥ 27 MET-h/wk), overall dietary pattern (AHEI score, in quintiles), total energy intake (quintiles), smoking status (never, former (1 - 4 cigarettes/d), former (5 - 14 cigarettes/d), former (15 - 24 cigarettes/d), former (25 - 34 cigarettes/d), former (35 - 44 cigarettes/d), former (≥ 45 cigarettes/d), former (unknown cigarettes/d), current (1 - 4 cigarettes/d), current (5 - 14 cigarettes/d), current (15 - 24 cigarettes/d), current (25 - 34 cigarettes/d), current (35 - 44

cigarettes/d), current (≥ 45 cigarettes/d), current (unknown cigarettes/d)), sugar-sweetened beverages consumption (quintiles) and alcohol consumption (0, 0-5, 5-10, 10-15, ≥ 15 g/d). We additionally adjusted for menopausal status (yes vs. no), and postmenopausal hormone use (yes vs. no) for women.

* A likelihood ratio test was performed.

Supplemental Table 7. Sensitivity analyses for the association between coffee consumption and total mortality among never smokers, and pooled multivariate-adjusted hazard ratio was shown.

	Categories of total coffee					$P_{non\text{-}linearity*}$
	0	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d	
Using cumulative coffee consumption, and stopping updating after cancer and diabetes	1.00	0.93 (0.87, 0.99)	0.89 (0.83, 0.95)	0.83 (0.76, 0.90)	0.83 (0.72, 0.96)	0.26
Using cumulative coffee consumption, and further stopping updating after hypertension, hypercholesterolemia, and CVD	1.00	0.93 (0.87, 0.99)	0.89 (0.83, 0.95)	0.84 (0.78, 0.91)	0.85 (0.74, 0.97)	0.87
Continue updating after diagnosis of chronic disease with 4-year lag	1.00	0.96 (0.90, 1.03)	0.93 (0.88, 1.00)	0.80 (0.73, 0.86)	0.85 (0.72, 1.00)	0.25
Continue updating after diagnosis of chronic disease adjusting for time-varying hypercholesterolemia	1.00	0.99 (0.93, 1.06)	0.91 (0.85, 0.96)	0.79 (0.73, 0.85)	0.73 (0.61, 0.87)	0.30
Using baseline exposure with exclusion of hypertension and hypercholesterolemia at baseline	1.00	0.95 (0.87, 1.01)	0.93 (0.88, 1.00)	0.82 (0.75, 0.89)	0.91 (0.79, 1.04)	0.88

	Categories of caffeinated coffee					
	0	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d	
Using cumulative coffee consumption, and stopping updating after cancer and diabetes	1.00	1.00 (0.95, 1.05)	0.91 (0.86, 0.96)	0.87 (0.79, 0.95)	0.80 (0.65, 0.99)	0.34
Using cumulative coffee consumption, and further stopping updating after hypertension, hypercholesterolemia, and CVD	1.00	1.00 (0.93, 1.05)	0.88 (0.83, 0.93)	0.89 (0.82, 0.98)	0.79 (0.66, 0.97)	0.91
Continue updating after diagnosis of chronic disease with 4-year lag	1.00	0.99 (0.94, 1.05)	0.90 (0.85, 0.96)	0.85 (0.76, 0.94)	0.81 (0.63, 1.06)	0.084
Continue updating after diagnosis of chronic disease adjusting for time-varying hypercholesterolemia	1.00	0.99 (0.94, 1.05)	0.89 (0.84, 0.94)	0.80 (0.72, 0.88)	0.77 (0.59, 1.01)	0.07
Using baseline exposure with exclusion of hypertension and hypercholesterolemia at baseline	1.00	0.97 (0.92, 1.02)	0.92 (0.87, 0.99)	0.85 (0.76, 0.94)	0.94 (0.78, 1.12)	0.91

