Supplementary Material

Methods S1.

The Health Eating Index (HEI) 2015

The HEI is a measure of diet quality, independent of quantity, that can be used to assess compliance with the U.S. Dietary Guidelines for Americans (DGA). The original HEI was developed in 1995 by the US Department of Agriculture's (USDA) Center for Nutrition Policy and promotion, and since 2005 it has been periodically updated through a collaboration between USDA and the National Cancer Institute (NCI) [1]. The HEI-2015 is the most recent iteration and was designed to align with the 2015-2020 DGA. The HEI-2015 comprises of 13 dietary components that sum to a total maximum score of 100 points. The total score is the sum of the scores of nine adequacy components and four moderation components (Supplementary Table S1). Each of the component is a density-based (e.g., amounts per 1,000 kcal) score, except for fatty acids component, which is a ratio of unsaturated to saturated fatty acid. Currently, several methods that have been developed for use with the HEI are available, and the detail and methods associated SAS macros can be accessed on NCI website (https://epi.grants.cancer.gov/hei/hei-methods-and-calculations.html). We used the population ratio method in the current study. The population ratio method [2] is used to calculate the mean intakes of dietary constituents, and scoring standards are applied to arrive at scores at the level of a group of persons. To apply the population ratio method, the intake of the relevant dietary constituents and energy are summed for all individuals in a population to obtain estimates of the population's total intake, and then the ratios of each constituent to energy are computed and scored. The total score is then the sum of the component scores. While this method does not estimate usual intake at the *individual level*, it may be used to estimate usual intake at the *population level*.

Methods S2.

NCI Method

As previously described, the NCI method is the preferred method for estimating usual dietary intake from 24-hour recalls while accounting for substantial day-to-day variation (also referred to as within-person variability) in individual diets [3,4]. The NCI method requires that at least some individuals in the sample must have multiple dietary recalls (e.g., at least two days of recall) to estimate the within- and between-individual variations [4]. 87.6% of our study population had two dietary recalls. Moreover, the NCI method consists of two steps for usual dietary intake estimation. The first step estimates the probability of consuming a given dietary component and its amount. In this step, reported zero intakes are replaced with one-half of the minimum nonzero value reported in the data set. The specific algorithms used in the NCI method for dietary components that are consumed every day by every individual of the population differ slightly from those used for foods/nutrients that are episodically consumed. For foods/nutrients consumed daily, the amount-only model was used (i.e., MIXTRAN SAS macro). Otherwise, the two-part model (MIXTRAN SAS macro with CORR model) was used. A 10% cutoff for reported zero intake was used to distinguish between ubiquitous or episodic consumption of a given food or nutrient. The second step in the NCI method uses parameters estimated from the first step and a Markov chain Monte Carlo (MCMC) simulation method to model on Box-Cox-transformed intake data as a function of observed fixed-effect covariates, unobserved individual-

level random effects, and within-individual error (i.e., DISTRIB SAS macro) to estimate the distribution of usual intake for a given dietary component [4]. The MCMC method generates a set of representative values whose empirical distribution approximates the assumed distribution of between-individual random effects [5]. Note that as the number of repetitions or the seed number for the random number generator used in the MCMC simulation varies from study to study, differences can occur in the estimation of usual intake even with the same data set. For these analyses, the following covariates were specified for estimating usual intake: 1) an indicator of first- versus second-day 24-hour dietary recall; 2) an indicator of the day of the week when the 24-hour recall was collected, dichotomized as weekend (Friday–Sunday) or weekday (Monday–Thursday); and 3) race/ethnicity. Complete details of the NCI method and the necessary SAS macros needed to perform the Monte Carlo-based estimation of usual intake distributions can be found elsewhere [6].

Table S1. Dietary components of Health Eating Index (HEI) 2015 and scoring standards

HEI-2015 Component	Score Range	Score Standards [a]	
		Maximum	Minimum
Adequacy components			
Total fruits [b]	0-5	≥0.8 cup equivalents/ 1,000 kcal	No
Whole fruits [c]	0-5	≥0.4 cup equivalents/ 1,000 kcal	No
Total vegetables [d]	0-5	≥ 1.1 cup equivalents/ 1,000 kcal	No
Greens and beans [d]	0-5	≥ 1.1 cup equivalents/ 1,000 kcal	No
Whole grains	0-10	≥ 1.5 cup equivalents/ 1,000 kcal	No
Dairy [e]	0-10	≥ 1.3 cup equivalents/ 1,000 kcal	No
Total protein foods [d]	0-5	≥ 2.5 oz equivalents/ 1,000 kcal	No
Sea food and plant proteins [d, f]	0-5	≥ 0.8 cup equivalents/ 1,000 kcal	No
Fatty acids [g]	0-10	(PUFAs + MUFAs)/ SFAs ≥ 2.5	(PUFAs + MUFAs)/ SFAs ≤ 1.2
Moderation components			
Refined grains	0-10	≤ 1.8 oz equivalents/ 1,000 kcal	≥ 4.3 oz equivalents/ 1,000 kcal
Sodium	0-10	≤ 1.1 gram/ 1,000 kcal	≥ 2.0 gram/ 1,000 kcal
Added sugars	0-10	≤ 6.5% of energy	≥ 26% of energy
Saturated fats	0-10	≤ 8% of energy	≥ 16% of energy

[a] Intakes between the minimum and maximum standards are scored proportionately.
[b] Includes 100% fruit juice.
[c] Includes all forms except juice.
[d] Includes legumes (beans and peas).
[e] Includes all milk products, such as fluid milk, yogurt, and cheese, and fortified soy beverages.
[f] Includes seafoods; nuts, seeds, soy products (other than beverages), and legumes (beans and peas).
[g] Ratio of poly- and mono-unsaturated fatty acids (PUFAs and MUFAs) to saturated fatty acids (SFAs).

Table S2. Demographics of adults aged ≥20 years by National Health and Nutrition Examination Survey (NHANES) cycle, 2011–2018 *

Demographics [a]	2011–2012 (*n* = 4712)	2013–2014 (*n* = 4939)	2015–2016 (*n* = 4898)	2017–2018 (*n* = 4643)	Overall (*n* = 19,192)
Age (years), n (%)					48.23 (0.34)
20–34	1258 (27.0)	1238 (26.9)	1186 (26.3)	1015 (26.7)	4697 (26.7)
35–49	1158 (26.4)	1302 (25.3)	1219 (25.5)	1034 (24.0)	4713 (25.3)
50–64	1270 (29.1)	1296 (28.7)	1288 (26.5)	1380 (28.2)	5234 (28.1)
≥65	1026 (17.5)	1103 (19.1)	1205 (21.7)	1214 (21.1)	4548 (19.9)
Gender, n (%)					
Male	2380 (48.9)	2411 (49.1)	2406 (49.4)	2301 (48.7)	9498 (49.0)
Female	2332 (51.1)	2528 (50.9)	2492 (50.6)	2342 (51.3)	9694 (51.0)
Race/Ethnicity, n (%)					
Non-Hispanic white	1810 (67.1)	2188 (65.6)	1684 (65.3)	1664 (63.0)	7346 (65.2)
Non-Hispanic black	1246 (11.4)	989 (11.3)	1034 (10.7)	1102 (11.6)	4371 (11.3)
Hispanics	915 (14.2)	1106 (14.8)	1497 (14.4)	1030 (15.1)	4548 (14.6)
Non-Hispanic Asian	600 (5.2)	508 (5.3)	507 (5.7)	613 (5.8)	2228 (5.5)
Other race [b]	141 (2.1)	148 (3.0)	179 (3.9)	234 (4.4)	699 (3.4)
Education, n (%)					
Less than high school	1088 (16.0)	1008 (13.8)	1123 (13.0)	869 (9.5)	4088 (13.0)
High school	991 (20.4)	1124 (21.2)	1086 (21.5)	1127 (27.2)	4328 (22.6)
More than high school	2630 (63.6)	2804 (65.0)	2687 (65.5)	2639 (62.3)	10760 (64.3)
PIR, n (%) [c]					
<1.33	1576 (25.3)	1568 (24.5)	1417 (20.5)	1158 (19.6)	5719 (22.4)
1.33–3.29	1348 (30.1)	1445 (30.8)	1637 (33.9)	1541 (31.1)	5971 (31.5)
≥3.30	1422 (44.7)	1572 (44.7)	1370 (45.6)	1398 (49.4)	5762 (46.1)
BMI (kg/m^2), n (%)					
<25.0	1456 (31.6)	1452 (29.5)	1285 (26.9)	1175 (26.0)	5368 (28.5)
25.0–<30.0	1491 (33.3)	1578 (32.7)	1570 (32.9)	1465 (30.1)	6104 (32.2)
≥30.0	1705 (35.1)	1872 (37.8)	1996 (40.2)	1953 (43.9)	7526 (39.3)

* The numbers may not sum to the total number of participants due to missing data (n = 16 without education data; n = 1740 without income data; n = 194 without BMI data). [a] Values are presented as unweighted frequency (weighted percentages); [b] Other race: multiple races [c] PIR: poverty-income ratio.

