Supplementary Online Content

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Supplement

Association between Dietary Factors and Mortality from Heart Disease, Stroke, and Diabetes in the United States

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

eAppendix

eAppendix 1. Comparative Risk Assessment.

Population Attributable Fraction

The standard description of the population attributable fraction (PAF) used to communicate that a comparative risk assessment framework has been used to estimate attributable mortality, gives only a vague insight as to how the PAF is calculated and what assumptions are being made. Because of this, we go into more detail here.

The standard PAF formula used is as follows:

$$\frac{\int_{x=0}^{m} R\,R(x)P(x)dx - 1}{\int_{x=0}^{m} R\,R(x)P(x)dx}$$

where $P(x)$ is the distribution of current dietary consumption, $RR(x)$ is the relative risk of mortality at exposure level x, and m is the maximum exposure level. As described by Vander Hoorn et al,[1,2] this is a special case of the more commonly used (for descriptive purposes) formula:

$$\frac{\int_{x=0}^{m} R\,R(x)P(x)dx - \int_{x=0}^{m} R\,R(x)P'(x)dx}{\int_{x=0}^{m} R\,R(x)P(x)dx}$$

where the alternative distribution ($P'(x)$) is the same as the theoretical minimum risk (optimal for diet) exposure distribution.

$\boldsymbol{P(x)}$

We assumed current dietary intake follows a gamma distribution for all foods and nutrients of interest. Previous research using comparative risk assessment in the field of nutrition has assumed intake follows a normal distribution or some variation thereof. However, National Health and Nutrition Examination Survey (NHANES) data[3] showed that intake is right skewed for most foods/nutrients of interest (in some cases, as with nuts/seeds, extremely so). Because distributions of many dietary factors are non-normal, we utilized a gamma distribution for each factor after confirming, using individual-level NHANES data, that this estimation is similar to the normal distribution for normally distributed dietary factors and closer to observed data for skewed dietary factors than normal or log-normal distributions; and that the gamma distribution also performs optimally for estimating population attributable fractions. Specifically, based on a visual inspection of histograms, we concluded that, overall, the gamma distribution fit the NHANES data better than an alternative right-skewed distribution (the log-normal), particularly for foods where the intake is highly skewed, such as nuts/seeds, sugar-sweetened beverages (SSBs), and processed meats. Simulations done to compare estimated attributable mortality estimates assuming gamma, normal, and log-normal distributions to mortality estimates based on a non-parametric approach showed that estimates assuming the gamma distribution gave closer estimates to the non-parametric approach than the others. Because the mean and variance of the gamma distribution is a function of the parameters of the gamma distribution ($E[X] = \frac{\alpha}{\beta}$, $Var[X] = \frac{\alpha}{\beta^2}$ where X is a gamma random variable, α is the shape parameter and β is the scale parameter), estimates for the gamma parameter can be obtained from mean and variance estimates that account for survey design characteristics.

$\boldsymbol{RR(x)}$

$RR(x)$ is defined to be

$$\begin{cases} exp(\beta(x - y(x))) & : x - y(x) \geq 0 \\ 1 & : x - y(x) < 0 \end{cases}$$

where β is the the change in log relative risk per unit of exposure, x is the current exposure level, and $y(x)$ is the optimal (theoretical minimum risk, TMRED) exposure level. $y(x)$ is defined to be $F_{TMRED}(F_X^{-1}(x))$, where F_{TMRED} is the cumulative distribution function of the TMRED and F_X^{-1} is the inverse cumulative distribution function of the current exposure distribution. Implicit in how we characterize the relative risk function are some of the fundamental assumptions we make about relative risk. Namely, that relative risk increases exponentially as distance from theoretical minimum risk exposure level (y) increases, that there is no risk associated with exposure beyond the theoretical minimum risk exposure level, and that both x and the theoretical minimum risk exposure level for an individual at exposure level x are the q-th quantile of their respective distributions (the observed exposure distribution, and the TMRED, respectively).

$\boldsymbol{m}$

In our analyses, m is defined to be ∞. Since the density of a gamma distribution approaches 0 as exposure, x, approaches infinity, and because implausibly high values of exposure should exceed the corresponding theoretical maximum exposure level, implausibly high values of exposure will make little to no contributions to the PAF.

Computation

In practice, we use simple numerical integration (using Riemann sums) to compute the integrals in the PAF formula. Thus, we used the categorical equivalent of the PAF formula

$$PAF = \frac{\sum_{i=1}^{n} P_i\,(RR_i - 1)}{\sum_{i=1}^{n} P_i\,(RR_i - 1) + 1}$$

where the n categories are determined by dividing up the exposure range (chosen here to be $[0, F_X^{-1}(\Phi(6))]$) into 121 intervals, each of length 0.1 when converted to the standard normal scale (except for the first one). More precisely, the range of exposure group i can be described as follows:

$$\begin{cases} \left[0, F_X^{-1}(\Phi(-6))\right] & : i = 1 \\ \left(F_X^{-1}(\Phi(-6 + 0.1(i-2))), F_X^{-1}(\Phi(-6 + 0.1(i-1)))\right] & : i > 1 \end{cases}$$

Joint PAF

Because summing would overestimate joint relationships,[4] for each stratum and disease, the joint PAF of overall suboptimal diet was estimated by proportional multiplication:

$$PAF_{joint} = 1 - \prod_{r=1}^{R}(1 - PAF_r)$$

where r denotes each individual dietary factor, and R is the number of dietary factors. The analyses supported independent etiologic relationships of each dietary factor, and joint distributions were further

determined within each strata; maximizing validity of our joint PAFs. Joint distributions of exposure may be partly correlated among individuals, leading to overestimation of joint attributable fractions. Yet, separate validity analyses (eAppendix 2) of dietary pattern studies, including from interventional studies, suggested that the estimated etiologic relationships of individual components and their joint associations were each reasonable.

Monte Carlo Simulattions

Monte Carlo simulations were used to quantity uncertainty in the PAFs, incorporating stratum-specific uncertainty in dietary exposure distributions, etiologic RR estimates, and, for sodium, prevalence of hypertension and proportion of non-Hispanic Blacks, and, for SSBs, prevalence of overweight. Specifically, for each diet disease pair and stratum, we drew randomly 1,000 times from the normal distribution of the estimate of disease-specific change in the log(RR) corresponding to a one unit increase in intake, the normal distribution of the estimate of the exposure mean, and where appropriate, the normal distribution of the estimate of the prevalence of hypertension and the normal distribution of the estimate of the proportion of non-Hispanic Blacks. Draws of proportions that were less than 0 or greater than 1 were changed to 0 or 1, respectively. Likewise, draws of mean intake that were zero or less were changed to 0.00001. Each set of random draws was used to calculate the PAFs and associated mortality.

Population Attributable Fraction via Mediated Effects

Sugar-sweetened Beverages

Consistent with the Global Burden of Disease Study (GBD) and evidence for harms of high body mass index (BMI) on specific cardiometabolic disease outcomes the relationships of high intake of sugar-sweetened beverages (SSBs) with coronary heart disease (CHD), hypertensive heart disease, ischemic stroke, hemorrhagic stroke (only when BMI ≥25 kg/m^2) , and diabetes were estimated through their measured relationships BMI (associations mediated by BMI).[5,6] Direct relationships of SSBs with BMI,[5,6] which are continuous changes in BMI rather than RRs, were also included. The association of change in BMI with change in SSB consumption was assessed using multivariate linear regression accounting for within-person repeated measures, as described in earlier work;[6,7] separate linear relationships were estimated for BMI <25 and BMI ≥25 since the rate of associated increase in BMI due to SSB intake varies based on an individual's baseline BMI. Independently of this, additional direct relationships with CHD and diabetes (after adjustment for BMI) were included; total associations with diabetes (direct plus mediated; after excluding associations with diabetes mediated by BMI) were investigated in sensitivity analyses (eTable 5, eFigure 18). Use of the BMI-unadjusted RR to capture the total sugar-sweetened beverage diabetes associations (vs. use of separate direct and mediated RRs) resulted in substantially larger associated diabetes mortality (eFigure 18); differences in total cardiometabolic SSB-associated mortality was less profound, whereas related cardiometabolic mortality was relatively similar when overall suboptimal diet was assessed. We estimated log(RR) per unit associated increase in exposure for SSBs by taking the log(RR) per unit associated increase in exposure for BMI and multiplying it by an estimate of the associated increase in BMI per one unit associated increase in SSBs. For each stratum, the latter effect was weighted by the proportion of overweight (BMI ≥ 25 kg/m2) vs. non-overweight (BMI < 25 kg/m2) individuals in that stratum, given the larger associations of SSBs with long-term weight gain in overweight adults (eTable 2).[7]