	Categories of decaffeinated coffee				
	0	≤ 1 cup/d	1.1-3 cups/d	>3 cups/d	

Using cumulative coffee consumption, and stopping updating after cancer and diabetes	1.00	0.92 (0.87, 0.96)	0.90 (0.84, 0.95)	0.93 (0.81, 1.08)	0.016
Using cumulative coffee consumption, and further stopping updating after hypertension, hypercholesterolemia, and CVD	1.00	0.90 (0.86, 0.95)	0.89 (0.84, 0.95)	0.97 (0.85, 1.12)	0.008
Continue updating after diagnosis of chronic disease with 4-year lag	1.00	0.95 (0.90, 0.99)	0.97 (0.91, 1.03)	0.91 (0.76, 1.09)	0.22
Continue updating after diagnosis of chronic disease adjusting for time-varying hypercholesterolemia	1.00	0.94 (0.90, 0.98)	0.92 (0.87, 0.98)	0.89 (0.75, 1.06)	0.20
Using baseline exposure with exclusion of hypertension and hypercholesterolemia at baseline	1.00	0.95 (0.90, 0.99)	0.93 (0.87, 0.99)	0.87 (0.74, 1.04)	0.17

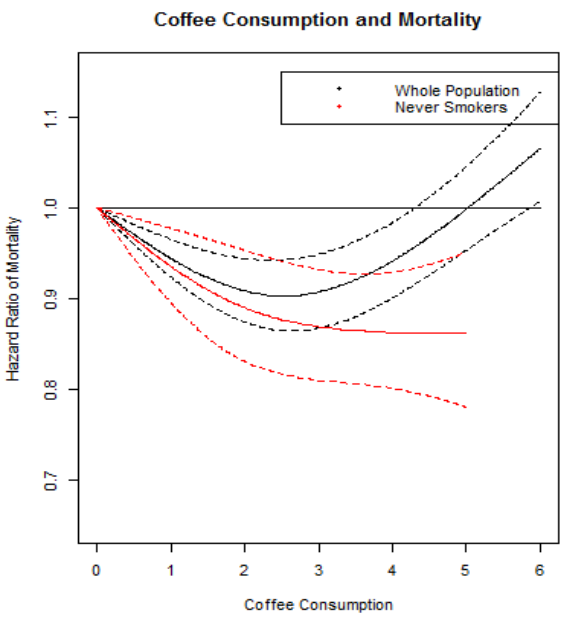
* A likelihood ratio test was performed.

Supplemental Table 8. The association between coffee consumption and risk of total mortality among never smokers by Cox model with inverse probability weighting.

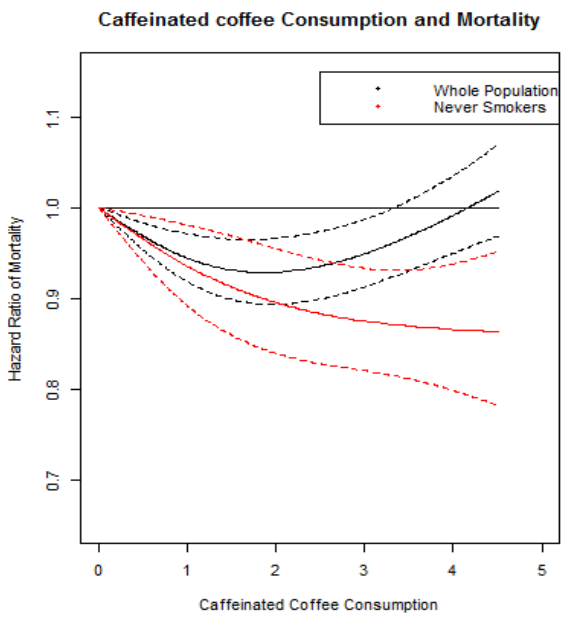
Total coffee					
Intake (cups/d)	0	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.95 (0.90, 1.00)	0.93 (0.87, 0.98)	0.86 (0.80, 0.93)	0.87 (0.77, 0.98)
Caffeinated coffee					
Intake (cups/d)	0	≤ 1 cup/d	1.1-3 cups/d	3.1-5 cups/d	>5 cups/d
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.97 (0.94, 1.02)	0.92 (0.87, 0.96)	0.90 (0.82, 0.98)	0.89 (0.76, 1.05)
Decaffeinated coffee					
Intake (mg/d)	0	≤ 1 cup/d	1.1-3 cups/d	>3 cups/d	
Multivariate-adjusted hazard ratio (95% CI)	1.00	0.95 (0.91, 0.99)	0.93 (0.87, 0.99)	0.89 (0.78, 1.03)	

