Supplemental table 1 Pooled hazard ratios (95% CI) for incident RA according to cumulative AHEI-2010 individual component score quartile for women aged over 55 years in Nurses' Health Study (NHS, 1984-2012) and Nurses' Health Study II (NHS II, 1991-2013)[*]

	AHEI-2010				
	Q1	Q2	Q3	Q4	*p* for trend [§]
			Red/processed meat		
Median, servings/d	1.40	1.02	0.73	0.41	
Cases/ Person-years	129/395,122	132/402,410	152/416,676	149/440,992	
Age adjusted model 1	1.00	1.11(0.88 to 1.41)	1.20(0.95 to 1.52)	1.12(0.88 to 1.43)	0.28
Multivariable-adjusted model 2 (main)[†]	1.00	1.15(0.90 to 1.47)	1.26(0.98 to 1.62)	1.21(0.93 to 1.58)	0.12
Multivariable-adjusted model 3[‡]	1.00	1.15(0.90 to 1.47)	1.27(0.99 to 1.63)	1.24(0.95 to 1.62)	0.09
			Sugar-sweetened beverages		
Median, servings/d	1.00	0.84	0.57	0.21	
Cases/ Person-years	150/431,302	144/394,943	135/410,923	133/418,032	
Age adjusted model 1	1.00	0.98(0.78 to 1.24)	0.91(0.72 to 1.15)	0.88(0.69 to 1.11)	0.22
Multivariable-adjusted model 2 (main)[†]	1.00	0.96(0.76 to 1.22)	0.89(0.70 to 1.13)	0.85(0.66 to 1.09)	0.17
Multivariable-adjusted model 3[‡]	1.00	0.96(0.76 to 1.21)	0.88(0.70 to 1.12)	0.84(0.66 to 1.08)	0.15
			Trans fat		
Median, % of total energy	2.0	1.6	1.3	1.0	
Cases/ Person-years	115/391,666	143/402,685	162/416,623	142/444,226	
Age adjusted model 1	1.00	1.22(0.96 to 1.55)	1.32(1.04 to 1.67)	1.10(0.86 to 1.41)	0.31
Multivariable-adjusted model 2 (main)[†]	1.00	1.21(0.95 to 1.54)	1.30(1.02 to 1.65)	1.09(0.85 to 1.40)	0.35
Multivariable-adjusted model 3[‡]	1.00	1.21(0.95 to 1.54)	1.30(1.02 to 1.65)	1.10(0.86 to 1.42)	0.31
			Sodium[¶]		
Cases/ Person-years	137/397,542	143/391,092	137/431,282	145/435,284	
Age adjusted model 1	1.00	1.09(0.86 to 1.36)	0.91(0.71 to 1.16)	1.01(0.80 to 1.28)	0.73
Multivariable-adjusted model 2 (main)[†]	1.00	1.12(0.86 to 1.46)	0.93(0.68 to 1.27)	1.11(0.77 to 1.58)	0.81
Multivariable-adjusted model 3[‡]	1.00	1.13(0.87 to 1.47)	0.94(0.68 to 1.29)	1.13(0.79 to 1.62)	0.71
			Nuts		
Median, servings/d	0.09	0.21	0.35	0.41	