Sodium

Consistent with GBD and evidence for harms of high blood pressure on specific cardiometabolic disease outcomes the relationships of high intake of dietary sodium with CHD, ischemic stroke, hemorrhagic stroke, hypertensive heart disease, rheumatic heart disease, cardiomyopathy and myocarditis, atrial fibrillation and flutter, aortic aneurysm, peripheral vascular disease, endocarditis, and other other cardiovascular and circulatory diseases were estimated through their measured relationships with systolic blood pressure (eTable 5).[5,8] Direct effects of sodium intake on SBP are continuous changes in SBP, rather than RRs. For every year above or below age 50, there was 0.105 mm Hg (95%CI: 0.047, 0.164) larger or smaller BP reduction, respectively. No further interactions with SBP reduction were assumed below age 25 or above age 70, due to limited trial evidence outside this age range. Based on the evidence, we assumed a log-linear dose-response relationship between SBP and CVD until a BP level of 115 mm Hg, below which we assumed no further lowering of risk.[8] We estimated log(RR) per unit increase in exposure for sodium by taking the log(RR) per unit increase in exposure for SBP and multiplying it by an estimate of the increase in SBP per unit increase in sodium. Our estimate of the increase in SBP per unit increase in sodium is a function of hypertension, age, and race, as described in earlier work.[5,8]

eAppendix 2. Etiologic Relationships of Dietary Factors with Cardiometabolic Disease Risk

Our methods for systematically reviewing and synthesizing the evidence to quantify the magnitude of relative risks between each dietary factor and disease-specific endpoints have been described.[9,10] Our analysis incorporated direct associations of dietary factors with CHD, ischemic and hemorrhagic stroke, type 2 diabetes, and other cardiovascular diseases by age; additional BMI-mediated associations of SSBs by age; and SBP-mediated associations of dietary sodium by age, race, and hypertensive status (eTables 1-5). We quantified the best unbiased estimates of these relationships from recent or de novo systematic reviews and meta-analyses of prospective studies and/or clinical trials of clinical endpoints.

Our primary determinations were based on Bradford-Hill criteria,[11] including evidence on strength/consistency, temporality, coherence, specificity, analogy, plausibility, biological gradient, and supportive experimental data. For each potential diet-disease relationship, this evidence was reviewed and graded independently and in duplicate, with any differences resolved by consensus (eTable 1). We also qualitatively considered concordance of our conclusions with other criteria for causality of diet-chronic disease relationships, such as from the World Health Organization and WCRF/AICR.[12-14] We included factors which were considered, based on independent review, as having at least probable or convincing evidence for causal relationships. For each identified diet-disease relationship, we performed multiple systematic searches of PubMed to identify meta-analyses of randomized controlled trials or prospective cohort studies evaluating these specific dietary factors and cardiometabolic disease (eTable 2). For a few dietary factors for which evidence for causal relationships CVD or diabetes was identified, recently published meta-analyses were unavailable. For these diet-disease relationships, we performed de novo meta-analyses according to the PRISMA guidelines.[15] Published meta-analyses were eligible if including randomized trials or prospective cohorts of the identified diet-disease relationships of interest. Whenever possible, we prioritized meta-analyses that characterized dose-responses using all available data (as opposed to comparisons of extreme categories, e.g., top vs. bottom quartile). Meta-analyses including only retrospective case-control studies were excluded due to greater potential for selection bias, recall bias, and reverse causation. When more than one meta-analysis was identified for any diet-disease relationship, we included the dose-response analysis with the greatest number of studies and clinical events. For new meta-analyses, we included all randomized controlled trials, prospective cohorts, and case-control studies that assessed the diet-disease relationship of the interest.

Heterogeneity in Etiologic Effects

Most meta-analyses did not stratify by sex, and those that did found no significant differences in proportional diet-disease relationships between men and women; in addition, the proportional relationships of most metabolic risk factors with chronic diseases appear similar by sex.[16-24] Thus, we incorporated similar proportional associations of dietary factors with cardiometabolic endpoints by sex. Conversely, we and others have shown that the proportional relationships (RRs) of major cardiometabolic risk factors decline with age, with an inverse log-linear age association.[4,5] To quantify and incorporate this effect size modification by age, we evaluated the proportional differences in RR of CVD for major diet-related cardiometabolic risk factors, including BP, BMI, fasting plasma glucose and total cholesterol, across 6 age groups from 25-34 to 75+ years.[5] Because the proportional differences between adjacent age groups were quite similar across these four risk factors, we applied the mean proportional differences in RR by age across all risk factors to the dietary RRs, anchored at the mean age at event of each diet-disease pair. In applying these to diet, we used Monte Carlo simulations to estimate the uncertainty in the age-distributed log RRs, sampling from the distribution of log RRs at the age at event. Based on 1,000 simulations, we utilized the 2.5th and 97.5th percentiles to derive the 95% uncertainty interval, hereafter described as the 95% CI. We therefore derived and utilized age-group specific RRs for diet-cardiometabolic disease

relationships based on the age patterns of RRs for metabolic risk factors and incident cardiometabolic disease events, based on established GBD methods (eTable 5).[4,6] Except as indicated (SSBs, sodium), we did not identify sufficient evidence for effect size modification by other factors beyond age, e.g. race, obesity, or overall diet quality.

Stroke-specific RRs were identified for ischemic and haemorrhagic stroke (eTable 5). We also accounted for deaths related to non-classifiable (other) strokes. Age-specific RRs for other stroke were estimated using the weighted average of the ischemic and haemorrhagic stroke RRs where the weights were defined as the proportion of ischaemic and haemorrhagic stroke deaths out of all observed classified stroke deaths in a given stratum. Uncertainty estimates for other stroke RRs were obtained via Monte Carlo simulations (10,000 iterations assuming independence between ischemic and hemorrhagic RR estimates). This approach renders more accurate estimations and avoids the redistribution of unclassified stroke deaths obtaining also an effect for this disease category.

Assessment of Validity and Bias in Etiologic Effects

We recognized that healthful dietary factors such as fruits, vegetables, and whole grains tend to positively cluster in diets and are also often inversely correlated with less healthful dietary factors such as SSBs or processed meats. Consequently, although nearly all identified observational studies evaluating etiologic relationships utilized multivariable adjustment for major demographic factors and, in many cases, other dietary factors, we recognized that our final calculated etiologic effect sizes (RRs) from observational studies focused on one individual dietary factor might overestimate the magnitude of the etiologic effect size of any individual dietary factor, as compared with the true association when that dietary factor is consumed as part of an overall diet pattern.

To address this potential for bias from dietary pattern effects, we performed three separate sensitivity analyses, based on: (a) prospective observational studies evaluating overall dietary patterns and clinical cardiovascular events; (b) randomized controlled feeding trials evaluating overall dietary patterns and cardiovascular risk factors; and (c) a large randomized clinical trial evaluating overall dietary patterns and clinical cardiovascular events (eTable 4). For each, we compared the observed effect size of the overall dietary pattern to the estimated effect size calculated based upon our estimated RR for each individual dietary factor in that pattern. In these analyses, the identified relationships of individual dietary components were very similar to quantified effect sizes of dietary patterns in long-term observational studies, randomized feeding trials, and randomized clinical trials, suggesting that any bias, if present, is unlikely to be large.

TABLES

eTable 1. Grading of evidence for etiologic relationships of specific dietary factors with cardiometabolic outcomes.[1]

Dietary Factor	Cardiometabolic Outcome	Strength	Consistency	Temporality	Coherence	Specificity	Analogy	Plausibility	Biological Gradient	Experiment
Foods										
Fruits	CHD	+	++	+++	+++	++	+++[5]	+++	+++	++[23]
	Ischemic stroke	++	+++	+++	+++	++	+++[5]	+++	+++	++[23]
	Hemorrhagic stroke	+++	+++	+++	+++	++	+++[5]	+++	+++	++[23]
Vegetables	CHD	+	++	+++	+++	++	+++[5]	+++	+++	++[23]
	Ischemic stroke	++	++	+++	+++	++	+++[5]	+++	+++	++[23]
	Hemorrhagic stroke	++	++	+++	+++	++	+++[5]	+++	+++	++[23]
Beans/legumes	CHD	+++	+++	+++	+++	+++	+++[5]	+++	+++	++
Nuts/seeds	CHD (fatal)	+++	+++	+++	+++	++	+++[5]	+++	+++	+++
	CHD (non-fatal)	+++	+++	++	+++	++	+++[5]	+++	+++	+++
	Diabetes	++	+++	+++	+++	++	+++[5]	+++	+++	++
Whole grains	CVD	+	+++	+++	+++	++	+++[6]	+++	+++	+++[24]
	CHD	+	+++	+++	+++	++	+++[6]	+++	+++	+++[24]
	Diabetes	++	+++	+++	+++	++	+++[6]	+++	+++	+++[24]
Red meats, unprocessed	Diabetes	++	+++	+++	+++	+++	+++[7]	++	+++	++
Processed meats	CHD	+++	+++	+++	+++	++	+++[8]	+++	+++	+++
	Diabetes	+++	+++	+++	+++	++	+++[7]	++	+++	++
Yogurt	Diabetes	++	++	+++	+++	+++	++[9]	++	+++	++[25]
Sugar-sweetened beverages	Body mass index	+++[4]	+++	+++	+++	+++	+++[10, 11]	+++	+++	+++
	CHD	++	+++	++	+++	++	++[10]	++	+++	++
	Diabetes	+++	+++	+++	+++	+++	+++[11]	+++	+++	+++
Nutrients										
PUFAs	CHD	+	++	+++	+++	+++	+[12]	+++	+++	+++
Seafood ω-3s (fish/seafood)[2]	CHD (fatal)	++	+++	+++	+++	+++	+++[13]	+++	+++[22]	+++
Trans-fats	CHD	+++	+++	+++	+++	+++	++[14]	+++	+++	+++

eTable 1. Grading of evidence for etiologic relationships of specific dietary factors on cardiometabolic outcomes (continued)