Table S3. Trends in estimated HEI-2015 among adults aged ≥20 years, by NHANES cycles from 2011 to 2018

HEI-2015 scores	Scoring			Survey-weighted mean score (95% CI)				Differences 2017-2018 *vs*. 2011-2012 (95% CI)	*p* for trend [a]
	Range	Max	Min	2011–2012 (*n* = 4313)	2013–2014 (*n* = 4559)	2015–2016 (*n* = 4394)	2017–2018 (*n* = 4058)		
Total	0-100	100	0	55.01 (54.09, 55.95)	54.18 (53.46, 54.91)	53.91 (52.46, 55.36)	52.65 (51.12, 54.19)	-2.36 (-4.16, -0.57)	0.011
Adequacy components									
Total fruits [b]	0-5	≥0.8 c /1000 kcal	No	2.47 (2.38, 2.58)	2.31 (2.21, 2.41)	2.27 (2.11, 2.44)	2.19 (2.01, 2.37)	-0.29 (-0.50, -0.08)	0.007
Whole fruits [c]	0-5	≥0.4 c /1000 kcal	No	2.59 (2.45, 2.74)	2.56 (2.43, 2.68)	2.47 (2.27, 2.68)	2.44 (2.21, 2.68)	-0.15 (-0.43, 0.13)	0.233
Total vegetables [d]	0-5	≥ 1.1 c /1000 kcal	No	3.37 (3.29, 3.45)	3.26 (3.17, 3.35)	3.29 (3.22, 3.36)	3.22 (3.10, 3.34)	-0.14 (-0.29, 0.00)	0.081
Greens and beans [d]	0-5	≥ 1.1 c /1000 kcal	No	2.04 (1.92, 2.17)	2.08 (1.98, 2.18)	2.16 (2.01, 2.31)	2.00 (1.84, 2.16)	-0.04 (-0.25, 0.16)	0.863
Whole grains	0-10	≥ 1.5 c /1000 kcal	No	3.06 (2.86, 3.27)	2.95 (2.84, 3.06)	3.01 (2.79, 3.23)	2.64 (2.38, 2.90)	-0.42 (-0.75, -0.09)	0.020
Dairy [e]	0-10	≥ 1.3 c /1000 kcal	No	5.39 (5.22, 5.56)	5.49 (5.32, 5.67)	5.25 (4.99, 5.51)	4.93 (4.76, 5.10)	-0.46 (-0.6, -0.22)	<0.001
Total protein foods [d]	0-5	≥ 2.5 c /1000 kcal	No	4.48 (4.42, 4.54)	4.50 (4.45, 4.54)	4.54 (4.50, 4.58)	4.53 (4.46, 4.59)	0.05 (-0.04, 0.14)	0.174
Sea food and plant proteins [d, f]	0-5	≥ 0.8 c /1000 kcal	No	2.90 (2.80, 3.00)	2.97 (2.87, 3.07)	3.04 (2.89, 3.20)	2.95 (2.77, 3.12)	0.04 (-0.16, 0.25)	0.537
Fatty acids [g]	0-10	Ratio ≥ 2.5	≤ 1.2	5.29 (5.12, 5.46)	4.95 (4.79, 5.11)	4.88 (4.67, 5.10)	4.85 (4.64, 5.06)	-0.44 (-0.71, -0.16)	0.002
Moderation components									
Refined grains	0-10	≤ 1.8 c /1000 kcal	≥ 4.3 c /1000 kcal	6.18 (5.95, 6.40)	6.27 (6.09, 6.44)	6.48 (6.26, 6.70)	6.30 (6.08, 6.52)	0.12 (-0.19, 0.43)	0.256
Sodium	0-10	≤ 1.1 g /1000 kcal	≥ 2.0 g /1000 kcal	4.00 (3.93, 4.07)	3.97 (3.74, 4.20)	3.88 (3.69, 4.08)	4.28 (4.09, 4.47)	0.28 (0.08, 0.49)	0.030
Added sugars	0-10	≤ 6.5% of energy	≥ 26% of energy	6.83 (6.62, 7.05)	6.87 (6.65, 7.09)	7.09 (6.86, 7.32)	7.07 (6.82, 7.31)	0.23 (-0.10, 0.56)	0.084
Saturated fats	0-10	≤ 8% of energy	≥ 16% of energy	6.41 (6.19, 6.63)	6.01 (5.83, 6.18)	5.53 (5.32, 5.75)	5.26 (5.05, 5.47)	-1.15 (-1.45, -0.85)	<0.001

[a] *p* value from trend tests by modeling survey period as a continuous variable. [b] Includes 100% fruit juice. [c] Includes all forms except juice. [d] Includes legumes (beans and peas). [e] Includes all milk products, such as fluid milk, yogurt, and cheese, and fortified soy beverages. [f] Includes seafood, nuts, seeds, soy products (other than beverages), and legumes (beans and peas). [g] Ratio of PUFAs and MUFAs to SFAs ((PUFAs+MUFAs)/ SFAs). 1 c. = 1 cup equivalents

Table S4. Trends in estimated HEI-2015 by race/ethnicity among adults aged ≥20 years, NHANES 2011-2018

HEI-2015 scores	Survey-weighted mean score (95% CI)				Differences 2017-2018 *vs.* 2011-2012 (95% CI)	*p* for trend [a]
	2011–2012 (*n* = 4313)	2013–2014 (*n* = 4559)	2015–2016 (*n* = 4394)	2017–2018 (*n* = 4058)		
Total						
NH white	55.36 (54.19, 56.53)	54.03 (53.21, 54.86)	54.15 (52.50, 55.80)	52.14 (50.30, 53.98)	-3.22 (-5.40, -1.04)	0.007
NH black	52.48 (50.27, 54.70)	51.75 (50.57, 50.92)	50.63 (48.67, 52.59)	50.82 (49.04, 52.59)	-1.67 (-4.50, 1.17)	0.176
Hispanic	54.06 (52.91, 55.21)	54.58 (52.64, 56.52)	52.75 (51.28, 54.21)	54.04 (52.10, 55.99)	-0.02 (-2.28, 2.25)	0.625
NH Asian	59.85 (58,09, 61.61)	61.16 (59.54, 62.79)	60.52 (58.89, 62.16)	59.85 (57.36, 62.33)	-0.01 (-3.05, 3.04)	0.855
Other race	52.83 (48.68, 56.38)	52.36 (48.10, 56.63)	53.57 (50.12, 57.03)	50.60 (46.84, 54.35)	-1.93 (-7.31, 3.44)	0.498
Adequacy components						
Total fruits [b]						
NH white	2.45 (2.31, 2.59)	2.23 (2.09, 2.37)	2.20 (1.97, 2.42)	2.06 (1.83, 2.30)	-0.39 (-0.66, -0.12)	0.007
NH black	2.36 (2.09, 2.63)	2.26 (2.10, 2.42)	2.20 (1.95, 2.44)	2.07 (1.75, 2.38)	-0.29 (-0.71, 0.12)	0.145
Hispanic	2.56 (2.44, 2.68)	2.58 (2.41, 2.75)	2.55 (2.36, 2.73)	2.57 (2.34, 2.80)	0.01 (-0.25, 0.28)	0.979
NH Asian	2.98 (2.80, 3.16)	2.94 (2.70, 3.18)	2.92 (2.69, 3.14)	3.01 (2.77, 3.25)	0.03 (-0.27, 0.32)	0.885
Other race	2.15 (1.73, 2.57)	1.90 (1.29, 2.51)	1.83 (1.38, 2.28)	1.87 (1.45, 2.28)	-0.29 (-0.88, 0.31)	0.461
Whole fruits [c]						
NH white	2.65 (2.48, 2.83)	2.57 (2.40, 2.74)	2.47 (2.24, 2.71)	2.42 (2.10, 2.74)	-0.23 (-0.60, 0.14)	0.173
NH black	1.97 (1.61, 2.32)	2.05 (1.82, 2.28)	1.98 (1.71, 2.25)	1.89 (1.55, 2.22)	-0.08 (-0.57, 0.41)	0.675
Hispanic	2.61 (2.44, 2.79)	2.73 (2.53, 2.92)	2.56 (2.36, 2.77)	2.70 (2.40, 3.00)	0.09 (-0.26, 0.43)	0.857
NH Asian	3.34 (3.09, 3.58)	3.26 (2.98, 3.54)	3.32 (3.09, 3.55)	3.36 (3.11, 3.62)	0.03 (-0.33, 0.39)	0.780
Other race	2.14 (1.74, 2.55)	2.13 (1.45, 2.81)	2.26 (1.74, 2.77)	2.13 (1.72, 2.53)	-0.02 (-0.59, 0.55)	0.987
Total vegetables [d]						
NH white	3.38 (3.29, 3.48)	3.25 (3.13, 3.36)	3.30 (3.24, 3.36)	3.22 (3.06, 3.38)	-0.17 (-0.35, 0.02)	0.124
NH black	3.01 (2.88, 3.14)	2.99 (2.85, 3.13)	2.99 (2.87, 3.12)	2.88 (2.74, 3.01)	-0.13 (-0.32, 0.05)	0.167
Hispanic	3.44 (3.30, 3.57)	3.37 (3.26, 3.48)	3.25 (3.14, 3.37)	3.38 (3.22, 3.54)	-0.06 (-0.27, 0.16)	0.438
NH Asian	3.76 (2.83, 3.95)	3.82 (3.63, 4.00)	3.88 (3.71, 4.04)	3.64 (3.42, 3.87)	-0.12 (-0.41, 0.17)	0.467
Other race	3.32 (2.83, 3.82)	2.98 (2.73, 3.23)	3.19 (2.74, 3.64)	3.13 (2.92, 3.33)	-0.19 (-0.72, 0.35)	0.809
Greens and beans [d]						