Cases/ Person-years	145/403,066	131/410,668	132/411,219	154/430,247	
Age adjusted model 1	1.00	0.86(0.68 to 1.09)	0.88(0.69 to 1.11)	1.02(0.81 to 1.28)	0.63
Multivariable-adjusted model 2 (main)†	1.00	0.84(0.66 to 1.07)	0.85(0.67 to 1.09)	0.98(0.77 to 1.26)	0.82
Multivariable-adjusted model 3‡	1.00	0.84(0.66 to 1.07)	0.85(0.67 to 1.09)	0.99(0.77 to 1.27)	0.76
		Vegetables			
Median, servings/d	1.8	2.7	3.5	4.4	
Cases/ Person-years	122/393,101	141/406,144	151/419,624	148/436,332	
Age adjusted model 1	1.00	1.17(0.92 to 1.49)	1.15(0.91 to 1.46)	1.13(0.89 to 1.44)	0.38
Multivariable-adjusted model 2 (main)†	1.00	1.16(0.91 to 1.47)	1.13(0.88 to 1.45)	1.11(0.85 to 1.44)	0.52
Multivariable-adjusted model 3‡	1.00	1.15(0.90 to 1.47)	1.13(0.88 to 1.45)	1.10(0.85 to 1.43)	0.54
		Fruits			
Median, servings/d	0.6	1.2	1.7	2.5	
Cases/ Person-years	113/379,450	145/402,031	163/424,501	141/449,219	
Age adjusted model 1	1.00	1.15(0.90 to 1.46)	1.34(1.06 to 1.69)	1.03(0.80 to 1.32)	0.72
Multivariable-adjusted model 2 (main)†	1.00	1.18(0.92 to 1.50)	1.38(1.09 to 1.76)	1.07(0.82 to 1.40)	0.56
Multivariable-adjusted model 3‡	1.00	1.17(0.92 to 1.50)	1.38(1.09 to 1.76)	1.07(0.82 to 1.40)	0.55
		Poly-unsaturated fat			
Median, % of total energy	4.6	5.5	6.2	7.2	
Cases/ Person-years	145/418,468	153/409,983	126/411,349	138/415,400	
Age adjusted model 1	1.00	1.06(0.85 to 1.34)	0.84(0.66 to 1.08)	0.97(0.76 to 1.22)	0.45
Multivariable-adjusted model 2 (main)†	1.00	1.05(0.84 to 1.33)	0.83(0.65 to 1.06)	0.94(0.75 to 1.19)	0.34
Multivariable-adjusted model 3‡	1.00	1.05(0.83 to 1.32)	0.83(0.65 to 1.05)	0.94(0.74 to 1.19)	0.33
		Alcohol¶			
Range, drinks/d	0	2.0-2.5	1.5-2.0	0.5-1.5	
Cases/ Person-years	143/459,490	124/356,304	161/423,264	134/416,143	
Age adjusted model 1	1.00	1.18(0.92 to 1.50)	1.21(0.96 to 1.52)	1.05(0.83 to 1.34)	0.94
Multivariable-adjusted model 2 (main)†	1.00	1.13(0.88 to 1.44)	1.13(0.90 to 1.43)	0.95(0.75 to 1.21)	0.45
Multivariable-adjusted model 3‡	1.00	1.12(0.88 to 1.43)	1.13(0.90 to 1.43)	0.96(0.75 to 1.22)	0.50
		Whole grain			

Median, g/d	7.7	15.9	23.2	35.2	
Cases/ Person-years	134/392,219	130/400,942	147/417,116	151/444,923	
Age adjusted model 1	1.00	0.91(0.72 to 1.15)	0.88(0.70 to 1.12)	1.01(0.80 to 1.28)	0.89
Multivariable-adjusted model 2 (main)[†]	1.00	0.91(0.72 to 1.15)	0.90(0.70 to 1.14)	1.04(0.82 to 1.33)	0.68
Multivariable-adjusted model 3[‡]	1.00	0.91(0.72 to 1.15)	0.90(0.70 to 1.14)	1.05(0.82 to 1.34)	0.62
Long-chain (n-3) fats (EPA+DHA)					
Median, mg/d	80.0	142.5	193.3	247.5	
Cases/ Person-years	117/395,020	135/407,943	143/414,910	167/437,327	
Age adjusted model 1	1.00	1.08(0.84 to 1.38)	1.20(0.95 to 1.53)	1.22(0.96 to 1.54)	0.07
Multivariable-adjusted model 2 (main)[†]	1.00	1.06(0.83 to 1.36)	1.18(0.93 to 1.50)	1.18(0.93 to 1.51)	0.13
Multivariable-adjusted model 3[‡]	1.00	1.06(0.83 to 1.36)	1.17(0.92 to 1.50)	1.18(0.93 to 1.51)	0.13

Hazard ratios were calculated by using time-varying Cox proportional hazards models

[*] The AHEI-2010 score is reversely coded for red meat, sugar-sweetened beverages, Trans fat and sodium: higher score means lower intake.

The AHEI-2010 score is directly coded for nuts, vegetables, fruits, poly-unsaturated fat, alcohol, whole grain and long-chain (n-3) fats: higher score means higher intake

[†]Adjustment for age, cohort, smoking (never, past, current 1-14 cigarettes/d, current ≥15 cigarettes/d), age at menarche (<12, 12, >12 years), parity and breast feeding (nulliparous, parous/no breastfeeding, parous/1–12 months breastfeeding, parous/ >12 months breastfeeding), hormone use (pre-menopausal, post-menopausal with never use, current use and past use) and total energy (quintiles)

[‡]Additional adjustment for BMI (<20, 20-22.9, 23-24.9, 25-29.9, ≥30kg/m2)

[§]*p* for trend was derived from tests of linear trend across categories of AHEI scores by treating the median value of each category as a continuous variable

[¶] Sodium score was derived according to an empirical quintile cutoff in the repeated dietary assessment, so the unit was not available

Alcohol score was derived using pre-specified cutoff, so only range was available