Dietary Factor	Cardiometabolic Outcome	Strength	Consistency	Temporality	Coherence	Specificity	Analogy	Plausibility	Biological Gradient	Experiment
Dietary fiber	CVD	+++	+++	+++	+++	++	+++[15]	+++	+++	+++
	CHD	+++	+++	+++	+++	++	+++[15]	+++	+++	+++
	Stroke	++	+++	+++	+++	++	+++[15]	+++	+++	++
	Diabetes	++	+++	+++	+++	++	+++[16]	+++	+++	+++
Glycemic load	CHD	+++[3]	+++[3]	+++	+++	++	++[10]	++	++[21]	++
	Stroke	++	+++	+++	+++	++	+[17]	++[20]	++[21]	++
	Diabetes	+	++	+++	+++	++	+++[11]	+++	++[21]	+++
Sodium	Systolic BP	++[4]	+++	+++	+++	+++	+[19]	+++	+++	+++
	CVD (fatal)	++	++	+++	+++	++	+++[18]	+++	+	+++
Potassium	Stroke	++	+++	+++	+++	+++	+++[18]	+++	+++	+++

[1] To score each Bradford-Hill criterion, the following general principles were utilized, focusing on evidence from meta-analyses of prospective cohort studies and/or randomized controlled trials: +++ Consistent evidence from several well-designed studies with relatively few limitations; ++ Consistent evidence from several studies but with some important limitations; + Emerging evidence from a few studies or conflicting results from several studies; - criterion not met. Definitions for each of the nine criteria and adaptations to the general scoring system were as follows: **Strength:** magnitude of association, including RRs for protective factors of >0.9 (+), 0.8-0.89 (++), or <0.8 (+++); and for harmful factors, of <1.11 (+), 1.25 (++), and >1.25 (+++). Since magnitude is directly dependent on both the selected serving size and frequency of consumption, we utilized serving sizes most similar to standard dietary guidelines and frequencies of consumption representing modest, standardized differences in intake (e.g., 1 serving/d of fruit) that are easily communicated and could be feasibly achieved by an intervention. **Consistency**: association is repeatedly observed in different populations and circumstances, including ≥80% of included study-specific estimates being in the expected direction (+++); ≥60 - <80% (++); ≥40 - <60% (+); and <40% (not meeting criteria). **Temporality:** exposure precedes outcome. Because all evidence was based on longitudinal studies, this was a necessary criterion (+++); when relatively few overall studies were available (<5), we graded this criterion conservatively as ++. **Coherence:** interpretation of association does not conflict with known natural history and biology of the disease, for example based on pathways of disease occurrence and laboratory findings on the dietary factor. **Specificity:** exposure linked to a specific outcome. Because many nutritional factors can plausibly have diverse effects and influence multiple outcomes, scoring was based on three principles: 1) dietary factor influences a mechanism/pathways known to cause the outcome; 2) dietary factor not associated with multiple other, unrelated non-communicable diseases (e.g., multiple cancers, chronic obstructive pulmonary disease (COPD)); 3) dietary association has additional specificity within the set of cardiometabolic outcomes (coronary heart disease (CHD), stroke, diabetes mellitus). **Analogy:** based on the effects of similar factors on the disease outcome; see detailed footnotes below. **Plausibility:** association supported by one or more credible biological mechanisms. **Biological gradient:** exposure and outcome are related by a monotonic dose-response curve. **Experiment:** association is also supported by evidence from randomized controlled trials on intermediate risk factors (or, less commonly, disease outcomes) plus supportive laboratory studies.

[2] Given their common sources, these factors were evaluated together based on studies of fish/seafood, dietary long-chain omega-3 fats, and fish oil supplements.

[3] In secondary stratified analyses, +++ for women, and – for men (main effect: null).

[4] Effect size does not correspond to relative risk, but comparison with effect sizes on body mass index or blood pressure (BP) for other lifestyle-based interventions. For BP, the overall scored strength reflects the average of +++ for older adults, blacks, and hypertensives; and + for healthy, white, younger adults.

[5] Based on analogies with other minimally processed, higher fiber, phytochemical rich foods.

[6] Based on analogies with other less-processed foods, dietary fiber, and glycemic load.

[7] Based on analogies to processed meats (or unprocessed red meats), blood ferritin levels, and hemochromatosis.

[8] Based on analogies to sodium.

[9] Based on analogies to probiotics in relation to weight gain.

eTable 1. Grading of evidence for etiologic relationships of specific dietary factors on cardiometabolic outcomes (continued)

[10] Based on analogies to other poor-quality carbohydrates in relation to both CHD and weight gain.
[11] Based on analogies to other poor-quality carbohydrates in relation to both diabetes mellitus and weight gain.
[12] Based on analogies to vegetable oils in relation to CHD and cardiovascular risk factors.
[13] Based on analogies to fish.
[14] Based on analogies to other dietary fats.
[15] Based on analogies to other higher-quality carbohydrates and other fiber-rich foods such as nuts, fruits, and vegetables.
[16] Based on analogies to other higher-quality carbohydrates in relation to both diabetes mellitus and weight gain.
[17] Based on analogies to other poor-quality carbohydrates in relation to diabetes mellitus, and diabetes as a risk factor for stroke.
[18] Based on analogies to other lifestyle-related and nonlifestyle-related blood pressure interventions and to foods high in sodium (e.g., processed meats).
[19] Based on analogies to potassium.
[20] Based on insulin resistance/diabetes mellitus pathways.
[21] Several individual studies show dose response; no published dose-response meta-analyses.
[22] Between 0 and 250 mg/d; meta-analyses suggest no major additional benefits for fatal CHD above 250 mg/d.
[23] Because while strong and consistent evidence from trials of dietary patterns rich in fruits and vegetables, few trials separately evaluated only fruits or vegetables.
[24] Based on overall effects of carbohydrate quality, including studies of dietary fiber and glycemic load; much less evidence for benefits of whole grains independent of dietary fiber and glycemic load.
[25] Based on findings for yogurt and weight gain (animal studies, human cohorts) and for probiotics and weight gain (animal and human experiments).

eTable 2. Estimates of etiologic effect sizes of dietary factors with risk of cardiometabolic diseases.[1]

Dietary Factor	Outcome	Studies in Each Meta-analysis[2]	Source	No. of Subjects	No. of Events	Unit of RR[3]	RR (95% CI)[3]	Statistical Heterogeneity
Foods								
Fruits[4]	↓ CHD	16 cohorts (22 estimates)	Gan, 2015[25]	817,977	13,786	per 1 serving/d (100 g/d)	0.94 (0.91, 0.98)	I^2=31.7% p=0.08
	↓ Ischemic stroke	9 cohorts (10 estimates)	*De novo* meta-analysis[5] [26-33]	329,204	5,517	per 1 serving/d (100 g/d)	0.88 (0.83, 0.93)	I^2=77.1% p<0.001
	↓ Hemorrhagic stroke	5 cohorts (7 estimates)	*De novo* meta-analysis[5] [28-31]	175,035	1,535	per 1 serving/d (100 g/d)	0.73 (0.62, 0.87)	I^2= 81.4% p<0.001
Vegetables[6]	↓ CHD	9 cohorts	Gan, 2015[25]	761,612	13,135	per 1 serving/d (100 g/d)	0.95 (0.92, 0.98)	I^2=35.6% p=0.07
	↓ Ischemic stroke	9 cohorts (10 estimates)	*De novo* meta-analysis[5] [26-29,31-33]	329,204	5,515	per 1 serving/d (100 g/d)	0.83 (0.75, 0.93)	I^2=89.9% p<0.001
	↓ Hemorrhagic stroke	5 cohorts (7 estimates)	*De novo* meta-analysis[5] [28-31,33]	175,035	1,535	per 1 serving/d (100 g/d)	0.83 (0.72, 0.96)	I^2=30% p=0.20
Beans/legumes	↓ CHD	5 cohorts	Afshin, 2014[34]	198,904	6,514	per 1 serving/d (100 g/d)	0.77 (0.65, 0.90)	I^2=0.2% p=0.41
Nuts/seeds	↓ CHD (fatal)	1 RCT and 5 cohorts	Afshin, 2014[34]	206,114	6,749	per 4 servings/wk (4 oz/wk)	0.76 (0.69, 0.84)	I^2=27.2% p=0.23
	↓ CHD (non-fatal)	1 RCT and 3 cohorts	Afshin, 2014[34]	141,390	2,101	per 4 servings/wk (4 oz/wk)	0.78 (0.67, 0.92)	I^2=0.0% p=0.46
	↓ Diabetes	1 RCT and 5 cohorts	Afshin, 2014[34]	230,216	13,308	per 4 servings/wk (4 oz/wk)	0.87 (0.81, 0.94)	I^2=21.6% p=0.27
Whole grains	↓ CVD	7 cohorts (9 estimates)[7]	New GLST[8] of Mellen 2008[35]	285,217	7,005	per 1 serving/d (50 g/d)	0.91 (0.86, 0.97)	I^2=84.0% P<0.001
	↓ CHD	6 cohorts	New GLST[8] of Mellen 2008[35]	281,633	4,593	per 1 serving/d (50 g/d)	0.97 (0.94, 0.99)	I^2=75.5% p=0.001
	↓ Diabetes	10 cohorts	Aune 2013[36]	385,868	19,791	per 1 serving/d (50 g/d)	0.88 (0.83, 0.93)	I^2=82% p=<0.0001
Red meats, unprocessed	↑ Diabetes	9 cohorts (10 estimates)	Pan, 2011[37]	442,101	28,228	per 1 serving/d (100 g/d)	1.19 (1.04, 1.37)	I^2=93% p<0.001