NH white	1.92 (1.78, 2.06)	1.98 (1.85, 2.12)	2.07 (1.86, 2.27)	1.83 (1.62, 2.04)	-0.08 (-0.34, 0.17)	0.691
NH black	1.76 (1.56, 1.97)	1.71 (1.57, 1.84)	1.74 (1.48, 2.00)	1.69 (1.57, 1.81)	-0.08 (-0.31, 0.16)	0.589
Hispanic	2.58 (2.31, 2.85)	2.54 (2.43, 2.65)	2.47 (2.31, 2.63)	2.61 (2.40, 2.82)	0.03 (-0.31, 0.37)	0.957
NH Asian	2.93 (2.62, 3.24)	2.86 (2.52, 3.20)	3.27 (3.02, 3.51)	2.92 (2.47, 3.36)	-0.01 (-0.55, 0.53)	0.687
Other race	1.78 (1.03, 2.53)	1.92 (1.26, 2.58)	2.22 (1.61, 2.84)	1.87 (1.53, 2.21)	0.09 (-0.73, 0.92)	0.800
Whole grains						
NH white	3.28 (3.07, 3.49)	3.09 (2.95, 3.24)	3.21 (2.97, 3.47)	2.71 (2.37, 3.05)	-0.57 (-0.97, -0.18)	0.012
NH black	2.47 (2.06, 2.89)	2.55 (2.31, 2.78)	2.26 (1.95, 2.58)	2.20 (1.98, 2.41)	-0.28 (-0.75, 0.19)	0.139
Hispanic	2.28 (2.01, 2.54)	2.31 (2.02, 2.60)	2.31 (2.10, 2.53)	2.23 (1.90, 2.57)	-0.04 (-0.47, 0.38)	0.844
NH Asian	3.65 (3.11, 4.20)	3.90 (3.27, 4.52)	3.86 (3.49, 4.23)	3.94 (3.57, 4.32)	0.29 (-0.37, 0.95)	0.435
Other race	3.17 (2.71, 3.63)	2.85 (1.88, 3.82)	2.89 (2.25, 3.54)	2.47 (1.74, 3.20)	-0.70 (-1.57, 0.16)	0.203
Dairy [e]						
NH white	5.75 (5.55, 5.94)	5.84 (5.60, 6.07)	5.67 (5.49, 5.85)	5.24 (5.03, 5.44)	-0.51 (-0.80, -0.22)	<0.001
NH black	3.98 (3.73, 4.23)	4.09 (3.86, 4.32)	3.75 (3.36, 4.13)	3.83 (3.64, 4.02)	-0.15 (-0.46, 0.16)	0.142
Hispanic	5.42 (5.16, 5.68)	5.47 (5.15, 5.78)	5.07 (4.76, 5.38)	4.85 (4.52, 5.17)	-0.57 (-0.98, -0.15)	0.003
NH Asian	3.96 (3.64, 4.28)	4.37 (4.08, 4.66)	4.08 (3.60, 4.55)	4.29 (3.80, 4.78)	0.34 (-0.25, 0.92)	0.459
Other race	4.95 (4.40, 5.50)	5.34 (4.35, 6.32)	4.66 (3.91, 5.42)	4.62 (4.08, 5.16)	-0.34 (-1.10, 0.43)	0.189
Total protein foods [d]						
NH white	4.41 (4.34, 4.48)	4.46 (4.39, 4.52)	4.50 (4.44, 4.56)	4.51 (4.41, 4.60)	0.10 (-0.02, 0.22)	0.065
NH black	4.66 (4.60, 4.71)	4.58 (4.49, 4.66)	4.58 (4.50, 4.66)	4.56 (4.48, 4.64)	-0.10 (-0.19, 0.001)	0.081
Hispanic	4.63 (4.57, 4.70)	4.57 (4.46, 4.68)	4.62 (4.43, 4.79)	4.62 (4.54, 4.71)	-0.01 (-0.12, 0.09)	0.940
NH Asian	4.60 (4.49, 4.72)	4.70 (4.61, 4.80)	4.61 (4.43, 4.79)	4.49 (4.33, 4.69)	-0.12 (-0.31, 0.08)	0.148
Other race	4.44 (4.31, 4.56)	4.34 (4.16, 4.51)	4.74 (4.64, 4.79)	4.45 (4.21, 4.69)	0.01 (-0.26, 0.28)	0.473
Seafood and plant proteins [d, f]						
NH white	2.84 (2.71, 2.98)	2.90 (2.80, 3.01)	3.07 (2.88, 3.26)	2.92 (2.72, 3.1.)	0.08 (-0.17, 0.33)	0.299
NH black	2.66 (2.33, 2.99)	2.70 (2.48, 2.93)	2.42 (2.18, 2.65)	2.58 (2.35, 2.82)	-0.08 (-0.48, 0.33)	0.444
Hispanic	3.13 (2.93, 3.32)	3.22 (3.03, 3.41)	3.02 (2.87, 3.17)	3.29 (3.01, 3.56)	0.16 (-0.18, 0.50)	0.571
NH Asian	3.74 (3.56, 3.92)	3.86 (3.67, 4.04)	3.90 (3.63, 4.18)	3.50 (3.15, 3.86)	-0.23 (-0.63, 0.17)	0.258
Other race	2.55 (1.94, 3.13)	2.73 (1.99, 3.47)	3.14 (2.61, 3.66)	2.36 (1.65, 3.06)	-0.19 (-1.11, 0.72)	0.661

