Supplementary Table S1. Age-adjusted characteristics of participants according to baseline 4-year changes in artificially sweetened beverage (ASB) consumption.

	Changes in ASB consumption*				
	Decrease		No change or relatively stable	Increase	
	>0.50 serving/d	>0.07 to 0.50 serving/d	±0.07 serving/d	>0.07 to 0.50 serving/d	>0.50 serving/d
NHS					
Participants, n	11,407	10,234	28,068	12,237	14,585
Initial ASB intake, serving/d	2.37 (1.84)	0.63 (0.73)	0.30 (0.91)	0.59 (0.99)	0.82 (1.14)
Change in ASB intake, serving/d	-1.49 (1.01)	-0.21 (0.12)	0.00 (0.00)	0.20 (0.11)	1.48 (0.99)
Age, y[†]	58.0 (7.7)	59.0 (7.9)	59.2 (8.0)	57.6 (7.6)	55.8 (7.4)
Initial BMI, kg/m^2	26.4 (5.0)	25.5 (4.6)	24.5 (4.5)	25.3 (4.5)	26.1 (4.8)
Weight change, kg	1.4 (6.2)	1.2 (5.4)	1.1 (4.7)	1.2 (5.0)	1.2 (5.8)
Current smoker, %	16.2	14.5	23.0	15.2	18.0
Hypertension, %	35.3	32.6	28.7	31.6	34.1
High cholesterol, %	44.2	41.8	38.1	41.3	42.4
Family history of diabetes, %	28.5	27.2	26.3	28.3	28.6
Fasting blood glucose screening, %[‡]	58.4	57.7	53.8	57.6	58.3
Initial physical activity, MET-h/w	15.5 (21.5)	15.7 (20.9)	14.3 (21.4)	14.4 (20.6)	14.6 (20.5)
Change in physical activity, MET-h/w	1.5 (22.9)	1.4 (22.3)	1.7 (22.0)	2.0 (23.4)	2.5 (22.9)
Initial total energy intake, kcal/d	1,757 (538)	1,753 (526)	1,759 (529)	1,757 (517)	1,758 (529)
Change in total energy intake, kcal/d	-39 (473)	-39 (445)	-17 (454)	-3 (450)	14 (475)
Initial AHEI score	53.8 (10.9)	53.9 (10.8)	51.5 (11.6)	53.0 (10.9)	52.7 (11.1)
Change in AHEI score	0.4 (9.1)	0.5 (8.6)	0.9 (8.5)	1.0 (8.6)	1.2 (9.0)
Initial sugary beverage intake, serving/d	0.67 (0.82)	0.73 (0.81)	0.96 (1.11)	0.73 (0.80)	0.81 (0.96)
Change in sugary beverage intake, serving/d	0.11 (0.93)	0.03 (0.79)	0.03 (0.93)	-0.02 (0.75)	-0.15 (0.93)
Initial SSB intake, serving/d	0.25 (0.62)	0.28 (0.63)	0.49 (0.96)	0.26 (0.60)	0.36 (0.81)
Change in SSB intake, serving/d	0.12 (0.78)	0.05 (0.64)	0.06 (0.79)	0.01 (0.58)	-0.11 (0.78)
Initial fruit juice intake, serving/d	0.43 (0.47)	0.45 (0.46)	0.48 (0.52)	0.47 (0.47)	0.45 (0.47)
Change in fruit juice intake, serving/d	-0.01 (0.43)	-0.02 (0.41)	-0.02 (0.44)	-0.03 (0.41)	-0.04 (0.43)
NHS II					
Participants, n	19,169	11,515	26,093	9,298	15,522
Initial ASB intake, serving/d	3.29 (2.56)	1.09 (1.38)	0.47 (1.34)	0.98 (1.41)	1.53 (1.76)
Change in ASB intake, serving/d	-1.91 (1.43)	-0.22 (0.12)	0.00 (0.00)	0.22 (0.12)	1.86 (1.33)
Age, y[†]	41.0 (5.4)	41.2 (5.3)	41.4 (5.5)	41.2 (5.4)	40.7 (5.4)
Initial BMI, kg/m^2	25.5 (5.6)	24.5 (5.1)	23.7 (5.0)	24.4 (4.9)	25.3 (5.5)
Weight change, kg	3.7 (7.2)	3.1 (6.1)	2.6 (5.6)	2.8 (6.0)	3.1 (7.1)
Current smoker, %	11.2	9.0	13.4	9.2	11.0
Hypertension, %	10.9	8.4	7.3	7.7	9.7
High cholesterol, %	22.7	19.3	18.8	19.7	21.2
Family history of diabetes, %	36.4	34.6	32.2	33.9	36.4
Fasting blood glucose screening, %[‡]	48.4	47.4	45.0	47.6	47.2