eTable 2. Estimates of etiologic effect sizes of dietary factors with risk of cardiometaoblic diseases (continued)

Dietary Factor	Outcome	Studies in Each Meta-analysis[2]	Source	No. of Subjects	No. of Events	Unit of RR[3]	RR (95% CI)[3]	Statistical Heterogeneity
Processed meats	↑ CHD	5 cohorts (6 estimates)	Micha, 2010[38]	614,062	21,308	per 1 serving/d (50 g/d)	1.37 (1.11, 1.68)	I^2=76.2% p=0.001
	↑ Diabetes	8 cohorts (9 estimates)	Pan, 2011[37]	371,492	26,256	per 1 serving/d (50 g/d)	1.51 (1.25, 1.83)	I^2=94.3% p<0.001
Fish/Seafood[9]	↓ CHD (fatal)	16 cohorts (17 estimates)	Zheng, 2012[39]	315,812	4,472	per 15 g/d (~1-100 g-serving/wk)	0.94 (0.90-0.98)	I^2=63.1 p<0.005
Yoghurt	↓ Diabetes	9 cohorts	Chen, 2014[40]	408,096	32,995	per 1 serving/d (8 oz/d, 244 g/d)	0.82 (0.70, 0.96)	I^2=65.3 p=0.003
Sugar-sweetened beverages	↑ BMI (when baseline BMI <25 kg/m^2)[10]	3 cohorts	Mozaffarian, 2011[7]	120,877	n/a	per 1 serving/d (8 oz/d)[11]	0.10 kg/m^2 (0.05, 0.15)	not reported
	↑ BMI (when baseline BMI ≥25 kg/m^2)[10]	3 cohorts	Mozaffarian, 2011[7]	120,877	n/a	per 1 serving/d (8 oz/d)[11]	0.23 kg/m^2 (0.14, 0.32)	not reported
	↑ Diabetes (BMI-adjusted)[10]	17 cohorts	Imamura, 2015[41]	464,937	38,253	per 1 serving/d (8 oz/d)[11]	1.27 (1.10, 1.46)	I^2=73%
	↑ CHD (BMI-adjusted)[9]	4 cohort	Xi, 2015[42]	173,753	7,396	per 1 serving/d (8 oz/d)[11]	1.17 (1.10, 1.24)	I^2=0% p=0.79
Nutrients								
PUFA replacing Carbs[12]	↓ CHD	9 cohorts (12 estimates)	Farvid, 2014[43]	262,612	12,198	per 5 %E/d	0.90 (0.85, 0.94)	I^2=47.3% p=0.04
PUFA replacing SFA[12]	↓ CHD	8 cohorts (11 estimates)	Farvid, 2014[43]	262,612	12,198	per 5 %E/d	0.91 (0.87, 0.96)	I^2=55.9% p=0.01
Seafood omega-3 fats[13]	↓ CHD (fatal)	4 RCTs and 15 cohorts	Mozaffarian 2006[44]	363,003	5,951	per 100 mg/d	0.85 (0.79, 0.92)	not reported
Trans-fats[14]	↑ CHD	4 cohorts	Mozaffarian, 2006[45]	139,836	4,965	per 2% %E/d	1.23 (1.11, 1.37)	not reported
Dietary fiber[15]	↓ CVD	10 cohorts	Threapleton, 2013[46]	1,279,690	19,869	per 20 g/d	0.76 (0.70, 0.84)	I^2=45%

eTable 2. Estimates of etiologic effect sizes of dietary factors with risk of cardiometaoblic diseases (continued)

Dietary Factor	Outcome	Studies in Each Meta-analysis[2]	Source	No. of Subjects	No. of Events	Unit of RR[3]	RR (95% CI)[3]	Statistical Heterogeneity
	↓ CHD	12 cohorts	Threapleton, 2013[46]	1,039,572	11,282	per 20 g/d	0.76 (0.68, 0.85)	I^2=33%
	↓ Stroke	7 cohorts	Threapleton, 2013[47]	324,640	9,257	per 20 g/d	0.81 (0.70, 0.95)	I^2=59%
	↓ Diabetes	5 cohorts	Yao, 2014[48]	157,336	3,029	per 30 g/d	0.76 (0.65, 0.88)	not reported
Glycemic load[16]	↑ CHD	9 cohorts (13 estimates)	Mirrahimi, 2014[49]	262,891	11,319	high vs. low	1.23 (1.06, 1.42)	I^2=52% p=0.02
	↑ Stroke	6 cohorts (9 estimates)	Cai, 2015[50]	222,308	2,951	high vs. low	1.19 (1.05, 1.36)	I^2 = 5.0% p= 0.39
	↑ Diabetes	17 cohorts (30 estimates)	Bhupathiraju, 2014[51]	698,589	46,115	high vs. low	1.13 (1.08, 1.17)	I^2=26.4% p= 0.09
Sodium[17, 18]	↑ CVD (fatal)	11 cohorts (16 estimates)	Poggio, 2015[52]	220,249	9,628	high vs. low	1.12 (1.06, 1.19)	I^2=57.6% p=0.002
	↑ SBP, main effect, white, age 50, normotensives[18]	103 RCTs (107 estimates)	Mozaffarian, 2014[8]	6,970	NA	per 2,300 mg/d (100 mmol/d)	3.74 mm Hg (5.18, 2.29)	not reported
	↑ SBP, additional effect per year of age < or > 50[18]						0.105 mm Hg (0.164, 0.047)	
	↑ SBP, additional effect among Blacks[18]						2.49 mm Hg (4.85, 0.13)	
	↑ SBP, additional effect among hypertensives[18]						1.87 mm Hg (3.63, 0.12)	
Potassium[17]	↓ Stroke	9 cohorts (11 estimates)	D'Elia, 2011[53]	233,606	7,066	per 1,000 mg/d (25.7 mmol/d)	0.87 (0.79, 0.94)	I^2=55% p=0.01

[1] Dietary factors with probable or convincing evidence, based on the Bradford-Hill criteria for assessing causality,[11] for etiologic relationships with cardiometabolic outcomes including coronary heart disease (CHD), stroke, cardiovascular disease (CVD), type 2 diabetes, body mass index (BMI), or systolic blood pressure (SBP).

[2] Number of estimates can be higher than the number of studies if more than one arm in a randomized controlled trial or if estimates were separately reported by sex or age in prospective cohort studies.

[3] Based on published or *de novo* dose-response meta-analyses of prospective cohorts or randomized trials. Meta-analyses were evaluated based on design, number of studies and events, definition of dietary exposure and disease outcomes, statistical methods, evidence of bias, and control for confounders. Relative risks (RRs) were standardized across individual studies per uniform servings of intake. When necessary, original data were extracted from individual studies to perform *de novo* dose-response meta-analyses using all available data by means of generalized least squares (GLST in STATA) for trend estimation. Effect sizes are relative risks (RRs) (95% confidence intervals (CIs)) except for sugar-sweetened beverage (SSB) effects on BMI (absolute in kg/m^2) and sodium effects on SBP (absolute in mm Hg). Effect sizes correspond to the relationship between increased consumption of each dietary target per unit of RR and respective change in cardiometabolic risk (directionality in risk: ↑ increased, ↓ decreased). Proportional relationships of major risk factors with cardiometabolic outcomes vary by age, with an inverse log-linear age association.[14,24] We derived age specific RRs for diet-cardiometabolic disease relationships based on the age patterns of RRs for metabolic risk factors and incident cardiometabolic disease events (see Figure S2).[5] Except as indicated (SSBs, sodium), we did not identify sufficient evidence for effect size modification by other factors beyond age, e.g. race, obesity, or overall diet quality.

eTable 2. Estimates of etiologic effect sizes of dietary factors with risk of cardiometaoblic diseases (continued)

[4] Excluding 100% juices.