Fatty acids [g]						
NH white	5.04 (4.81, 5.27)	4.74 (4.50, 4.98)	4.58 (4.32, 4.84)	4.54 (4.26, 4.82)	-0.50 (-0.87, -0.14)	0.005
NH black	6.07 (5.77, 6.36)	5.39 (4.99, 5.80)	5.70 (5.29, 6.10)	5.81 (5.55, 6.07)	-0.25 (-0.65, 0.14)	0.545
Hispanic	5.28 (5.04, 5.52)	4.86 (4.34, 5.39)	4.89 (4.56, 5.22)	4.90 (4.54, 5.23)	-0.38 (-0.81, 0.06)	0.160
NH Asian	6.63 (6.29, 6.97)	6.80 (6.39, 7.21)	6.45 (6.14, 6.76)	6.03 (5.46, 6.60)	-0.60 (-1.26, 0.07)	0.046
Other race	5.64 (4.58, 6.71)	5.08 (4.20, 5.95)	5.43 (4.71, 6.15)	5.03 (4.08, 5.98)	-0.61 (-2.04, 0.81)	0.547
Moderation components						
Refined grains						
NH white	6.47 (6.22, 6.73)	6.49 (6.27, 6.71)	6.88 (6.26, 6.70)	6.58 (6.32, 6.83)	0.11 (-0.25, 0.47)	0.208
NH black	6.87 (6.52, 7321)	6.86 (6.58, 7.14)	6.77 (6.45, 7.09)	6.63 (6.25, 7.01)	-0.24 (-0.75, 0.28)	0.320
Hispanic	4.69 (4.20, 5.18)	5.15 (4.66, 5.65)	4.67 (4.10, 5.23)	5.21 (4.82, 5.59)	0.52 (-0.11, 1.14)	0.288
NH Asian	5.14 (4.79, 5.48)	5.40 (4.89, 5.92)	5.42 (5.05, 5.79)	5.37 (5.01, 5.74)	0.24 (-0.27, 0.74)	0.403
Other race	5.72 (4.75, 6.69)	6.19 (5.05, 7.33)	7.13 (6.48, 7.78)	6.42 (5.61, 7.23)	0.70 (-0.57, 1.97)	0.252
Sodium						
NH white	4.11 (4.01, 4.21)	3.93 (3.65, 4.21)	3.97 (3.70, 4.24)	4.28 (4.02, 4.54)	0.17 (-0.11, 0.45)	0.251
NH black	4.09 (3.87, 4.31)	4.25 (4.02, 4.47)	4.04 (3.74, 4.33)	4.34 (4.07, 4.62)	0.26 (-0.09, 0.61)	0.303
Hispanic	3.87 (3.53, 4.20)	4.26 (3.92, 4.61)	4.05 (3.76, 4.34)	4.36 (3.99, 4.73)	0.49 (-0.01, 0.99)	0.121
NH Asian	2.74 (2.43, 3.05)	2.73 (2.34, 3.12)	2.46 (2.11, 2.80)	3.66 (3.48, 3.85)	0.92 (0.56, 1.28)	<0.001
Other race	3.79 (3.29, 4.28)	4.49 (3.53, 5.45)	3.48 (2.88, 4.08)	4.59 (3.91, 5.26)	0.80 (-0.04, 1.64)	0.310
Added sugar						
NH white	6.89 (6.61, 7.16)	6.88 (6.58, 7.19)	7.06 (6.78, 7.35)	7.02 (6.70, 7.35)	0.14 (-0.29, 0.56)	0.378
NH black	5.90 (5.63, 6.17)	6.04 (5.71, 6.37)	6.21 (5.80, 6.61)	6.46 (6.19, 6.74)	0.56 (0.17, 0.95)	0.005
Hispanic	6.96 (6.64, 7.28)	7.02 (6.71, 7.32)	7.14 (6.90, 7.38)	7.37 (7.02, 7.72)	0.41 (-0.07, 0.88)	0.074
NH Asian	8.28 (7.92, 8.64)	8.56 (8.24, 8.88)	8.76 (8.38, 9.13)	8.54 (8.32, 8.77)	0.27 (-0.16, 0.69)	0.160
Other race	5.83 (4.86, 6.80)	6.02 (5.06, 6.99)	7.30 (6.69, 7.90)	6.25 (5.80, 6.70)	0.42 (-0.65, 1.49)	0.272
Saturated fat						
NH white	6.16 (5.88, 6.63)	5.67 (5.44, 5.91)	5.16 (4.88, 5.43)	4.80 (4.54, 5.07)	-1.36 (-1.75, -0.97)	<0.001
NH black	6.70 (6.45, 6.94)	6.28 (5.85, 6.71)	6.01 (5.56, 6.46)	5.88 (5.55, 6.21)	-0.82 (-1.23, -0.40)	<0.001
Hispanic	6.62 (6.32, 6.91)	6.50 (6.20, 6.81)	6.15 (5.86, 6.44)	5.95 (5.64, 6.26)	-0.67 (-1.09, -0.24)	0.001
NH Asian	8.11 (7.78, 8.44)	7.97 (7.69, 8.25)	7.60 (7.31, 7.90)	7.08 (6.57, 7.58)	-1.03 (-1.63, -0.43)	0.001

Other race	7.04 (6.38, 7.70)	6.40 (5.79, 7.00)	5.31 (4.73, 5.89)	5.42 (4.42, 6.39)	-1.62 (-2.79, -0.45)	0.006

[a] *p* value from trend tests by modeling survey period as a continuous variable. [b] Includes 100% fruit juice. [c] Includes all forms except juice. [d] Includes legumes (beans and peas). [e] Includes all milk products, such as fluid milk, yogurt, and cheese, and fortified soy beverages. [f] Includes seafood, nuts, seeds, soy products (other than beverages), and legumes (beans and peas). [g] Ratio of PUFAs and MUFAs to SFAs ((PUFAs+MUFAs)/ SFAs). 1 c. = 1 cup equivalents

Table S5. Trends in estimated mean consumption of selected food groups and nutrients by race/ethnicity among adults aged ≥20 years, NHANES 2011-2018

Foods/Nutrients	Survey-weighted mean score (95% CI)				Differences 2017-2018 *vs*. 2011-2012 (95% CI)	*p* for trend [a]
	2011–2012 (*n* = 4313)	2013–2014 (*n* = 4559)	2015–2016 (*n* = 4394)	2017–2018 (*n* = 4058)		
Food density (per 2000 kcal per day)						
Total fruits (servings)						
NH white	0.99 (0.88, 1.10)	0.92 (0.83, 1.01)	0.91 (0.79, 1.02)	0.81 (0.71, 0.91)	-0.18 (-0.31, -0.05)	0.001
NH black	0.96 (0.83, 1.09)	0.86 (0.76, 0.97)	0.92 (0.80, 1.04)	0.88 (0.68, 1.09)	-0.08 (-0.30, 0.15)	0.830
Hispanic	1.06 (0.97, 1.16)	1.12 (0.99, 1.25)	1.13 (1.04, 1.22)	1.19 (1.05, 1.32)	0.12 (-0.03, 0.27)	0.382
NH Asian	1.38 (1.25, 1.51)	1.40 (1.26, 1.55)	1.44 (1.28, 1.60)	1.45 (1.25, 1.64)	0.07 (-0.15, 0.28)	0.708
Other race	0.92 (0.79, 1.06)	0.79 (0.45, 1.14)	0.72 (0.55, 0.89)	0.79 (0.62, 0.95)	-0.14 (-0.33, 0.06)	0.107
Intact/whole fruit						
NH white	0.74 (0.65, 0.82)	0.71 (0.62, 0.79)	0.71 (0.61, 0.82)	0.66 (0.56, 0.75)	-0.08 (-0.20, 0.03)	0.022
NH black	0.53 (0.42, 0.63)	0.52 (0.44, 0.61)	0.57 (0.46, 0.69)	0.58 (0.42, 0.74)	0.05 (-0.13, 0.23)	0.603
Hispanic	0.73 (0.63, 0.83)	0.82 (0.70, 0.93)	0.80 (0.71, 0.90)	0.90 (0.76, 1.04)	0.17 (0.02, 0.33)	0.156
NH Asian	1.07 (0.96, 1.19)	1.17 (1.03, 1.30)	1.22 (1.07, 1.37)	1.22 (1.03, 1.41)	0.15 (-0.06, 0.35)	0.206
Other race	0.56 (0.37, 0.75)	0.62 (0.30, 0.93)	0.57 (0.44, 0.71)	0.64 (0.49, 0.79)	0.08 (-0.14, 0.31)	0.634
100% fruit juices						
NH white	0.25 (0.19, 0.31)	0.21 (0.19, 0.24)	0.21 (0.18, 0.24)	0.16 (0.14, 0.19)	-0.09 (-0.14, -0.03)	<0.001
NH black	0.48 (0.41, 0.54)	0.38 (0.32, 0.45)	0.41 (0.33, 0.49)	0.34 (0.25, 0.42)	-0.14 (-0.24, -0.04)	0.069
Hispanic	0.39 (0.31, 0.46)	0.37 (0.31, 0.42)	0.38 (0.30, 0.46)	0.32 (0.28, 0.37)	-0.06 (-0.14, 0.02)	0.143