Initial physical activity, MET-h/w	26.0 (37.2)	23.7 (33.6)	22.4 (33.8)	23.8 (33.3)	23.9 (33.9)
Change in physical activity, MET-h/w	-3.8 (35.0)	-2.5 (32.8)	-2.6 (30.9)	-3.0 (32.2)	-3.0 (32.5)
Initial total energy intake, kcal/d	1,780 (551)	1,764 (531)	1,827 (555)	1,756 (532)	1,764 (544)
Change in total energy intake, kcal/d	7 (517)	13 (480)	16 (495)	45 (477)	49 (507)
Initial AHEI score	50.3 (10.8)	50.4 (10.9)	47.5 (11.6)	49.9 (10.7)	49.1 (11.0)
Change in AHEI score	0.4 (9.6)	0.8 (9.0)	1.4 (8.6)	1.0 (8.9)	0.9 (9.5)
Initial sugary beverage intake, serving/d	0.77 (1.05)	0.92 (1.14)	1.55 (1.69)	0.94 (1.17)	0.99 (1.32)
Change in sugary beverage intake, serving/d	0.17 (1.16)	-0.01 (1.00)	-0.09 (1.30)	-0.10 (0.98)	-0.28 (1.20)
Initial SSB intake, serving/d	0.41 (0.89)	0.51 (0.98)	1.08 (1.56)	0.52 (1.01)	0.62 (1.19)
Change in SSB intake, serving/d	0.16 (1.03)	0.00 (0.86)	-0.07 (1.16)	-0.07 (0.84)	-0.24 (1.08)
Initial fruit juice intake, serving/d	0.36 (0.44)	0.41 (0.46)	0.47 (0.56)	0.42 (0.48)	0.37 (0.45)
Change in fruit juice intake, serving/d	0.01 (0.42)	-0.01 (0.42)	-0.02 (0.47)	-0.03 (0.42)	-0.03 (0.40)
HPFS					
Participants, n	4,522	5,014	13,945	5,234	5,509
Initial ASB intake, serving/d	2.54 (2.08)	0.70 (0.92)	0.17 (0.69)	0.45 (0.82)	0.84 (1.18)
Change in ASB intake, serving/d	-1.48 (1.02)	-0.21 (0.11)	0.00 (0.00)	0.22 (0.12)	1.45 (0.98)
Age, y[†]	56.4 (9.2)	58.0 (9.7)	58.3 (9.8)	58.0 (9.7)	55.5 (9.2)
Initial BMI, kg/m^2	26.3 (3.3)	25.5 (3.2)	24.8 (2.9)	25.3 (2.9)	26.2 (3.4)
Weight change, kg	0.9 (4.8)	0.7 (4.1)	0.6 (3.6)	0.6 (4.0)	0.6 (4.9)
Current smoker, %	6.9	6.8	10.3	7.2	7.4
Hypertension, %	27.7	23.4	20.2	23.3	27.8
High cholesterol, %	33.5	30.6	25.6	30.8	30.6
Family history of diabetes, %	27.9	26.2	24.2	26.4	27.4
Fasting blood glucose screening, %[‡]	74.0	72.9	69.9	73.0	73.5
Initial physical activity, MET-h/w	21.7 (30.2)	20.8 (27.1)	18.8 (24.4)	19.7 (22.6)	20.6 (30.7)
Change in physical activity, MET-h/w	1.0 (28.5)	2.0 (25.7)	1.6 (22.9)	2.5 (21.8)	2.1 (29.0)
Initial total energy intake, kcal/d	1,985 (632)	1,991 (613)	2,046 (635)	1,964 (608)	1,968 (603)
Change in total energy intake, kcal/d	-105 (543)	-93 (493)	-77 (520)	-40 (497)	-29 (538)
Initial AHEI score	54.2 (10.9)	54.4 (11.1)	51.7 (12.0)	54.2 (11.2)	53.4 (11.5)
Change in AHEI score	1.0 (9.3)	0.9 (8.9)	1.1 (8.6)	1.0 (8.7)	1.1 (9.1)
Initial sugary beverage intake, serving/d	0.85 (0.92)	0.94 (0.95)	1.16 (1.21)	0.92 (0.90)	1.03 (1.10)
Change in sugary beverage intake, serving/d	0.04 (0.96)	-0.02 (0.83)	-0.03 (0.95)	-0.05 (0.79)	-0.21 (1.02)
Initial SSB intake, serving/d	0.38 (0.70)	0.44 (0.75)	0.66 (1.06)	0.43 (0.72)	0.55 (0.94)
Change in SSB intake, serving/d	0.06 (0.79)	-0.01 (0.66)	-0.02 (0.79)	-0.03 (0.61)	-0.20 (0.86)
Initial fruit juice intake, serving/d	0.47 (0.54)	0.50 (0.50)	0.50 (0.55)	0.50 (0.50)	0.48 (0.51)
Change in fruit juice intake, serving/d	-0.01 (0.47)	-0.01 (0.44)	-0.01 (0.46)	-0.01 (0.44)	-0.01 (0.47)