[5] All four of these *de novo* meta-analyses were performed for consumption of fruits and vegetables and stroke subtypes due to absence of recent published meta-analyses.

[6] Excluding vegetable juices, starchy vegetables such as potatoes or corn, and salted or pickled vegetables. Because certain beans/legumes (e.g., black beans, lentils) were commonly included as vegetables in many of the identified studies, the etiologic relationships identified for vegetables should be considered as representing the relationships of vegetables including beans/legumes. We also evaluated etiologic relationships of beans/legumes separately.

[7] When a trial did not report an effect for total CVD separately (n=3 cohorts), CHD and stroke estimates from each trial were first pooled using fixed effects (n=2 cohorts), or the CHD estimate was used in place of CVD when that was the only reported outcome (n=1 cohort).

[8] Data were re-extracted from all original investigations identified in the meta-analysis to assess dose-response using two-step generalized least squares for trend estimation.[54,55]

[9] Etiologic relationships are limited to fatal CHD only due to absence of probable or convincing evidence for benefits on nonfatal CHD events. Benefits for were identified up to 3.5 servings/week of fish/seafood and 250 mg/d of eicosapentaenoic acid (EPA) + docosahexaenoic acid (DHA), with little evidence for additional benefits at higher intakes.

[10] Available evidence suggests that SSBs are associated with increased cardiometabolic risk through relationships with BMI, plus additional BMI-independent relationships of SSBs with CHD and type 2 diabetes.[5,6]

[11] Depending on study-specific assumptions, use of UK or US conversion factors, and study weighting, the serving size is in this analysis could also be 8.7-9.1 oz.

[12] Estimated RRs are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA).

[13] Linear reduction in risk observed until 250 mg/day, with little evidence for additional benefits at higher intakes.

[14] The overall causal effect size was based on 4 cohorts; the final RR (95% CI) used herein was very similar but based on the isocaloric replacement of trans-fats with an equal distribution of SFA, monounsaturated fats (MUFA), and PUFA based on a meta-analysis of 2 cohorts.

[15] Possible evidence for larger relationships at intakes above 20 g/d.

[16] Glycemic load is calculated as the glycemic index of a food multiplied by its carbohydrate content. Higher values reflect both higher glycemic index and higher quantities of refined grains, starches, and sugars. We also identified evidence for causal relationships of dietary fiber. Glycemic load and dietary fiber each overlap with foods in this Table including fruits, vegetables, beans/legumes, nuts/seeds, and whole grains.

[17] Assessed by 24h dietary recall, food frequency questionnaire, or 24h urine excretion.

[18] Available evidence suggests that sodium is associated with increased mortality from CHD, stroke, and other BP-related cardiovascular diseases through effects on SBP.[11,55] Effects of sodium on SBP, including variation by age, hypertension status, and race, were determined from randomized controlled trials.For every year above or below age 50, there was 0.105 mm Hg (95% CI: 0.047, 0.164) larger or smaller BP reduction, respectively; we assumed no further increase in effect after age 70 due to limited trial evidence outside this age range. We assumed a log-linear dose-response between SBP and CVD until 115 mm Hg, below which we assumed no further lowering of risk. Relationships CVD vs. SBP were separately identified and are not independent (i.e., relationships with CVD are at least partly mediated by SBP effects).

eTable 3. Data sources and identified optimal intake levels of specific dietary factors associated with cardiometabolic diseases.[1]

Dietary Factor (standardized serving size)	**Observed intake levels associated with lowest disease risk in meta-analyses (health outcome)**	**Observed mean national intakes in 2010**[2]	**Recommended intakes by major dietary guidelines**[3]	**Optimal mean population intake**[4]
FOODS				
Fruits[5] *(100 g/serving)*	2.4 servings/d (CHD) 3.4 servings/d (ischemic stroke) 2.1 servings/d (hemorrhagic stroke)	Top 3 countries: Barbados: 410 g/d (4.1 servings/d) Jamaica: 315 g/d (3.2 servings/d) Malaysia: 299 g/d (3.0 servings/d)	DGA 2015: 2 cups/d AHA 2020: ≥4.5 cups/d (fruits and vegetables)	3 (100 g) servings/d
Vegetables (including beans/legumes)[6] *(100 g/serving)*	3.7 servings/d (CHD) 3.4 servings/d (ischemic stroke) 1.5 servings/d (hemorrhagic stroke)	Top 3 countries: Vegetables: Lao PDR: 364 g/d (3.6 servings/d) Bhutan: 302 g/d (3.0 servings/d) Taiwan: 293 g/d (2.9 servings/d)	DGA 2015: 1.8 cups/d (excluding starchy vegetables) AHA 2020: ≥4.5 cups/d (fruits and vegetables)	4 (100 g) servings/d
Beans/legumes *(100 g/serving)*	4.2 servings/wk (CHD) (0.6 servings/d)	Legumes: Brazil: 194 g/d (1.9 servings/d) Colombia: 137 g/d (1.4 servings/d) Mexico: 103 g/d (1.0 serving/d)	DGA 2015: 1 ½ cups/wk (0.2 servings/d)	1 (100 g) serving/d
Nuts/seeds *(1 oz [28.35 g]/serving)*	5.0 servings/wk (fatal CHD) 5.2 servings/wk (non-fatal CHD) 4.9 servings/wk (diabetes)	Top 3 countries: Malaysia: 74 g/d (18.3 servings/wk) Lebanon: 24 g/d (6.0 servings/wk) UK: 15 g/d (3.7 servings/wk)	DGA 2015: 5 oz/wk (including soy products) AHA 2020: ≥4 servings/wk[7]	5 (1 oz) servings/wk
Whole grains *(50 g/serving)*	2.5 servings/d (CVD) 2.5 servings/d (CHD) 3.0 servings/d (diabetes)	Top 3 countries: Germany: 128 g/d (2.6 servings/d) Barbados: 118 g/d (2.4 servings/d) Australia: 93 g/d (1.9 servings/d)	DGA 2015: ≥3 (1 oz) servings/d (≥1.7 servings/d) AHA 2020: ≥3 (1 oz) servings/d (≥1.7 servings/d)	2.5 (50 g) servings/d
Red meats, unprocessed *(100 g/serving)*	0.19 servings/d (diabetes) (1.3 servings/wk)	Bottom 3 countries: Indonesia: 12 g/d (0.8 servings/wk) Armenia: 15 g/d (1.0 servings/wk) Georgia: 15 g/d (1.0 servings/wk)	DGA 2015: 26 oz/wk (lean meat, poultry and eggs) (7.4 servings/wk)	1 (100 g) serving/wk
Processed meats *(50 g/serving)*	0.07 serving/d (CHD) (0.5 servings/wk) 0.11 serving/d (diabetes) (0.8 servings/wk)	Bottom 3 countries: Iran: 2.5 g/d (0.4 servings/wk) Korea: 3.1 g/d (0.4 servings/wk) China: 3.3 g/d (0.5 servings/wk)	DGA 2015: Choose fresh lean meat, rather than processed meat	0

eTable 3. Data sources and identified optimal intake levels of specific dietary factors associated with cardiometabolic diseases (continued)