NH Asian	0.32 (0.25, 0.39)	0.25 (0.18, 0.31)	0.27 (0.19, 0.34)	0.18 (0.13, 0.23)	-0.14 (-0.22, -0.06)	0.001
Other race	0.35 (0.16, 0.54)	0.22 (0.09, 0.35)	0.17 (0.10, 0.23)	0.16 (0.08, 0.24)	-0.19 (-0.38, 0.005)	0.001
Total vegetables (servings)						
NH white	1.70 (1.59, 1.82)	1.60 (1.50, 1.70)	1.68 (1.57, 1.79)	1.61 (1.49, 1.74)	-0.09 (-0.24, 0.07)	0.285
NH black	1.40 (1.29, 1.51)	1.34 (1.25, 1.43)	1.44 (1.37, 1.50)	1.40 (1.29, 1.51)	0.005 (-0.14, 0.15)	0.487
Hispanic	1.54 (1.44, 1.65)	1.49 (1.42, 1.57)	1.47 (1.37, 1.58)	1.58 (1.47, 1.69)	0.04 (-0.10, 0.17)	0.898
NH Asian	1.90 (1.78, 2.03)	1.97 (1.78, 2.16)	2.02 (1.87, 2.16)	1.93 (1.71, 2.15)	0.03 (-0.21, 0.26)	0.744
Other race	1.51 (1.19, 1.83)	1.26 (1.01, 1.50)	1.51 (1.21, 1.80)	1.53 (1.33, 1.74)	0.03 (-0.32, 0.38)	0.394
Total grains (servings)						
NH white	6.10 (5.90, 6.30)	6.02 (5.89, 6.15)	5.77 (5.68, 5.86)	5.93 (5.74, 6.13)	-0.17 (-0.43, 0.09)	0.014
NH black	5.87 (5.67, 6.08)	5.83 (5.66, 5.99)	5.80 (5.52, 6.07)	5.75 (5.49, 6.01)	-0.12 (-0.43, 0.18)	0.269
Hispanic	6.97 (6.68, 7.26)	6.98 (6.61, 7.34)	7.10 (6.73, 7.48)	6.80 (6.44, 7.16)	-0.17 (-0.60, 0.26)	0.607
NH Asian	7.39 (7.18, 7.61)	7.20 (6.88, 7.52)	7.42 (7.06, 7.78)	7.45 (7.02, 7.88)	0.05 (-0.39, 0.49)	0.524
Other race	6.79 (6.33, 7.25)	6.46 (5.79, 7.14)	5.74 (5.29, 6.20)	5.84 (5.23, 6.50)	-0.94 (-1.64, -0.24)	0.016
Whole grains						
NH white	1.05 (0.94, 1.16)	0.97 (0.88, 1.05)	1.00 (0.92, 1.07)	0.82 (0.69, 0.96)	-0.23 (-0.39, -0.06)	0.011
NH black	0.81 (0.65, 0.97)	0.79 (0.72, 0.86)	0.76 (0.63, 0.88)	0.67 (0.61, 0.74)	-0.14 (-0.29, 0.02)	0.080
Hispanic	0.74 (0.60, 0.88)	0.73 (0.63, 0.83)	0.70 (0.61, 0.79)	0.65 (0.58, 0.72)	-0.09 (-0.24, 0.05)	0.217
NH Asian	1.24 (1.02, 1.47)	1.29 (1.02, 1.56)	1.29 (1.11, 1.47)	1.31 (1.13, 1.49)	0.07 (-0.20, 0.33)	0.654
Other race	1.08 (0.86, 1.30)	0.90 (0.57, 1.22)	0.56 (0.64, 1.08)	0.72 (0.46, 0.99)	-0.35 (-0.67, -0.03)	0.062
Refined grains						

NH white	5.07 (4.90, 5.25)	5.07 (4.90, 5.24)	4.81 (4.69, 4.93)	5.11 (4.95, 5.26)	0.04 (-0.18, 0.25)	0.357
NH black	5.09 (4.84, 5.34)	5.04 (4.86, 5.22)	5.01 (4.75, 5.27)	5.07 (4.76, 5.39)	-0.01 (-0.38, 0.36)	0.937
Hispanic	6.25 (5.94, 6.57)	6.26 (5.91, 6.62)	6.39 (5.98, 6.80)	6.12 (5.74, 6.49)	-0.13 (-0.58, 0.32)	0.918
NH Asian	6.09 (5.82, 6.37)	5.80 (5.52, 6.09)	5.98 (5.67, 6.28)	6.05 (5.69, 6.41)	-0.04 (-0.46, 0.37)	0.658
Other race	5.79 (5.35, 6.23)	5.62 (4.93, 6.30)	4.93 (4.57, 5.30)	5.17 (4.55, 5.80)	-0.61 (-1.31, 0.09)	0.089
Legumes (servings)						
NH white	0.10 (0.08, 0.12)	0.08 (0.07, 0.10)	0.10 (0.07, 0.12)	0.08 (0.06, 0.10)	-0.02 (-0.04, 0.01)	0.439
NH black	0.08 (0.07, 0.09)	0.09 (0.07, 0.11)	0.08 (0.05, 0.11)	0.08 (0.06, 0.09)	-0.01 (-0.03, 0.01)	0.275
Hispanic	0.23 (0.20, 0.26)	0.23 (0.18, 0.28)	0.23 (0.20, 0.26)	0.22 (0.17, 0.28)	-0.004 (-0.06, 0.05)	0.831
NH Asian	0.15 (0.12, 0.18)	0.14 (0.11, 0.18)	0.13 (0.09, 0.16)	0.17 (0.05, 0.28)	0.02 (-0.09, 0.13)	0.803
Other race	0.10 (0.02, 0.19)	0.11 (0.04, 0.19)	0.08 (0.03, 0.12)	0.07 (0.02, 0.12)	-0.03 (-0.13, 0.06)	0.470
Soy products (servings)						
NH white	0.07 (0.05, 0.09)	0.08 (0.06, 0.10)	0.15 (0.11, 0.19)	0.11 (0.07, 0.15)	0.04 (-0.005, 0.08)	0.013
NH black	0.05 (0.03, 0.06)	0.04 (0.02, 0.05)	0.04 (0.02, 0.06)	0.06 (0.04, 0.08)	0.01 (-0.01, 0.04)	0.465
Hispanic	0.05 (0.02, 0.09)	0.05 (0.02, 0.08)	0.05 (0.02, 0.09)	0.12 (0.06, 0.17)	0.06 (0.003, 0.12)	0.095
NH Asian	0.18 (0.09, 0.27)	0.27 (0.17, 0.37)	0.23 (0.16, 0.31)	0.16 (0.08, 0.25)	-0.02 (-0.13, 0.09)	0.311
Other race	0.07 (0.03, 0.12)	0.05 (0.01, 0.08)	0.08 (-0.01, 0.18)	0.19 (0.07, 0.32)	0.12 (-0.002, 0.24)	0.006
Total meat (servings)						
NH white	4.32 (4.08, 4.55)	4.62 (4.32, 4.91)	4.53 (4.23, 4.83)	4.49 (4.24, 4.74)	0.17 (-0.14, 0.48)	0.741
NH black	5.57 (5.41, 5.73)	5.56 (5.26, 5.85)	5.51 (5.24, 5.79)	5.24 (5.06, 5.42)	-0.33 (-0.55, -0.10)	0.009
Hispanic	4.98 (4.76, 5.20)	4.89 (4.58, 5.21)	4.97 (4.74, 5.21)	4.68 (4.45, 4.90)	-0.30 (-0.59, -0.01)	0.139