* One beverage serving is 8 oz. Values are means (SD) or percentages and are standardized to the age distribution of the study population.

[†] Value is not age adjusted.

[‡] Values refer to the first assessment of fasting blood glucose examination (1998 for the NHS, 2001 for the NHS II, and 2000 for the HPFS).

SUPPLEMENTARY DATA

Supplementary Table S2. HRs (95% CIs) for incident type 2 diabetes according to categories of updated 4-year changes in beverage consumption.

	Changes in beverage consumption*					P values for trend
	Decrease		No change or relatively stable	Increase		
	>0.50 serving/d	>0.07 to 0.50 serving/d	±0.07 serving/d	>0.07 to 0.50 serving/d	>0.50 serving/d	
Total Sugary Beverages						
NHS						
Median change	-0.90	-0.23	0.00	+0.23	+0.91	
Cases/person-years	1,198/208,337	1,326/274,618	1,180/260,027	1,188/246,676	1,101/189,184	
Model 1	1.06 (0.93, 1.21)	0.95 (0.90, 1.01)	1.00	1.11 (0.99, 1.24)	1.40 (1.17, 1.68)	0.45
Model 2	0.96 (0.84, 1.10)	0.98 (0.93, 1.04)	1.00	1.06 (0.95, 1.19)	1.18 (0.98, 1.44)	0.003
NHS II						
Median change	-1.03	-0.21	0.00	+0.21	+1.04	
Cases/person-years	845/238,311	795/262,483	704/232,058	638/198,012	631/168,725	
Model 1	1.17 (0.99, 1.38)	0.97 (0.90, 1.04)	1.00	1.23 (1.06, 1.42)	1.65 (1.30, 2.09)	0.01
Model 2	1.00 (0.83, 1.19)	1.02 (0.95, 1.11)	1.00	1.09 (0.94, 1.27)	1.10 (0.84, 1.42)	<0.0001
HPFS						
Median change	-0.94	-0.23	0.00	+0.23	+0.92	
Cases/person-years	462/97,140	546/116,143	381/89,350	478/112,010	433/90,139	
Model 1	0.93 (0.76, 1.15)	0.93 (0.85, 1.02)	1.00	1.04 (0.87, 1.25)	1.32 (0.98, 1.79)	0.45
Model 2	0.89 (0.72, 1.10)	0.95 (0.86, 1.04)	1.00	1.03 (0.86, 1.24)	1.21 (0.89, 1.65)	0.70
Pooled						
Model 1	1.07 (0.97, 1.17)	0.95 (0.91, 0.99)	1.00	1.13 (1.04, 1.22)	1.46 (1.28, 1.66)	0.09
Model 2	0.96 (0.87, 1.05)	0.99 (0.95, 1.03)	1.00	1.06 (0.98, 1.16)	1.16 (1.01, 1.34)	<0.0001
Sugar sweetened beverages						
NHS						
Median change	-0.87	-0.11	0.00	+0.11	+0.87	
Cases/person-years	830/134,354	1,134/220,560	2,237/491,601	999/202,147	793/130,179	
Model 1	1.28 (1.18, 1.38)	1.09 (1.01, 1.17)	1.00	1.08 (1.00, 1.16)	1.29 (1.19, 1.40)	1.00
Model 2	1.02 (0.92, 1.14)	1.03 (0.94, 1.13)	1.00	1.04 (0.96, 1.12)	1.10 (1.00, 1.20)	0.12
NHS II						
Median change	-1.08	-0.11	0.00	+0.11	+1.08	
Cases/person-years	677/177,535	689/227,819	1,182/381,185	523/175,561	542/137,488	
Model 1	1.36 (1.24, 1.50)	1.03 (0.94, 1.13)	1.00	1.11 (1.00, 1.24)	1.59 (1.43, 1.76)	0.15
Model 2	0.92 (0.81, 1.06)	0.99 (0.87, 1.11)	1.00	1.04 (0.93, 1.16)	1.13 (1.00, 1.27)	0.001
HPFS						
Median change	-0.87	-0.21	0.00	+0.12	+0.87	
Cases/person-years	356/67,827	468/108,276	771/170,304	432/98,913	273/59,461	