The model adjusted for age, baseline disease status (hypertension, hypercholesterolemia, diabetes), BMI (< 20.9, 21-22.9, 23-24.9, 25-29.9, 30-34.9, ≥ 35 kg/m^2), physical activity (< 3, 3-8.9, 9-17.9, 18-26.9, ≥ 27 MET-h/wk), overall dietary pattern (AHEI score, in quintiles), total energy intake (quintiles), sugar-sweetened beverages consumption (quintiles) and alcohol consumption (0, 0-5, 5-10, 10-15, ≥ 15 g/d). We additionally adjusted for menopausal status (yes vs. no), and postmenopausal hormone use (yes vs. no) for women. Caffeinated and decaffeinated coffee adjusted for each other.

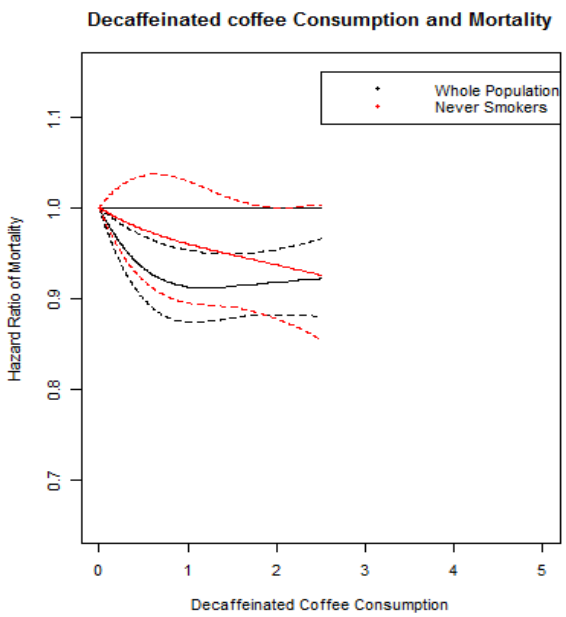
For the weight calculation, the weight for the non-cases was 1, while the weights for the death cases were calculated in a way that the composition of the total mortality among the never smokers was the same as the overall population.



2a.

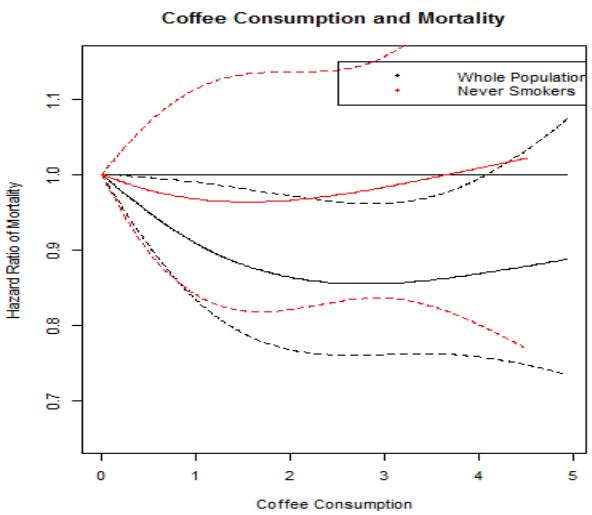


2b.