NH Asian	5.02 (4.69, 5.36)	5.10 (4.71, 5.48)	4.95 (4.40, 5.50)	4.60 (3.81, 5.39)	-0.43 (-1.21, 0.36)	0.211
Other race	4.34 (3.78, 4.90)	4.47 (3.92, 5.02)	5.34 (4.80, 5.88)	4.49 (4.07, 4.91)	0.15 (-0.49, 0.79)	0.478
Unprocessed red meat (servings)						
NH white	1.54 (1.33, 1.74)	1.45 (1.38, 1.51)	1.53 (1.38, 1.68)	1.54 (1.29, 1.78)	-0.003 (-0.29, 0.29)	0.861
NH black	1.44 (1.23, 1.65)	1.36 (1.22, 1.50)	1.50 (1.34, 1.65)	1.14 (0.99, 1.29)	-0.30 (-0.54, -0.07)	0.014
Hispanic	1.86 (1.60, 2.12)	1.65 (1.43, 1.89)	1.82 (1.64, 2.00)	1.69 (1.45, 1.93)	-0.17 (-0.50, 0.15)	0.368
NH Asian	1.59 (1.37, 1.81)	1.52 (1.34, 1.69)	1.75 (1.51, 2.00)	1.41 (1.10, 1.71)	-0.18 (-0.53, 0.16)	0.489
Other race	1.38 (0.92, 1.84)	1.25 (0.96, 1.54)	1.75 (1.32, 2.18)	1.51 (1.13, 1.90)	0.13 (-0.42, 0.68)	0.408
Processed meat (servings)						
NH white	0.99 (0.87, 1.10)	1.06 (0.95, 1.16)	1.07 (0.97, 1.18)	1.04 (0.91, 1.16)	-0.05 (-0.18, 0.08)	0.996
NH black	1.07 (0.97, 1.17)	1.03 (0.88, 1.17)	0.91 (0.82, 1.01)	0.98 (0.88, 1.08)	-0.08 (-0.21, 0.05)	0.024
Hispanic	0.77 (0.63, 0.91)	0.72 (0.62, 0.83)	0.70 (0.60, 0.80)	0.72 (0.56, 0.88)	-0.05 (-0.25, 0.14)	0.594
NH Asian	0.55 (0.43, 0.66)	0.60 (0.42, 0.77)	0.38 (0.26, 0.51)	0.41 (0.26, 0.55)	-0.14 (-0.31, 0.03)	0.046
Other race	0.87 (0.56, 1.18)	0.87 (0.58, 1.17)	1.15 (0.89, 1.42)	0.81 (0.59, 1.03)	-0.06 (-0.41, 0.29)	0.994
Poultry (servings)						
NH white	1.26 (1.09, 1.44)	1.52 (1.35, 1.70)	1.38 (1.18, 1.59)	1.35 (1.20, 1.50)	0.09 (-0.12, 0.30)	0.131
NH black	2.10 (1.90, 2.30)	2.09 (1.88, 2.30)	2.19 (1.96, 2.42)	2.15 (1.93, 2.37)	0.05 (-0.22, 0.33)	0.066
Hispanic	1.68 (1.43, 1.92)	1.85 (1.55, 2.14)	1.77 (1.54, 2.00)	1.60 (1.37, 1.83)	-0.08 (-0.39, 0.23)	0.529
NH Asian	1.59 (1.37, 1.80)	1.72 (1.45, 2.01)	1.52 (1.29, 1.74)	1.70 (1.26, 2.13)	0.11 (-0.34, 0.56)	0.807
Other race	1.34 (0.95, 1.73)	1.64 (1.02, 2.26)	1.99 (1.64, 2.34)	1.58 (1.01, 2.15)	0.23 (-0.40, 0.86)	0.401
Fish/seafood (servings)						

NH white	0.52 (0.36, 0.69)	0.61 (0.46, 0.76)	0.52 (0.41, 0.64)	0.54 (0.41, 0.67)	0.02 (-0.17, 0.21)	0.557
NH black	0.86 (0.57, 1.16)	1.00 (0.69, 1.32)	0.78 (0.62, 0.94)	0.89 (0.72, 1.07)	0.03 (-0.28, 0.35)	0.514
Hispanic	0.66 (0.52, 0.80)	0.64 (0.52, 0.76)	0.65 (0.51, 0.79)	0.69 (0.50, 0.87)	0.03 (-0.18, 0.23)	0.981
NH Asian	1.32 (1.12, 1.53)	1.27 (0.99, 1.55)	1.17 (0.84, 1.50)	0.96 (0.70, 1.21)	-0.37 (-0.67, -0.07)	0.230
Other race	0.65 (0.14, 1.16)	0.67 (0.29, 1.06)	0.44 (0.16, 0.72)	0.46 (0.15, 0.76)	-0.19 (-0.74, 0.36)	0.200
Fish high in omega-3 fatty acids (servings)						
NH white	0.13 (0.07, 0.19)	0.21 (0.15, 0.28)	0.19 (0.12, 0.26)	0.14 (0.09, 0.19)	0.01 (-0.06, 0.08)	0.374
NH black	0.19 (0.12, 0.26)	0.16 (0.11, 0.21)	0.18 (0.12, 0.24)	0.18 (0.11, 0.26)	-0.01 (-0.10, 0.09)	0.808
Hispanic	0.15 (0.10, 0.21)	0.17 (0.11, 0.23)	0.14 (0.10, 0.18)	0.17 (0.09, 0.24)	0.01 (-0.08, 0.10)	0.946
NH Asian	0.42 (0.29, 0.55)	0.55 (0.40, 0.69)	0.49 (0.37, 0.62)	0.37 (0.18, 0.56)	-0.06 (-0.27, 0.16)	0.818
Other race	0.09 (0.02, 0.16)	0.18 (0.05, 0.30)	0.09 (-0.02, 0.20)	0.07 (-0.01, 0.14)	-0.02 (-0.11, 0.07)	0.930
Fish low in omega-3 fatty acids (servings)						
NH white	0.37 (0.26, 0.48)	0.40 (0.27, 0.54)	0.34 (0.24, 0.44)	0.41 (0.30, 0.51)	0.03 (-0.10, 0.17)	0.783
NH black	0.68 (0.41, 0.95)	0.83 (0.51, 1.14)	0.62 (0.46, 0.78)	0.71 (0.56, 0.87)	0.03 (-0.26, 0.32)	0.424
Hispanic	0.50 (0.38, 0.61)	0.47 (0.35, 0.59)	0.53 (0.40, 0.67)	0.53 (0.38, 0.69)	0.04 (-0.14, 0.21)	0.942
NH Asian	0.93 (0.77, 1.08)	0.79 (0.60, 0.98)	0.74 (0.49, 1.00)	0.64 (0.37, 0.92)	-0.28 (-0.57, 0.004)	0.151
Other race	0.55 (0.10, 0.99)	0.51 (0.12, 0.90)	0.35 (0.11, 0.59)	0.40 (0.12, 0.68)	-0.15 (-0.63, 0.33)	0.136
Eggs (servings)						
NH white	0.54 (0.48, 0.59)	0.58 (0.53, 0.63)	0.61 (0.56, 0.67)	0.70 (0.58, 0.81)	0.16 (0.04, 0.28)	0.017
NH black	0.62 (0.55, 0.69)	0.65 (0.57, 0.74)	0.62 (0.54, 0.71)	0.73 (0.62, 0.84)	0.11 (-0.02, 0.23)	0.213
Hispanic	0.61 (0.52, 0.70)	0.63 (0.54, 0.72)	0.79 (0.70, 0.89)	0.97 (0.76, 1.18)	0.36 (0.16, 0.57)	0.001