Model 1	1.22 (1.07, 1.38)	0.99 (0.88, 1.11)	1.00	0.98 (0.87, 1.11)	1.06 (0.92, 1.22)	0.06
Model 2	1.15 (0.97, 1.37)	1.03 (0.90, 1.19)	1.00	0.99 (0.88, 1.12)	1.03 (0.89, 1.20)	0.29
Pooled						
Model 1	1.29 (1.22, 1.37)	1.05 (1.00, 1.10)	1.00	1.07 (1.01, 1.12)	1.33 (1.25, 1.41)[†]	0.86
Model 2	1.01 (0.94, 1.09)	1.02 (0.95, 1.09)	1.00	1.03 (0.97, 1.09)	1.09 (1.03, 1.17)	0.006[†]
100% Fruit juices						
NHS						
Median change	-0.68	-0.23	0.00	+0.23	+0.67	
Cases/person-years	606/107,652	1,507/294,154	1,987/423,210	1,342/258,246	551/95,579	
Model 1	1.14 (1.04, 1.24)	1.07 (1.00, 1.15)	1.00	1.10 (1.03, 1.18)	1.19 (1.08, 1.30)	0.45
Model 2	1.07 (0.96, 1.18)	1.02 (0.94, 1.09)	1.00	1.07 (0.99, 1.15)	1.17 (1.06, 1.28)	0.04
NHS II						
Median change	-0.71	-0.18	0.00	+0.18	+0.71	
Cases/person-years	285/93,654	943/302,122	1,399/418,128	790/222,223	196/63,462	
Model 1	0.98 (0.86, 1.11)	0.98 (0.91, 1.07)	1.00	1.17 (1.07, 1.27)	1.08 (0.93, 1.25)	0.02
Model 2	1.00 (0.86, 1.18)	0.97 (0.88, 1.07)	1.00	1.14 (1.04, 1.25)	1.07 (0.92, 1.25)	0.06
HPFS						
Median change	-0.73	-0.22	0.00	+0.23	+0.72	
Cases/person-years	197/45,893	606/124,733	695/162,549	561/124,999	241/46,607	
Model 1	1.00 (0.85, 1.17)	1.15 (1.03, 1.28)	1.00	1.04 (0.93, 1.16)	1.17 (1.01, 1.35)	0.48
Model 2	1.02 (0.85, 1.23)	1.15 (1.02, 1.29)	1.00	1.06 (0.95, 1.19)	1.18 (1.02, 1.37)	0.35
Pooled						
Model 1	1.06 (1.00, 1.14)	1.06 (1.01, 1.11)	1.00	1.11 (1.05, 1.16)	1.16 (1.08, 1.24)	0.04
Model 2	1.04 (0.96, 1.13)	1.03 (0.97, 1.08)	1.00	1.09 (1.03, 1.14)	1.15 (1.07, 1.23)	0.004
Artificially sweetened beverages						
NHS						
Median change	-1.08	-0.21	0.00	+0.21	+1.08	
Cases/person-years	1,222/194,664	948/187,510	2,212/502,117	717/147,295	894/147,255	
Model 1	1.21 (1.05, 1.40)	0.95 (0.90, 1.01)	1.00	1.20 (1.08, 1.34)	1.68 (1.41, 2.01)	0.91
Model 2	1.10 (0.94, 1.28)	1.04 (0.98, 1.11)	1.00	0.97 (0.86, 1.09)	1.02 (0.83, 1.25)	0.007
NHS II						
Median change	-1.29	-0.21	0.00	+0.21	+1.40	
Cases/person-years	979/240,097	457/156,402	1,078/394,620	355/121,863	744/186,606	
Model 1	1.27 (1.05, 1.54)	0.92 (0.85, 0.99)	1.00	1.19 (1.02, 1.38)	1.96 (1.56, 2.46)	0.21
Model 2	1.05 (0.86, 1.28)	0.96 (0.88, 1.04)	1.00	1.11 (0.94, 1.30)	1.35 (1.04, 1.76)	0.48
HPFS						
Median change	-1.08	-0.21	0.00	+0.21	+1.08	
Cases/person-years	410/71,648	350/78,793	846/221,946	307/67,712	387/64,683	
Model 1	1.11 (0.88, 1.41)	0.88 (0.81, 0.97)	1.00	1.35 (1.14, 1.61)	2.29 (1.72, 3.04)	0.29
Model 2	0.93 (0.72, 1.21)	0.96 (0.86, 1.07)	1.00	1.11 (0.92, 1.34)	1.38 (0.98, 1.93)	0.008
Pooled						
Model 1	1.21 (1.09, 1.34)	0.93 (0.89, 0.97)	1.00	1.23 (1.13, 1.33)	1.87 (1.65, 2.12)	0.60