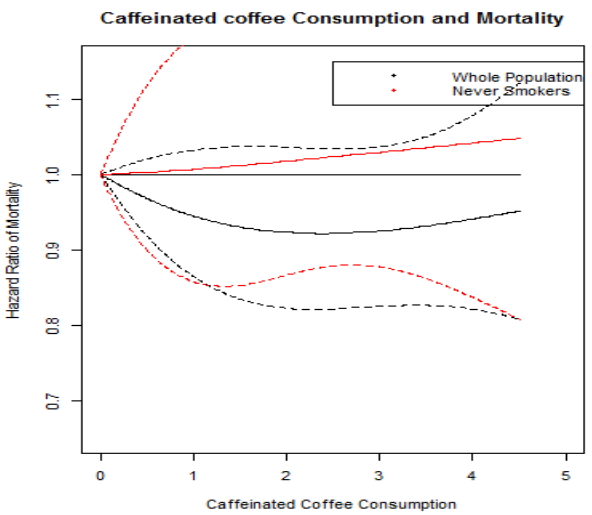


2c.

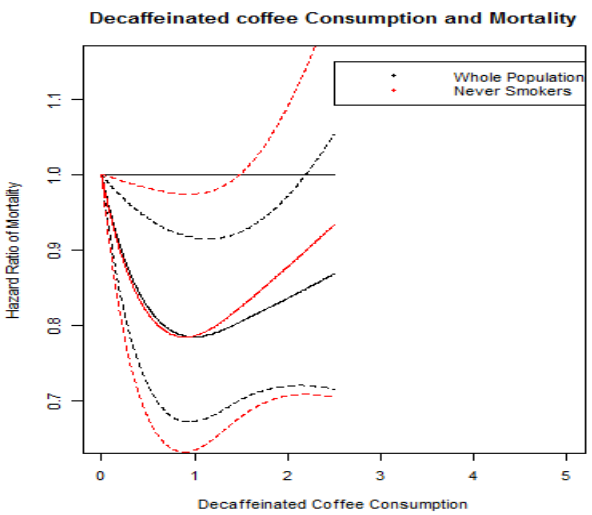
Supplemental Figure 2. Baseline coffee consumption and risk of mortality in the overall population and among never smokers in NHS. 2a. Total coffee consumption and risk of mortality. 2b. Caffeinated coffee consumption and risk of mortality. 2c. Decaffeinated coffee consumption and risk of mortality.



3a.

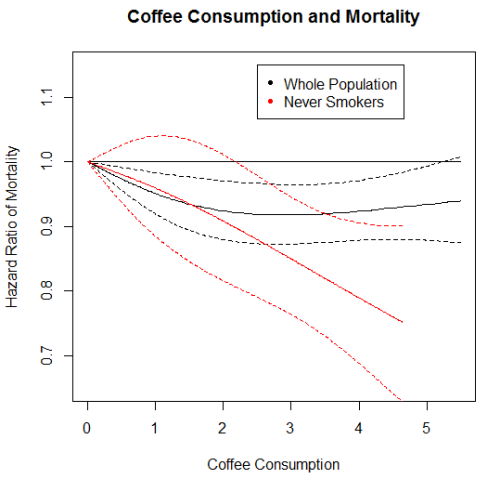


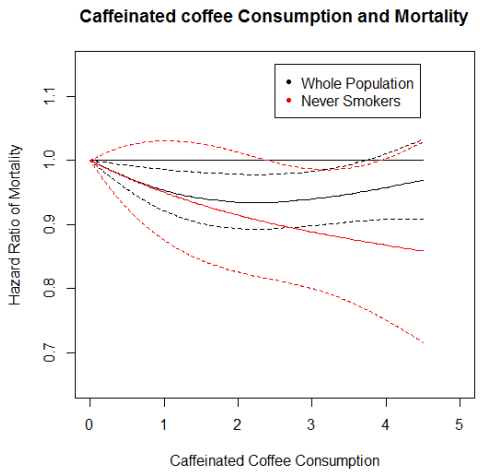
3b.

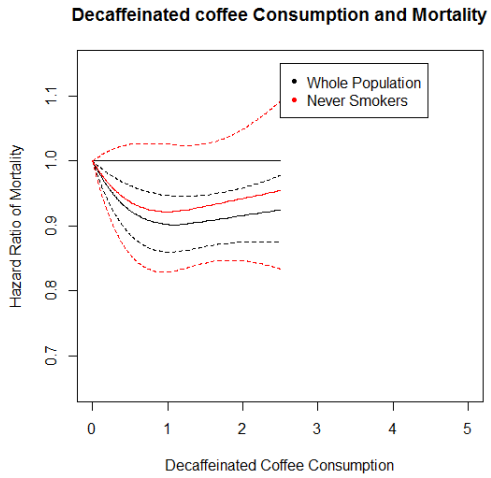


3c.