Dietary Factor (standardized serving size)	**Observed intake levels associated with lowest disease risk in meta-analyses (health outcome)**	**Observed mean national intakes in 2010**[2]	**Recommended intakes by major dietary guidelines**[3]	**Optimal mean population intake**[4]
			AHA 2020: none or ≤2 servings/wk	
Fish/Seafood *(100 g/serving)*	3 servings/wk (fatal CHD) 6.5 servings/wk (total stroke)	Top 3 countries: Japan: 105 g/d (7.4 servings/wk) Korea: 73 g/d (5.1 servings/wk) Iceland: 66 g/d (4.6 servings/wk)	DGA 2015: 8 oz/wk (2 servings/wk) AHA 2020: ≥2 (3.5 oz) servings/wk (preferably oily fish) (≥2 servings/wk)	3.5 (100 g) servings/wk
Yoghurt *(8 oz (244 g)/serving)*	2.6 servings/wk (diabetes)	Not available	DGA 2015: 3 cups/d of dairy products (21 cups/wk)	2.5 (8 oz) servings/wk
Sugar-sweetened beverages *(8 oz (236.5 g)/serving)*	0 servings/d (body mass index) 0.017 serving/d (diabetes)	Bottom 3 countries: China: 14 g/d (0.06 servings/d) Iran: 24 g/d (0.1 servings/d) Poland: 24 g/d (0.1 servings/d)	DGA 2015: <10 %E from added sugars AHA 2020: ≤450 kcal (36 oz)/wk (≤0.6 servings/d)	0
NUTRIENTS				
Polyunsaturated fats replacing carbohydrates or saturated fats *(%E)*	5.1 %E (CHD, cohorts) 14.9 %E (CHD, randomized trials)	Top 3 countries, PUFA: Bulgaria: 11.3 %E Lebanon: 9.3 %E Hungary: 8.9 %E Bottom 3 countries, SFA: Japan: 7.0 %E Mexico: 7.4 %E Barbados: 7.6 %E	DGA 2015: <10 %E from saturated fat replaced with unsaturated especially polyunsaturated fats. FAO 2010: 6-11 %E from PUFA	11 %E[9]
Seafood omega-3 fats *(mg/d)*	250 mg/d (fatal CHD)	Top 3 countries: Barbados: 1,191 mg/d Iceland: 1,120 mg/d Japan: 993 mg/d	DGA 2015: 250 mg/d[8]	250 mg/d
***Trans*-fats** *(%E)*	0 %E (CHD)	Bottom 3 countries: Barbados: 0.2 %E Finland: 0.4 %E Italy: 0.5 %E	DGA 2015: As low as possible WHO: <1 %E[56]	0.5 %E[10]

eTable 3. Data sources and identified optimal intake levels of specific dietary factors associated with cardiometabolic diseases (continued)

Dietary Factor (standardized serving size)	**Observed intake levels associated with lowest disease risk in meta-analyses (health outcome)**	**Observed mean national intakes in 2010**[2]	**Recommended intakes by major dietary guidelines**[3]	**Optimal mean population intake**[4]
Dietary fiber *(g/d)*	23.8 g/d (CVD) 22.8 g/d (CHD) 19.4 g/d (stroke) 30.0 g/d (diabetes)	Top 3 countries: Barbados: 28 g/d Mexico: 26 g/d Bulgaria: 25 g/d	DGA 2015: 22.4-33.6 g/d (depending on gender & age group)	30 g/d
Sodium *(mg/d)*	614 mg/d (lower SBP)[11] [57] 1,500 mg/d (reduced BP in randomized trials)[58] 1,787 mg/d (CHD mortality)[59] 2,245 mg/d (stroke mortality)[59] 2,391 mg/d (stroke)	5 nations with mean intakes at or below 2,000 mg/d: Jamaica, Colombia, South Africa, Mexico, Iran	UK NICE: <1,200 mg/d[60] AHA 2020: <1,500 mg/d[61] WHO: 2,000 mg/d[62] DGA 2015: <2,300 mg/d UK FSA: <2,400 mg/d[63]	2,000 mg/d[12]
Potassium *(mg/d)*	4,136 mg/d (stroke)	Not available	DGA 2015: 4,700 mg/d WHO: ≥3,500 mg/d[64]	4,500 mg/d

[1] Building up on our work in the 2010 Nutrition and Chronic Diseases Expert Group (NutriCoDE) in which we evaluated optimal intake levels for cardiometabolic outcomes including coronary heart disease (CHD), stroke, type 2 diabetes, body mass index (BMI), and systolic blood pressure (SBP).[9]

[2] Based on nationally representative, individual-level dietary surveys using optimal dietary metrics among both adult men and women in our 2010 NutriCoDE Global Dietary Database[65-69] and other sources;[70] adjusted to 2,000 kcal/d.

[3] For an average intake of 2,000 kcal/d.

[4] For an average energy intake of 2,000 kcal/d. The optimal mean levels for the population were determined based on risk (observed levels at which lowest disease risk occurs), feasibility (observed national consumption levels globally), and consistency (with other assessments in major dietary guidelines).[23,24] The plausible population distribution of consumption (SD) around the optimal population mean was determined to be ±10% of the mean, based on the average SD for diet-related metabolic risk factors.[3,25-28] We could not comparably identify optimal intake levels of glycemic load due to absence of global data on mean intakes in most nations and of recommended levels in major dietary guidelines.

[5] Excluding 100% juices.

[6] Excluding vegetable juices, starchy vegetables such as potatoes or corn, and salted or pickled vegetables.

[7] Including beans/legumes.

[8] Based on eicosapentaenoic acid (EPA) + docosahexaenoic acid (DHA) in common fish varieties, the DGA 2015 calculates that 1,750 mg/wk (250 mg/d) would be in concordance with the recommended fish intake of 8 oz/wk.

[9] 12 %E in earlier analyses.[4,67,71] Lowered to 11% based on the present updated review of available evidence on optimal levels and considering observed national intakes and major dietary guidelines.

[10] Non-zero value to account for natural ruminant sources, for which probable or convincing evidence of causal effects on cardiometabolic outcomes was not identified.

[11] Based on ecologic evidence; these values are the mean 24-hour urine sodium excretion across the 4 populations with lowest levels (Brazil, Yanomano and Xingu, Papua New Guinea, Kenya) in the Intersalt Study.[57]

[12] As previously described in detail, we did not incorporate a potential U-shaped relationship with risk due to the linear dose-response effect of dietary sodium on BP, the log-linear effect of BP on cardiovascular disease (CVD), the absence of plausible biologic rationale for increased risk with sodium reduction, at least to 2,000 mg/d, and the plausible source of bias that could explain the U-shaped relationships observed in some, but not all, prior observational studies.[8]

AHA 2020, American Heart Association 2020 Strategic Impact Goals;[72] DGA, Dietary Guidelines for Americans;[73] FAO, United Nations Food and Agricultural Organization;[74] PUFA, Polyunsaturated fats; SFA, Saturated fats; UK FSA, Food Standards Agency; UK NICE, UK National Institute for Health and Clinical Excellence; WHO, World Health Organization.

eTable 4. Validity analyses comparing the observed relative risks for CHD based on evidence from prospective observational studies and randomized trials of dietary patterns versus the estimated relative risks for CHD based on the present analysis of individual dietary components.

	Observed Relative Risk for CHD [1]	Estimated Relative Risk for CHD [2]
Prospective cohort studies evaluating associations of overall dietary patterns with incident CHD [3]		
Health Professionals Study – Prudent diet (average of all quintiles, with lowest quintile as the reference)[75]	0.82	0.78
Health Professionals Study – Western diet (average of all quintiles, with lowest quintile as the reference)[75]	1.29	1.17
Nurse's Health Study – Prudent diet (average of all quintiles, with lowest quintile as the reference)[76]	0.82	0.80
Nurse's Health Study – Western diet (average of all quintiles, with lowest quintile as the reference)[76]	1.20	1.10
Nurse's Health Study – Mediterranean diet (average of all quintiles, with lowest quintile as the reference)[77]	0.84	0.81
EPIC-Greek (per 2 units diet score increase)[78]	0.78	0.90
SUN-Spain (per 2 units diet score increase)[79]	0.74	0.75
Randomized controlled feeding trials evaluating effects of overall dietary patterns on BP and LDL-C [4]		
Fruits, serving/d (100 g/d)	0.93	0.94
Vegetables, serving/d (100 g/d)	0.93	0.95
Nuts and seeds, serving/wk (1 oz [28.35 g]/wk)	0.93	0.93
Whole grains, serving/d (50 g/d)	0.88	0.97
Fish, serving/d (100 g/d)	0.87	0.66
Red meat, serving/d (100 g/d)	1.17	1.17
Dietary fiber, 20 g/d	0.77	0.76
Randomized clinical trial evaluating effects of an overall dietary pattern on incident CHD [5]		
Mediterranean diet + extra-virgin olive oil vs. placebo	0.80	0.77
Mediterranean diet + mixed nuts vs. placebo	0.74	0.62
Combined groups	0.77	0.69

[1] Values are the observed relative risks (RRs) in these long-term prospective observational studies or randomized trials of dietary patterns.

[2] Values are the estimated RRs based on the reported differences in intakes of individual dietary factors across each category of the diet pattern study and our estimated quantitative effect sizes for these individual dietary factors (Table 1), assuming a multiplicative relation of proportional effects of individual components. Not all dietary factors in Table 1 were included due to insufficient reporting of differences in these components across studies of dietary patterns. We focused on foods and excluded overlapping nutrients (e.g., we included whole grains, fruits, and vegetables; and excluded fiber, glycemic load). We also assumed no benefits from differences in other dietary factors (e.g., coffee) in the dietary pattern for which we had not determined a causal etiologic relationship.

[3] Because the observed relative risks in most of these cohorts were based on serial dietary measures with time-varying updating, the predicted relative risks for each dietary factor were adjusted for comparability for regression dilution bias due to the observed changes over time of each dietary factor in these cohorts.