NH Asian	0.59 (0.52, 0.67)	0.71 (0.59, 0.83)	0.75 (0.61, 0.90)	0.89 (0.66, 1.11)	0.29 (0.07, 0.51)	0.002
Other race	0.65 (0.36, 0.94)	0.67 (0.44, 0.89)	0.43 (0.32, 0.53)	0.54 (0.26, 0.82)	-0.11 (-0.48, 0.26)	0.591
Total dairy (servings)						
NH white	1.61 (1.54, 1.68)	1.62 (1.54, 1.70)	1.55 (1.48, 1.61)	1.45 (1.38, 1.53)	-0.16 (-0.25, -0.06)	0.001
NH black	1.07 (0.99, 1.16)	1.09 (1.03, 1.15)	0.98 (0.90, 1.06)	1.02 (0.96, 1.09)	-0.05 (-0.15, 0.04)	0.183
Hispanic	1.50 (1.41, 1.59)	1.47 (1.36, 1.57)	1.34 (1.26, 1.43)	1.29 (1.20, 1.38)	-0.21 (-0.33, -0.09)	<0.001
NH Asian	1.09 (0.97, 1.21)	1.13 (1.03, 1.22)	1.02 (0.87, 1.18)	1.14 (0.97, 1.31)	0.05 (-0.13, 0.24)	0.752
Other race	1.30 (1.12, 1.49)	1.41 (1.15, 1.66)	1.23 (1.06, 1.40)	1.24 (1.06, 1.42)	-0.06 (-0.30, 0.17)	0.303
Milk products (servings)						
NH white	0.77 (0.71, 0.84)	0.73 (0.68, 0.77)	0.65 (0.60, 0.70)	0.63 (0.56, 0.71)	-0.14 (-0.23, -0.05)	0.001
NH black	0.48 (0.42, 0.54)	0.44 (0.41, 0.48)	0.41 (0.37, 0.44)	0.41 (0.37, 0.46)	-0.07 (-0.13, 0.002)	0.325
Hispanic	0.74 (0.66, 0.82)	0.67 (0.56, 0.77)	0.62 (0.54, 0.69)	0.53 (0.46, 0.60)	-0.21 (-0.31, -0.11)	<0.001
NH Asian	0.63 (0.55, 0.71)	0.63 (0.57, 0.69)	0.62 (0.51, 0.73)	0.72 (0.62, 0.83)	0.10 (-0.03, 0.22)	0.345
Other race	0.66 (0.55, 0.77)	0.58 (0.43, 0.74)	0.59 (0.44, 0.74)	0.42 (0.24, 0.59)	-0.24 (-0.43, -0.06)	0.079
Cheese (servings)						
NH white	0.73 (0.67, 0.79)	0.76 (0.71, 0.82)	0.74 (0.70, 0.79)	0.74 (0.68, 0.81)	0.01 (-0.07, 0.09)	0.770
NH black	0.55 (0.49, 0.60)	0.58 (0.50, 0.66)	0.52 (0.45, 0.59)	0.56 (0.50, 0.62)	0.01 (-0.07, 0.09)	0.676
Hispanic	0.67 (0.60, 0.75)	0.73 (0.64, 0.83)	0.65 (0.59, 0.72)	0.67 (0.59, 0.74)	-0.01 (-0.11, 0.09)	0.097
NH Asian	0.35 (0.29, 0.40)	0.43 (0.35, 0.51)	0.30 (0.22, 0.37)	0.34 (0.25, 0.43)	-0.003 (-0.10, 0.09)	0.282
Other race	0.58 (0.44, 0.73)	0.78 (0.53, 1.04)	0.57 (0.49, 0.65)	0.72 (0.58, 0.86)	0.14 (-0.05, 0.32)	0.657
Nuts and seeds (servings)						

NH white	0.81 (0.71, 0.92)	0.81 (0.70, 0.93)	0.84 (0.69, 0.98)	0.86 (0.70, 1.02)	0.04 (-0.13, 0.22)	0.153
NH black	0.54 (0.42, 0.66)	0.46 (0.37, 0.56)	0.43 (0.33, 0.54)	0.54 (0.39, 0.69)	0.0004 (-0.18, 0.18)	0.784
Hispanic	0.42 (0.31, 0.52)	0.45 (0.31, 0.58)	0.36 (0.29, 0.42)	0.51 (0.36, 0.66)	0.09 (-0.08, 0.26)	0.826
NH Asian	0.81 (0.65, 0.98)	0.85 (0.70, 1.00)	0.92 (0.75, 1.09)	0.86 (0.60, 1.12)	0.05 (-0.24, 0.33)	0.900
Other race	0.46 (0.26, 0.66)	0.66 (0.31, 1.00)	1.02 (0.48, 1.56)	0.69 (0.42, 0.96)	0.23 (-0.08, 0.54)	0.164
Added sugar (tsp)						
NH white	16.36 (15.30, 17.43)	15.82 (15.00, 16.64)	15.28 (14.48, 16.08)	15.76 (14.68, 16.84)	-0.61 (-1.99, 0.76)	0.185
NH black	18.48 (17.50, 19.47)	18.23 (17.27, 19.19)	17.02 (15.78, 18.27)	17.29 (16.23, 18.35)	-1.16 (-2.46, 0.15)	0.018
Hispanic	15.98 (14.56, 17.40)	16.14 (15.09, 17.19)	15.00 (14.23, 15.76)	14.52 (13.23, 15.82)	-1.45 (-3.24, 0.34)	0.035
NH Asian	11.41 (10.11, 12.72)	10.52 (9.57, 11.47)	9.71 (9.24, 10.17)	10.50 (9.72, 11.28)	-0.91 (-2.31, 0.49)	0.068
Other race	18.43 (15.35, 21.50)	18.82 (15.45 22.20)	15.47 (13.33, 17.61)	17.77 (15.89, 19.65)	-0.61 (-3.91, 2.68)	0.390
Nutrients (per day)						
Carbohydrate (g)						
NH white	243.22 (238.92, 247.53)	234.47 (230.88, 238.07)	228.48 (224.03, 232.92)	227.91 (224.32, 231.50)	-15.32 (-20.45, -10.18)	<0.001
NH black	245.45 (241.17, 249.73)	241.22 (236.51, 245.92)	238.02 (232.18, 243.87)	235.71 (231.57, 239.85)	-9.74 (-15.23, -4.25)	<0.001
Hispanic	251.24 (245.44, 257.03)	247.37 (243.25, 251.48)	245.75 (240.45, 251.04)	243.46 (236.33, 250.59)	-7.78 (-16.19, 0.64)	0.007
NH Asian	262.71 (257.23, 268.20)	251.78 (245.92, 257.58)	254.01 (250.10, 257.93)	252.99 (248.15, 257.84)	-9.72 (-16.42, -3.02)	0.019
Other race	259.16 (246.69, 271.64)	248.83 (238.75, 258.91)	223.14 (214.86, 231.41)	232.91 (221.32, 244.49)	-26.25 (-41.87, -10.64)	<0.001
Protein (g)						
NH white	76.71 (75.21, 78.20)	80.03 (77.27, 82.79)	79.65 (77.58, 81.72)	77.28 (75.42, 79.13)	0.57 (-1.61, 2.76)	0.883
NH black	77.60 (76.07, 79.14)	77.89 (75.93, 79.85)	76.86 (74.96, 78.76)	74.65 (72.99, 76.31)	-2.95 (-5.02, -0.88)	0.001