Supplemental Figure 3. Baseline coffee consumption and risk of mortality in the overall population and among never smokers in NHS 2. 3a. Total coffee consumption and risk of mortality. 3b. Caffeinated coffee consumption and risk of mortality. 3c. Decaffeinated coffee consumption and risk of mortality.

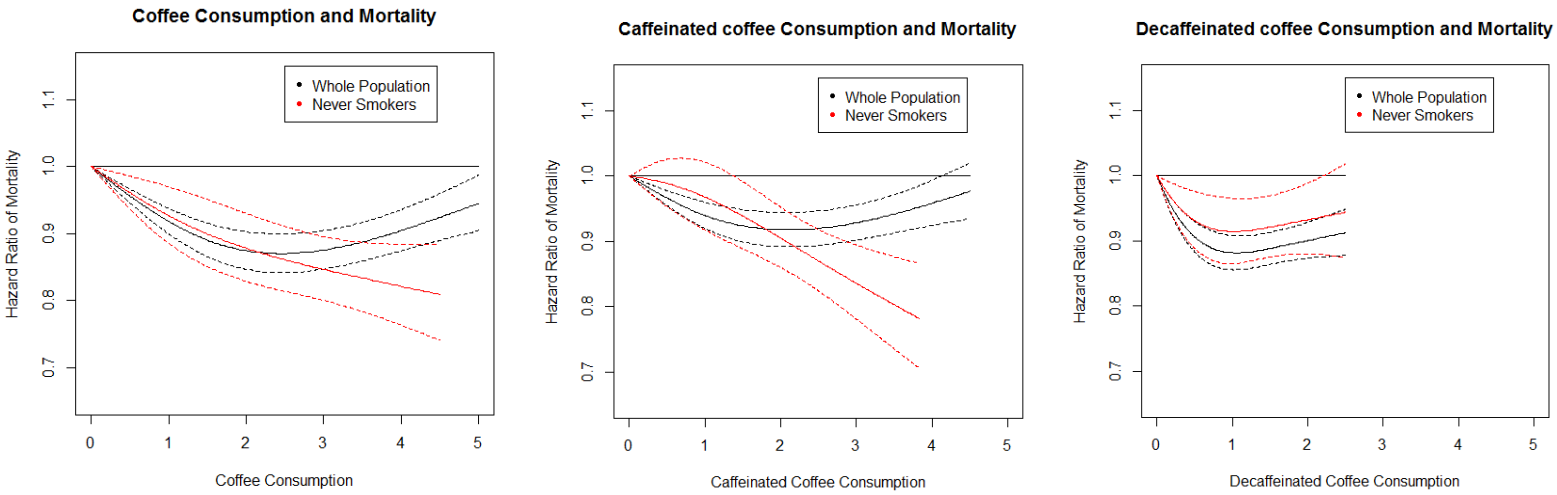






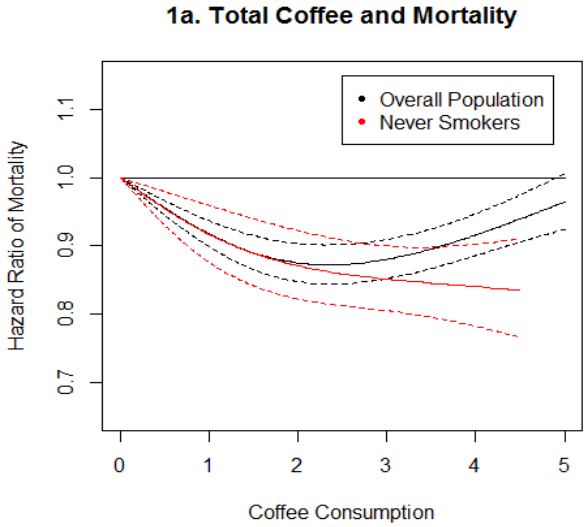
4a. 4b. 4c.