[4] For randomized controlled feeding trials of dietary patterns and cardiovascular risk factors, we performed inverse-variance-weighted meta-regression across all of the treatment arms of three large, well-established dietary pattern trials[58,80,81] to estimate the independent effects of five different dietary components, when consumed as part of an overall dietary pattern, on systolic blood pressure (SBP) and LDL-cholesterol (LDL-C). We evaluated achieved dietary changes in fruits, vegetables, nuts, whole grains, and fish simultaneously as independent variables in the meta-regression, with changes in SBP or LDL-C as

eTable 4. Validity analyses comparing the observed relative risks for CHD based on evidence from prospective observational studies and randomized trials of dietary patterns versus the estimated relative risks for CHD based on the present analysis of individual dietary components (continued)

the dependent variable. For each dietary factor, we then calculated how the identified change in SBP and LDL-C from the meta-regression would alter cardiovascular risk, based on the established relationship between SBP and LDL-C and clinical events,[17,21,24,82,83] assuming independent, multiplicative effects of SBP and LDL-C on risk. These observed effects, calculated based only on how each dietary factor altered SBP and LDL-C in randomized controlled feeding trials of diet patterns, were then compared to our estimated etiologic relationship with coronary heart disease (CHD) events for that dietary factor (Table 1).

[5] We compared the observed vs. predicted risk in a large randomized clinical trial evaluating the effects of two overall dietary patterns on incidence of cardiovascular events.[84] A similar analysis was previously reported using 2010 NutriCode RR's;[85] the values here are based on the updated RR's in the current investigation (Table 1). The predicted risk reductions were calculated by combining the observed differences in individual dietary components achieved in the trial with our estimated quantitative effects, assuming multiplicative effects of each individual component. Because we had not identified sufficient studies to quantify etiologic relationships of extra-virgin olive oil, to enable comparison we imputed potential relationships of extra-virgin olive oil from our estimated relative risk for polyunsaturated vegetable fats.

eTable 5. Dietary factors having probable or convincing evidence for causal relationships with cardiometabolic outcomes and standardized magnitudes of effect sizes.

Dietary Targets[a]	Cardiometabolic Outcome	No. of Studies in Each Meta-analysis	Unit of RR[b]	Relative Risk by Age (RR, 95% CIs)[c]					
				25-34 y	35-44 y	45-54 y	55-64 y	65-74 y	75+ y
Fruits (g/d)	↓ CHD	16 cohorts (22 estimates)	per 1 serving (100 g)/d	0.92 (0.87, 0.97)	0.92 (0.87, 0.97)	0.93 (0.89, 0.97)	0.94 (0.91, 0.98)	0.95 (0.92, 0.98)	0.97 (0.96, 0.99)
	↓ Ischemic stroke	9 cohorts (10 estimates)		0.83 (0.76, 0.90)	0.83 (0.77, 0.90)	0.86 (0.80, 0.92)	0.88 (0.83, 0.93)	0.90 (0.86, 0.94)	0.94 (0.92, 0.96)
	↓ Hemorrhagic stroke	5 cohorts (7 estimates)		0.63 (0.49, 0.81)	0.64 (0.5, 0.82)	0.69 (0.56, 0.84)	0.73 (0.61, 0.87)	0.77 (0.67, 0.89)	0.86 (0.8, 0.92)
Vegetables (g/d)	↓ CHD	9 cohorts (9 estimates)	per 1 serving (100 g)/d	0.93 (0.89, 0.97)	0.93 (0.9, 0.97)	0.94 (0.91, 0.97)	0.95 (0.93, 0.98)	0.96 (0.94, 0.98)	0.98 (0.97, 0.99)
	↓ Ischemic stroke	9 cohorts (10 estimates)		0.76 (0.64, 0.9)	0.77 (0.66, 0.9)	0.8 (0.7, 0.92)	0.83 (0.74, 0.93)	0.86 (0.78, 0.94)	0.92 (0.87, 0.96)
	↓ Hemorrhagic stroke	5 cohorts (7 estimates)		0.76 (0.61, 0.95)	0.77 (0.62, 0.95)	0.80 (0.67, 0.96)	0.83 (0.72, 0.96)	0.86 (0.76, 0.97)	0.92 (0.86, 0.97)
Nuts/seeds (g/d)	↓ CHD (fatal)	5 cohorts, 1 RCT (6 estimates)	per 1 serving (oz)/ wk	0.89 (0.85, 0.93)	0.89 (0.85, 0.93)	0.91 (0.87, 0.94)	0.92 (0.89, 0.95)	0.93 (0.91, 0.96)	0.96 (0.95, 0.97)
	↓ Diabetes	5 cohorts, 1 RCT (6 estimates)		0.95 (0.92, 0.98)	0.95 (0.93, 0.98)	0.96 (0.94, 0.98)	0.97 (0.95, 0.98)	0.97 (0.96, 0.99)	0.98 (0.98, 0.99)
Whole grains (g/d)	↓ CHD	6 cohorts (6 estimates)	per 1 serving (50 g)/d	0.95 (0.91, 0.99)	0.95 (0.92, 0.99)	0.96 (0.93, 0.99)	0.97 (0.94, 0.99)	0.97 (0.95, 0.99)	0.98 (0.97, 0.99)
	↓ Ischemic stroke[d]	7 cohorts (9 estimates)		0.88 (0.80, 0.96)	0.88 (0.81, 0.96)	0.90 (0.83, 0.97)	0.91 (0.86, 0.97)	0.93 (0.88, 0.98)	0.96 (0.93, 0.98)
	↓ Hemorrhagic stroke[d]	7 cohorts (9 estimates)		0.88 (0.80, 0.96)	0.88 (0.81, 0.96)	0.90 (0.83, 0.97)	0.91 (0.86, 0.97)	0.93 (0.88, 0.98)	0.96 (0.93, 0.98)
	↓ Diabetes	10 cohorts (10 estimates)		0.83 (0.76, 0.90)	0.83 (0.77, 0.90)	0.86 (0.80, 0.92)	0.88 (0.83, 0.93)	0.90 (0.86, 0.94)	0.94 (0.92, 0.96)
Red meats (g/d)	↑ Diabetes	9 cohorts (10 estimates)	per 1 serving (100 g)/d	1.3 (1.05, 1.60)	1.29 (1.05, 1.57)	1.24 (1.04, 1.47)	1.19 (1.03, 1.37)	1.16 (1.03, 1.30)	1.09 (1.02, 1.15)
Processed meats (g/d)	↑ CHD	5 cohorts (6 estimates)	per 1 serving (50 g)/d	1.62 (1.17, 2.18)	1.58 (1.16, 2.11)	1.47 (1.14, 1.88)	1.38 (1.11, 1.69)	1.30 (1.09, 1.54)	1.16 (1.07, 1.27)
	↑ Diabetes	8 cohorts (9 estimates)		1.86 (1.38, 2.46)	1.81 (1.36, 2.37)	1.65 (1.30, 2.08)	1.52 (1.24, 1.83)	1.41 (1.20, 1.65)	1.22 (1.12, 1.32)
SSBs (servings (8 oz)/d)	↑ BMI (baseline BMI <25)[e]	Original meta-analysis of 3 US prospective cohorts (NHS I, NHS II, HPFS)	per 1 serving (8 oz)/d	0.10 kg/m^2 (0.05, 0.15)	0.10 kg/m^2 (0.05, 0.15)	0.10 kg/m^2 (0.05, 0.15)	0.10 kg/m^2 (0.05, 0.15)	0.10 kg/m^2 (0.05, 0.15)	0.10 kg/m^2 (0.05, 0.15)
	↑ BMI (baseline BMI ≥25)[e]			0.23 kg/m^2 (0.14, 0.32)	0.23 kg/m^2 (0.14, 0.32)	0.23 kg/m^2 (0.14, 0.32)	0.23 kg/m^2 (0.14, 0.32)	0.23 kg/m^2 (0.14, 0.32)	0.23 kg/m^2 (0.14, 0.32)

eTable 5. Dietary factors having probable or convincing evidence for causal relationships with cardiometabolic outcomes and standardized magnitudes of effect sizes (continued)