Model 2	1.05 (0.94, 1.17)	1.00 (0.95, 1.04)	1.00	1.03 (0.95, 1.13)	1.18 (1.02, 1.36)	0.001

* One beverage serving is 8 oz. Results of the 3 cohorts were pooled using an inverse variance–weighted, fixed-effect meta-analysis. Models were adjusted as follow. **Model 1**: adjusted for age, and stratified by calendar year in 4-y intervals. **Model 2**: Model 1 + race (white, non-white), family history of diabetes (yes/no), physical examination during the 4-year cycle (yes/no), menopausal status and postmenopausal hormone use (premenopausal, postmenopausal + current use, postmenopausal + past use, postmenopausal + never use, missing indicator) and oral contraceptive use (never, current, past, missing indicator), smoking status (never to never, never to current, past to past, past to current, current to past, current to current, missing indicator), initial and change in physical activity level (MET-h/w, quintiles), initial and change in alcohol consumption (g/d, quintiles), initial BMI (<21.0, 21.0-24.9, 25.0-29.9, 30.0-31.9, $\geq$32.0 kg/m^2), initial calorie intake (quintiles), initial and change in AHEI score (calculated without the alcohol and sugary beverage components, quintiles), initial and change in intakes of water, coffee, tea, and milk (serving/d, quintiles or tertiles), initial intakes of sugary beverages, or SSBs and fruit juices, and ASBs (serving/d; depending on the model, quintiles or tertiles), changes in ASBs, fruit juices, SSBs, or sugary beverages (serving/d; depending on the model, quintiles).
[†] P-heterogeneity < 0.05.

Supplementary Table S3. Sensitivity analyses of changes in beverage consumption and incident type 2 diabetes.