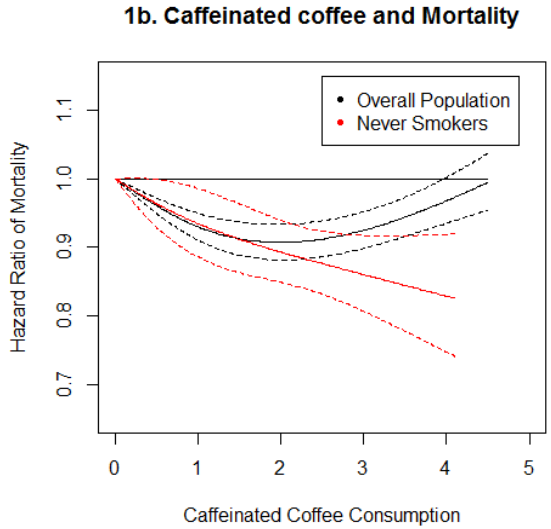
Supplemental Figure 4. Baseline coffee consumption and risk of mortality in the overall population and among never smokers in HPFS. 4a. Total coffee consumption and risk of mortality. 4b. Caffeinated coffee consumption and risk of mortality. 4c. Decaffeinated coffee consumption and risk of mortality.

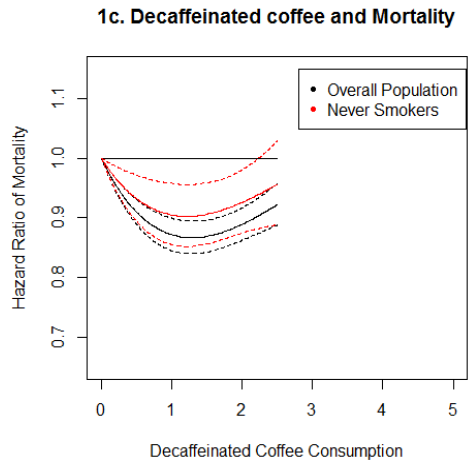


5a. 5b. 5c.

Supplemental Figure 5. Cumulative coffee consumption and stopping updating when cancer and diabetes develop, and risk of mortality in the overall population and among never smokers by pooled across the three cohorts. 5a. Total coffee consumption and risk of mortality. 5b. Caffeinated coffee consumption and risk of mortality. 5c. Decaffeinated coffee consumption and risk of mortality.