Hispanic	82.96 (81.51, 84.41)	83.31 (80.55, 86.07)	82.07 (80.36, 83.78)	82.27 (79.32, 85.23)	-0.69 (-3.70, 2.33)	0.439
NH Asian	84.43 (82.13, 86.74)	86.67 (83.88, 89.46)	86.85 (84.99, 88.71)	83.33 (80.43, 86.23)	-1.11 (-4.50, 2.29)	0.257
Other race	73.75 (70.74, 76.76)	77.62 (72.98, 82.26)	80.04 (74.73, 85.36)	75.38 (72.31, 78.46)	1.64 (-2.57, 5.85)	0.532
Saturated fat (g)						
NH white	24.15 (23.30, 25.00)	25.11 (24.68, 25.54)	26.71 (26.14, 27.29)	27.35 (26.64, 28.07)	3.20 (2.18, 4.23)	<0.001
NH black	22.84 (22.19, 23.50)	23.57 (22.40, 24.74)	24.35 (23.22, 25.47)	24.59 (23.83, 25.35)	1.75 (0.84, 2.66)	<0.001
Hispanic	22.85 (22.21, 23.49)	23.28 (22.64, 23.92)	24.06 (23.28, 24.85)	23.99 (23.06, 24.93)	1.14 (0.10, 2.18)	0.010
NH Asian	19.14 (18.53, 19.74)	20.47 (19.84, 21.10)	20.86 (20.46, 21.27)	22.05 (20.93, 23.16)	2.91 (1.75, 4.07)	<0.001
Other race	22.22 (20.58, 23.86)	24.15 (22.64, 25.67)	26.22 (25.04, 27.41)	25.75 (23.44, 28.07)	3.54 (0.93, 6.14)	0.011
Monounsaturated fat (g)						
NH white	26.49 (25.89, 27.08)	26.75 (26.36, 27.14)	28.26 (27.68, 28.84)	28.08 (27.47, 28.68)	1.59 (0.81, 2.37)	<0.001
NH black	26.90 (26.24, 27.56)	26.82 (26.01, 27.63)	27.90 (27.03, 28.77)	27.68 (26.92, 28.43)	0.78 (-0.14, 1.70)	0.005
Hispanic	25.76 (24.72, 26.79)	25.22 (24.66, 25.79)	26.25 (25.49, 27.01)	25.60 (24.65, 26.54)	-0.16 (-1.45, 1.13)	0.483
NH Asian	23.74 (22.94, 24.53)	25.10 (24.05, 26.15)	25.31 (24.68, 25.93)	25.25 (24.41, 26.08)	1.51 (0.45, 2.57)	0.012
Other race	25.60 (23.01, 28.19)	25.39 (24.16, 26.62)	29.67 (27.97, 31.36)	27.71 (25.81, 29.61)	2.11 (-0.84, 5.06)	0.018
Polyunsaturated fat (g)						
NH white	17.79 (17.47, 18.12)	18.18 (17.79, 18.57)	18.39 (17.80, 18.98)	19.32 (18.46, 20.17)	1.52 (0.68, 2.36)	<0.001
NH black	18.73 (18.25, 19.21)	18.19 (17.55, 18.83)	18.87 (18.30, 19.45)	20.18 (19.39, 20.96)	1.45 (0.60, 2.29)	<0.001
Hispanic	17.20 (16.51, 17.89)	17.20 (16.53, 17.87)	17.14 (16.54, 17.75)	17.61 (16.74, 18.49)	0.41 (-0.61, 1.43)	0.270
NH Asian	16.94 (16.16, 17.71)	17.87 (16.96, 18.78)	17.33 (16.39, 18.27)	17.81 (16.96, 18.65)	0.87 (-0.18, 1.92)	0.233
Other race	17.46 (15.26, 19.65)	17.16 (15.59, 18.72)	18.78 (17.47, 20.09)	18.48 (17.54, 19.41)	1.02 (-1.17, 3.22)	0.156

Omega-3 fatty acid (g)						
NH white	0.08 (0.07, 0.09)	0.09 (0.08, 0.10)	0.09 (0.08, 0.10)	0.09 (0.08, 0.10)	0.008 (-0.01, 0.02)	0.737
NH black	0.13 (0.11, 0.15)	0.12 (0.10, 0.14)	0.11 (0.10, 0.12)	0.11 (0.09, 0.12)	-0.02 (-0.04, 0.003)	0.929
Hispanic	0.10 (0.09, 0.11)	0.09 (0.08, 0.11)	0.10 (0.08, 0.11)	0.09 (0.08, 0.11)	-0.01 (-0.02, 0.01)	0.626
NH Asian	0.13 (0.11, 0.15)	0.13 (0.10, 0.15)	0.12 (0.10, 0.15)	0.10 (0.07, 0.12)	-0.04 (-0.06, 0.01)	0.533
Other race	0.09 (0.07, 0.12)	0.10 (0.07, 0.13)	0.09 (0.07, 0.11)	0.08 (0.06, 0.09)	-0.01 (-0.04, 0.01)	0.358
Cholesterol (mg)						
NH white	255.89 (247.12, 264.66)	275.77 (266.79, 284.75)	286.33 (275.26, 297.40)	292.17 (276.23, 308.12)	36.28 (19.61, 52.95)	<0.001
NH black	292.00 (281.88, 302.13)	299.25 (290.04, 308.46)	304.34 (285.84, 322.83)	299.57 (288.01, 311.13)	7.57 (-6.51, 21.65)	0.266
Hispanic	293.62 (279.48, 307.75)	293.73 (282.84, 304.63)	317.60 (302.28, 332.93)	319.49 (295.94, 343.03)	25.87 (0.72, 51.03)	0.008
NH Asian	249.23 (237.86, 260.60)	264.18 (248.75, 279.61)	277.34 (258.31, 296.36)	274.11 (249.17, 299.04)	24.88 (-0.22, 49.98)	0.049
Other race	255.54 (222.13, 288.95)	276.39 (236.75, 316.02)	288.26 (258.71, 317.80)	274.10 (245.98, 302.22)	18.56 (-21.50, 58.62)	0.728
Sodium (g)						
NH white	3342.58 (3305.43, 3379.72)	3391.36 (3334.89, 3447.82)	3403.91 (3327.86, 3479.96)	3370.29 (3276.99, 3463.59)	27.71 (-64.28, 119.70)	0.572
NH black	3327.63 (3255.45, 3399.81)	3317.00 (3261.89, 3372.11)	3361.73 (3272.62, 3450.84)	3299.88 (3184.98, 3414.77)	-27.75 (-152.04, 96.54)	0.517
Hispanic	3372.67 (3309.10, 3436.25)	3315.54 (3224.31, 3406.77)	3351.3 (3265.06, 3437.55)	3372.45 (3143.62, 3601.28)	-0.22 (-217.78, 217.34)	0.402
NH Asian	3895.77 (3800.79, 3990.75)	3884.84 (3752.54, 4017.14)	4024.29 (3755.83, 4292.75)	3639.34 (3536.51, 3742.18)	-256.43 (-384.65, -128.21)	0.009
Other race	3357.84 (3183.54, 3532.13)	3267.14 (3048.96, 3485.31)	3551.27 (3339.25, 3763.29)	3247.14 (3080.60, 3413.68)	-110.70 (-331.78, 110.38)	0.876
Fiber (g)						
NH white	17.46 (16.66, 18.26)	16.56 (15.84, 17.27)	16.80 (16.03, 17.56)	15.78 (15.19, 16.37)	-1.68 (-2.59, -0.77)	<0.001
NH black	14.67 (13.88, 15.45)	14.39 (13.83, 14.94)	14.48 (13.71, 15.25)	14.29 (13.62, 14.96)	-0.37 (-1.32, 0.57)	0.621

Hispanic	18.20 (17.17, 19.23)	18.50 (17.16, 19.84)	18.48 (17.65, 19.32)	18.46 (17.17, 19.75)	0.26 (-1.25, 1.77)	0.644
NH Asian	20.07 (19.07, 21.07)	20.46 (19.25, 21.68)	20.78 (19.62, 21.93)	21.07 (19.34, 22.80)	1.00 (-0.84, 2.83)	0.238
Other race	16.49 (15.08, 17.90)	15.33 (13.05, 17.62)	15.77 (14.17, 17.37)	15.14 (13.89, 16.38)	-1.35 (-3.08, 0.38)	0.606

[a] *p* value from trend tests by modeling survey period as a continuous variable.

Reference:

1. Reedy J; Lerman JL; Krebs-Smith SM; Kirkpatrick SI; Pannucci TE; Wilson MM; Subar AF; Kahle LL; Tooze JA. Evaluation of the Healthy Eating Index-2015. *J Acad Nutr Diet* **2018**, *118*, 1622-1633.
2. National Cancer Institute. Division of Cancer Control and Population Sciences. Population Ratio Method. . Available online: https://epi.grants.cancer.gov/hei/population-ratio-method.html (accessed on June 15).
3. Tooze JA; Midthune D; Dodd KW; Freedman LS; Krebs-Smith SM; Subar AF; Guenther PM; Carroll RJ; Kipnis VA. A new statistical method for estimating the usual intake of episodically consumed foods with application to their distribution. *J Am Diet Assoc* **2006**, *106*, 1575–1587.
4. Herrick KA; Rossen LM; Parsons R; Dodd KW. Estimating usual dietary intake from National Health and Nutrition Examination Survey data using the National Cancer Institute method. 2018. *Vital Health Stat 2.* **2018**, *178*, 1-6.
5. Bailey, R.L.; Dodd, K.W.; Goldman, J.A.; Gahche, J.J.; Dwyer, J.T.; Moshfegh, A.J.; Sempos, C.T.; Picciano, M.F. Estimation of total usual calcium and vitamin D intakes in the United States. *The Journal of nutrition* **2010**, *140*, 817-822.
6. National Cancer Institute. Usual Dietary Intakes: Details of the Method. Available online: https://epi.grants.cancer.gov/diet/usualintakes/details.html (accessed on June 25).