	Changes in beverage consumption*					*P* values for trend
	Decrease		No change or relatively stable	Increase		
	>0.50 serving/d	>0.07 to 0.50 serving/d	±0.07 serving/d	>0.07 to 0.50 serving/d	>0.50 serving/d	
Total Sugary Beverages						
Model 2 + change in calorie intake	0.95 (0.86, 1.05)	0.98 (0.94, 1.02)	1.00	1.07 (0.99, 1.16)	1.16 (1.01, 1.34)	0.006
Model 2 + change in body weight	0.95 (0.87, 1.05)	0.98 (0.94, 1.03)	1.00	1.06 (0.97, 1.15)	1.16 (1.01, 1.33)	0.0003
Model 2 + change in calorie intake and change in body weight	0.95 (0.86, 1.04)	0.97 (0.93, 1.02)	1.00	1.06 (0.98, 1.15)	1.16 (1.01, 1.33)	0.04
4-year lag[†]	1.02 (0.94, 1.10)	1.03 (0.96, 1.10)	1.00	1.06 (0.99, 1.13)	1.14 (1.06, 1.22)	0.0001
8-year change[‡]	1.00 (0.92, 1.08)	0.98 (0.91, 1.05)	1.00	0.99 (0.93, 1.07)[**]	1.14 (1.06, 1.22)	<0.0001
Symptomatic diabetes[§]	0.95 (0.82, 1.10)	0.98 (0.92, 1.04)	1.00	1.12 (0.99, 1.27)	1.27 (1.03, 1.57)	<0.0001
Sugar sweetened beverages						
Model 2 + change in calorie intake	1.03 (0.95, 1.11)	1.02 (0.96, 1.09)	1.00	1.02 (0.96, 1.08)	1.06 (1.00, 1.14)	0.15[**]
Model 2 + change in body weight	1.02 (0.95, 1.10)	1.02 (0.96, 1.09)	1.00	1.02 (0.96, 1.07)	1.08 (1.01, 1.15)	0.06
Model 2 + change in calorie intake and change in body weight	1.04 (0.96, 1.12)	1.03 (0.97, 1.10)	1.00	1.01 (0.95, 1.07)	1.05 (0.98, 1.12)	0.41
4-year lag[†]	1.02 (0.94, 1.11)	1.06 (0.99, 1.14)[**]	1.00	1.06 (1.00, 1.13)[**]	1.12 (1.05, 1.20)[**]	0.002[**]
8-year change[‡]	1.05 (0.97, 1.14)	1.04 (0.97, 1.12)	1.00	1.05 (0.98, 1.12)	1.15 (1.07, 1.23)	0.002
Symptomatic diabetes[§]	1.11 (0.99, 1.25)	1.10 (0.99, 1.21)	1.00	1.13 (1.04, 1.24)	1.25 (1.14, 1.38)	0.002
100% Fruit juices						
Model 2 + change in calorie intake	1.06 (0.97, 1.14)	1.03 (0.98, 1.09)	1.00	1.08 (1.02, 1.13)	1.12 (1.04, 1.20)	0.06
Model 2 + change in body weight	1.05 (0.97, 1.13)	1.03 (0.98, 1.09)	1.00	1.08 (1.03, 1.13)	1.14 (1.06, 1.22)	0.01
Model 2 + change in calorie intake and change in body weight	1.06 (0.98, 1.15)	1.04 (0.98, 1.09)	1.00	1.07 (1.02, 1.12)	1.11 (1.04, 1.20)	0.11
4-year lag[†]	1.07 (0.98, 1.17)	1.03 (0.97, 1.09)	1.00	1.05 (0.99, 1.11)	1.14 (1.05, 1.23)	0.09
8-year change[‡]	1.02 (0.93, 1.11)	1.02 (0.96, 1.08)	1.00	1.06 (1.00, 1.12)[**]	1.09 (1.01, 1.18)	0.04
Symptomatic diabetes[§]	1.10 (0.98, 1.24)	1.14 (1.05, 1.24)	1.00	1.20 (1.11, 1.30)	1.24 (1.11, 1.38)	0.01
Artificially sweetened						

beverages						
Model 2 + change in calorie intake	1.05 (0.94, 1.17)	1.00 (0.95, 1.04)	1.00	1.03 (0.95, 1.13)	1.18 (1.02, 1.36)	0.003
Model 2 + change in body weight	1.05 (0.94, 1.17)	1.00 (0.95, 1.04)	1.00	1.04 (0.95, 1.13)	1.18 (1.02, 1.37)	0.002
Model 2 + change in calorie intake and change in body weight	1.05 (0.94, 1.17)	0.99 (0.95, 1.04)	1.00	1.04 (0.95, 1.13)	1.18 (1.02, 1.37)	0.006
4-year lag[†]	1.02 (0.95, 1.10)	1.05 (0.97, 1.13)	1.00	1.05 (0.97, 1.13)	1.20 (1.12, 1.28)	<0.0001
8-year change[‡]	1.00 (0.93, 1.08)	1.01 (0.93, 1.10)	1.00	1.12 (1.04, 1.20)	1.19 (1.11, 1.27)	<0.0001[**]
Symptomatic diabetes[§]	1.11 (0.94, 1.31)	1.01 (0.95, 1.08)	1.00	0.98 (0.86, 1.12)	1.17 (0.94, 1.47)	0.03

* All analyses are based on model 2 as defined in Table 2.

[†] We added a 4-year lag after changes in beverage consumption to estimate the 4-year risk of type 2 diabetes. For instance, changes in beverage consumption from 1986 to 1990 were used to evaluate the risk of type 2 diabetes between 1994 and 1998, and so forth. This analysis included 9,760 incident cases of type 2 diabetes reported during 2,081,528 person-years.