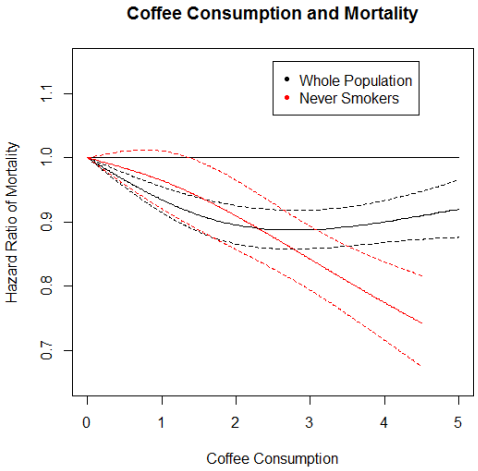


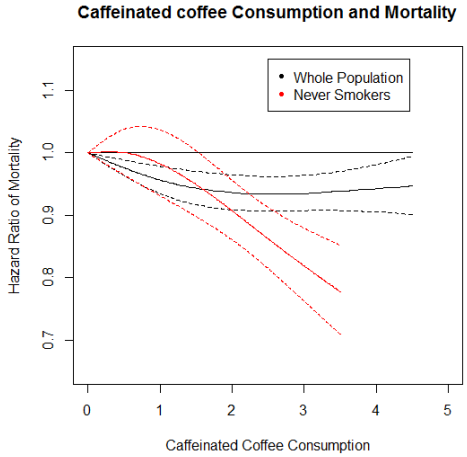


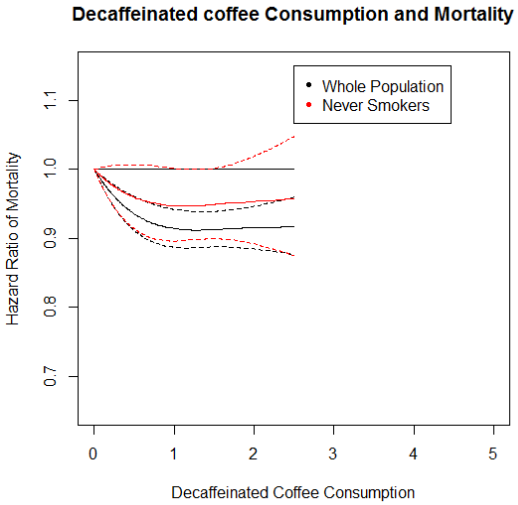


6a. 6b. 6c.

Supplemental Figure 6. Cumulative coffee consumption and further stopping updating when hypertension, hypercholesterolemia develop, and risk of mortality in the overall population and among never smokers by pooled across the three cohorts. 6a. Total coffee consumption and risk of mortality. 6b. Caffeinated coffee consumption and risk of mortality. 6c. Decaffeinated coffee consumption and risk of mortality.

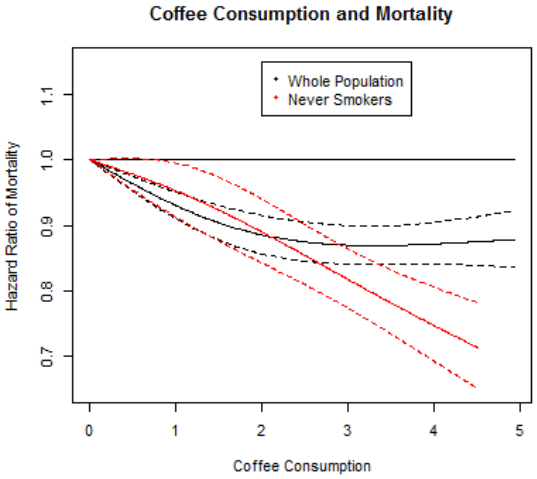


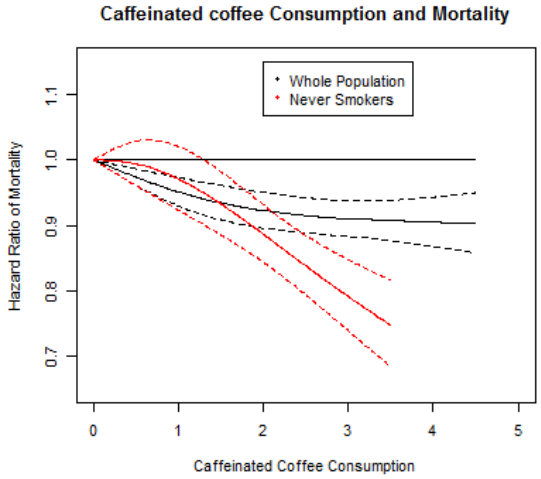


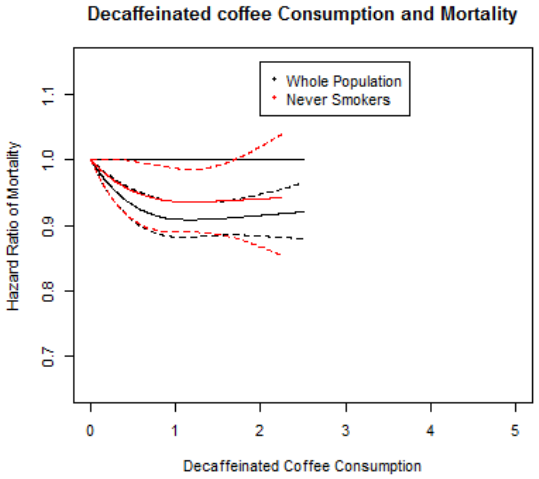


7a. 7b. 7c.

Supplemental Figure 7. Continue updating coffee consumption after diagnosis of chronic disease with 4-year lag and risk of mortality in the overall population and among never smokers pooled across the three cohorts. 7a. Total coffee consumption and risk of mortality. 7b. Caffeinated coffee consumption and risk of mortality. 7c. Decaffeinated coffee consumption and risk of mortality.

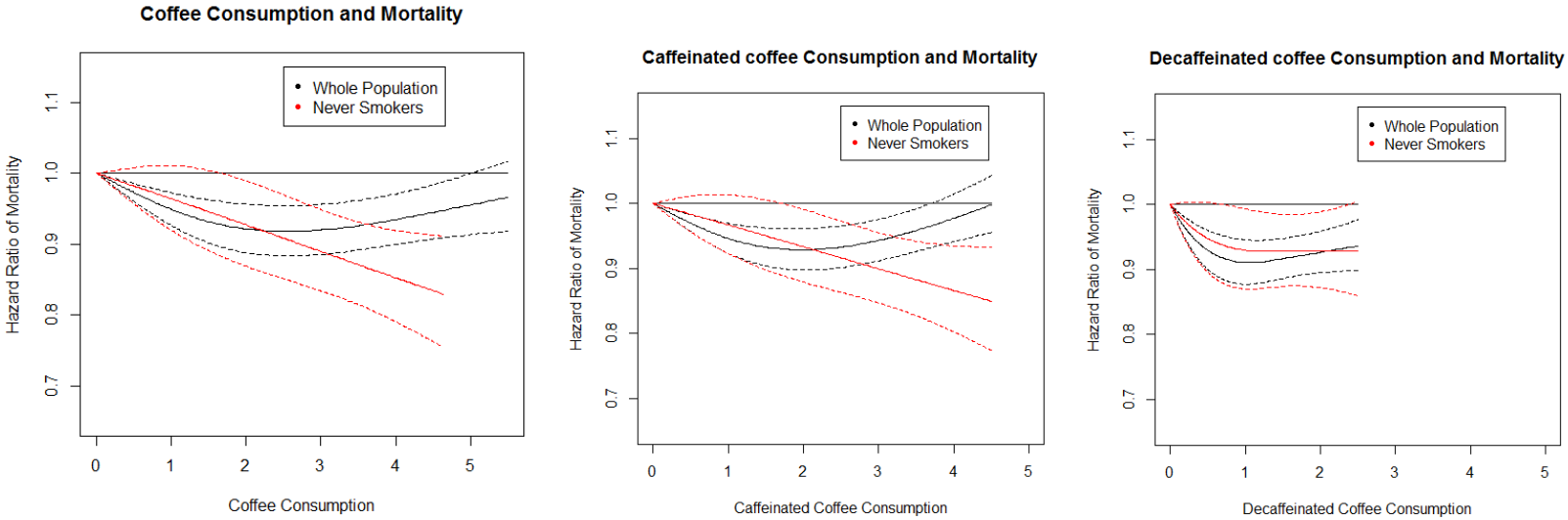






8a. 8b. 8c.

Supplemental Figure 8. Continue updating coffee consumption after diagnosis of chronic disease adjusting for hypercholesterolemia as a time varying covariates and risk of mortality in the overall population and among never smokers pooled across the three cohorts. 8a. Total coffee consumption and risk of mortality. 8b. Caffeinated coffee consumption and risk of mortality. 8c. Decaffeinated coffee consumption and risk of mortality.



9a. 9b. 9c.

Supplemental Figure 9. Baseline coffee consumption and risk of mortality in the overall population and among never smokers further excluding hypertension, hypercholesterolemia, and diabetes cases at baseline, pooled across the three cohorts. 9a. Total coffee consumption and risk of mortality. 9b. Caffeinated coffee consumption and risk of mortality. 9c. Decaffeinated coffee consumption and risk of mortality.