[‡] We used changes in beverage consumption updated every 8 years as a time-varying exposure to estimate the risk of type 2 diabetes in the subsequent 8-year period. For instance, changes in beverage consumption from 1986 to 1994 were used to evaluate the risk of type 2 diabetes between 1994 and 2002. This analysis included 9,443 incident cases of type 2 diabetes reported during 1,955,878 person-years.

[§] This analysis included 5,170 incident cases of symptomatic diabetes reported during 2,795,610 person-years.

** *P*-heterogeneity < 0.05.

Supplementary Table S4. Stratified analysis of risk of incident type 2 diabetes according to change in sugary beverage and artificially sweetened beverage consumption in NHS, NHS II and HPFS (pooled results).

	Cases/person-years, n	Changes in consumption frequency*					P values for trend	P values for interaction[†]
		Decrease		No change or relatively stable	Increase			
		>0.50 serving/d	>0.07 to 0.50 serving/d	±0.07 serving/d	>0.07 to 0.50 serving/d	>0.50 serving/d		
Total Sugary Beverages								
Initial AHEI index								
AHEI < median	6,914/1,445,544	0.97 (0.86, 1.10)	0.98 (0.93, 1.03)	1.00	1.06 (0.95, 1.18)	1.25 (1.04, 1.50)	0.0003	0.07
AHEI ≥ median	4,992/1,337,666	0.95 (0.82, 1.10)	1.01 (0.94, 1.08)	1.00	1.07 (0.95, 1.22)	1.05 (0.84, 1.30)	0.003	
Obesity								
BMI < 30.0 kg/m^2	6,220/2,371,832	1.00 (0.88, 1.14)	1.00 (0.94, 1.06)	1.00	1.06 (0.94, 1.18)	1.12 (0.92, 1.35)	0.009	0.34
BMI ≥ 30.0 kg/m^2	5,686/ 411,379	0.92 (0.80, 1.06)	0.98 (0.92, 1.04)	1.00	1.07 (0.95, 1.21)	1.22 (1.00, 1.50)	<0.0001	
4-y change in physical activity level								
Decrease or no change	8,935/1,934,992	0.96 (0.86, 1.07)	1.00 (0.95, 1.05)	1.00	1.05 (0.96, 1.16)	1.12 (0.96, 1.32)	<0.0001	0.94
Increase ≥ 5 MET-h/w	2,971/ 848,219	0.95 (0.79, 1.15)	0.96 (0.88, 1.04)	1.00	1.13 (0.96, 1.33)	1.38 (1.04, 1.82)	0.01	
ASBs								
Initial AHEI index								
AHEI < median	6,914/1,445,544	1.03 (0.89, 1.20)	0.98 (0.92, 1.04)	1.00	1.06 (0.94, 1.18)	1.23 (1.01, 1.49)	0.10	0.72
AHEI ≥ median	4,992/1,337,666	1.06 (0.90, 1.25)	1.02 (0.95, 1.09)	1.00	1.01 (0.89, 1.15)	1.13 (0.90, 1.41)	0.003	
Obesity								
BMI < 30.0 kg/m^2	6,220/2,371,832	1.01 (0.87, 1.18)	0.98 (0.92, 1.04)	1.00	1.05 (0.93, 1.18)	1.33 (1.08, 1.63)	0.0002	0.35
BMI ≥ 30.0 kg/m^2	5,686/ 411,379	1.07 (0.91, 1.25)	1.01 (0.95, 1.07)	1.00	1.03 (0.91, 1.16)	1.06 (0.86, 1.31)	0.37	
4-y change in physical activity level								
Decrease or no change	8,935/1,934,992	1.04 (0.91, 1.18)	0.99 (0.94, 1.04)	1.00	1.05 (0.95, 1.16)	1.19 (1.01, 1.41)	0.006	0.94

SUPPLEMENTARY DATA

Increase ≥ 5 MET-h/w	2,971/	848,219	1.06 (0.85, 1.32)	0.99 (0.91, 1.09)	1.00	1.02 (0.86, 1.20)	1.21 (0.90, 1.62)	0.10

* All analyses are based on model 2 as defined in Table 2.
[†] *P*-values for interaction were calculated using the likelihood ratio test.

SUPPLEMENTARY DATA

Supplementary Figure S1. Flow-chart of participants.
FFQ: food frequency questionnaire; HPFS: Health Professionals' Follow-up Study; NHS: Nurses' Health Study.