Dietary Targets[a]	Cardiometabolic Outcome	No. of Studies in Each Meta-analysis	Unit of RR[b]	Relative Risk by Age (RR, 95% CIs)[c]					
				25-34 y	35-44 y	45-54 y	55-64 y	65-74 y	75+ y
	CHD-BMI mediated[e]	pooled analysis of APCSC, PSC, and ERFC international pooling projects	per 5 kg/m^2 increase in BMI	1.79 (1.56, 2.06)	1.66 (1.51, 1.84)	1.55 (1.46, 1.64)	1.44 (1.4, 1.48)	1.35 (1.32, 1.38)	1.19 (1.13, 1.25)
	HHD-BMI mediated[e]			2.30 (0.66, 7.95)	2.15 (0.80, 5.78)	2.02 (0.97, 4.21)	1.90 (1.17, 3.07)	1.81 (1.45, 2.26)	1.54 (1.20, 1.97)
	Ischemic stroke-BMI mediated[e]			2.09 (1.81, 2.40)	1.86 (1.67, 2.08)	1.67 (1.53, 1.81)	1.50 (1.40, 1.6)	1.35 (1.28, 1.41)	1.11 (1.06, 1.15)
	Hemorrhagic stroke-BMI mediated[e]			3.04 (2.24, 4.11)	2.54 (1.96, 3.28)	2.10 (1.66, 2.66)	1.75 (1.44, 2.13)	1.48 (1.29, 1.71)	1.13 (1.03, 1.23)
	Diabetes-BMI mediated[e]			3.55 (2.41, 5.23)	3.07 (2.28, 4.15)	2.66 (2.15, 3.30)	2.32 (2.04, 2.63)	2.03 (1.95, 2.11)	1.52 (1.40, 1.65)
	↑ CHD-BMI adjusted[e]	4 cohorts (4 estimates)	per 1 serving (8 oz)/d	1.33 (1.19, 1.47)	1.31 (1.18, 1.45)	1.26 (1.15, 1.37)	1.21 (1.13, 1.3)	1.17 (1.10, 1.24)	1.09 (1.06, 1.13)
	↑ Diabetes-BMI adjusted[e]	17 cohorts (17 estimates)		1.35 (1.14, 1.59)	1.33 (1.13, 1.56)	1.27 (1.11, 1.46)	1.22 (1.09, 1.36)	1.18 (1.07, 1.29)	1.10 (1.05, 1.15)
	↑ Diabetes-BMI unadjusted[e]	13 cohorts (13 estimates)		1.55 (1.25, 1.89)	1.52 (1.24, 1.85)	1.43 (1.20, 1.68)	1.34 (1.17, 1.54)	1.28 (1.14, 1.43)	1.15 (1.09, 1.22)
PUFA replacing Carbs (% E)[g]	↓ CHD	9 cohorts (12 estimates)	per 5 %E/d	0.86 (0.79, 0.92)	0.86 (0.8, 0.93)	0.88 (0.83, 0.94)	0.90 (0.86, 0.95)	0.92 (0.88, 0.96)	0.95 (0.93, 0.97)
PUFA replacing SFA (% E)[g]	↓ CHD	8 cohorts (11 estimates)	per 5 %E/d	0.87 (0.81, 0.93)	0.87 (0.82, 0.94)	0.89 (0.84, 0.95)	0.91 (0.87, 0.95)	0.92 (0.89, 0.96)	0.96 (0.94, 0.98)
SFA replacing PUFA (% E)[g]	↑ CHD	8 cohorts (11 estimates)	per 5 %E/d	1.15 (1.07, 1.24)	1.14 (1.06, 1.23)	1.12 (1.05, 1.19)	1.10 (1.05, 1.15)	1.08 (1.04, 1.13)	1.05 (1.02, 1.07)
Seafood ω-3 fats (mg/d)	↓ CHD	4 RCTs and 15 cohorts (19 estimates)	per 100 mg/d	0.79 (0.70, 0.88)	0.80 (0.71, 0.89)	0.82 (0.75, 0.90)	0.85 (0.79, 0.92)	0.87 (0.82, 0.93)	0.93 (0.90, 0.96)
Sodium (mg/d)	↑ SBP, main effect, white, normotensive[g]	103 RCTs (107 estimates)	per 2300 mg/d	1.64 mm Hg (-0.19, 3.46)	2.69 mm Hg (1.15, 4.23)	3.74 mm Hg (2.30, 5.17)	4.79 mm Hg (3.25, 6.33)	5.84 mm Hg (4.01, 7.66)	5.84 mm Hg (4.01, 7.66)
	↑ SBP, additional effect among Blacks[g]			2.49 mm Hg (0.13, 4.85)	2.49 mm Hg (0.13, 4.85)	2.49 mm Hg (0.13, 4.85)	2.49 mm Hg (0.13, 4.85)	2.49 mm Hg (0.13, 4.85)	2.49 mm Hg (0.13, 4.85)
	↑ SBP, additional effect among hypertensives[g]			1.87 mm Hg (0.12, 3.63)	1.87 mm Hg (0.12, 3.63)	1.87 mm Hg (0.12, 3.63)	1.87 mm Hg (0.12, 3.63)	1.87 mm Hg (0.12, 3.63)	1.87 mm Hg (0.12, 3.63)
	CHD-SBP mediated[g]	pooled analysis of APCSC and PSC	per 10 mmHg increase in SBP	1.81 (1.29, 2.56)	1.68 (1.29, 2.20)	1.56 (1.29, 1.89)	1.45 (1.29, 1.62)	1.33 (1.29, 1.38)	1.18 (1.09, 1.28)

eTable 5. Dietary factors having probable or convincing evidence for causal relationships with cardiometabolic outcomes and standardized magnitudes of effect sizes (continued)

Dietary Targets[a]	Cardiometabolic Outcome	No. of Studies in Each Meta-analysis	Unit of RR[b]	Relative Risk by Age (RR, 95% CIs)[c]					
				25-34 y	35-44 y	45-54 y	55-64 y	65-74 y	75+ y
		international pooling projects							
	HHD-SBP mediated[g]			3.29 (3.00, 3.60)	2.86 (2.67, 3.06)	2.49 (2.37, 2.61)	2.16 (2.09, 2.24)	1.88 (1.82, 1.94)	1.47 (1.42, 1.53)
	RHD-SBP mediated[g]			1.28 (1.11, 1.47)	1.24 (1.11, 1.38)	1.20 (1.11, 1.30)	1.17 (1.11, 1.23)	1.13 (1.09, 1.18)	1.08 (1.03, 1.12)
	CMM-SBP mediated[g]			1.51 (1.39, 1.64)	1.44 (1.35, 1.54)	1.37 (1.31, 1.43)	1.30 (1.26, 1.34)	1.24 (1.21, 1.28)	1.14 (1.11, 1.17)
	AF-SBP mediated[g]			1.51 (1.39, 1.64)	1.44 (1.35, 1.54)	1.37 (1.31, 1.43)	1.30 (1.26, 1.34)	1.24 (1.21, 1.28)	1.14 (1.11, 1.17)
	AA-SBP mediated[g]			1.62 (1.45, 1.80)	1.53 (1.40, 1.66)	1.44 (1.36, 1.53)	1.36 (1.31, 1.42)	1.29 (1.25, 1.32)	1.16 (1.12, 1.20)
	PVD-SBP mediated[g]			1.51 (1.39, 1.64)	1.44 (1.35, 1.54)	1.37 (1.31, 1.43)	1.30 (1.26, 1.34)	1.24 (1.21, 1.28)	1.14 (1.11, 1.17)
	Endocarditis-SBP mediated[g]			1.45 (1.26, 1.67)	1.39 (1.24, 1.55)	1.33 (1.22, 1.44)	1.27 (1.20, 1.34)	1.21 (1.17, 1.26)	1.12 (1.07, 1.17)
	Other cardiovascular and circulatory-SBP mediated[g]			1.51 (1.39, 1.64)	1.44 (1.35, 1.54)	1.37 (1.31, 1.43)	1.30 (1.26, 1.34)	1.24 (1.21, 1.28)	1.14 (1.11, 1.17)
	Ischemic stroke-SBP mediated[g]			2.30 (2.07, 2.56)	2.05 (1.89, 2.22)	1.83 (1.72, 1.93)	1.63 (1.57, 1.69)	1.44 (1.39, 1.50)	1.17 (1.13, 1.22)
	Hemorrhagic stroke-SBP mediated[g]			2.25 (1.67, 3.04)	2.11 (1.50, 2.98)	1.89 (1.43, 2.51)	1.66 (1.39, 1.98)	1.46 (1.36, 1.57)	1.19 (1.08, 1.3)

[a] Dietary factors with probable or convincing evidence, based on criteria for assessing causality,[11,13,14,86] for etiologic relationships with cardiometabolic outcomes including coronary heart disease (CHD), stroke, type 2 diabetes, body mass index (BMI), or systolic blood pressure (SBP).[9,10] Trans fats were not assessed due to limited national data on intakes as well as rapidly declining levels due to policy interventions. Dietary fiber was not included in the present analysis due to its overlap with its major food foods sources including fruits, vegetables, legumes, and whole grains.

[b] Associations with cardiometabolic outcomes were based on published or de novo meta-analyses of prospective cohorts or randomized clinical trials. Meta-analyses were evaluated based on design, number of studies and events, definition of dietary exposure and disease outcomes, statistical methods, evidence of bias, and control for confounders.[10] Relative risks (RRs) were standardized across individual studies per uniform servings of intake. No differential associations with incidence versus case-specific mortality were assumed; thus, for a given diet-disease relationship incidence estimates were used as a proxy, if mortality estimates were unavailable. We focused on dose-response meta-analyses. When necessary, original data were extracted from individual studies within each meta-analysis to perform de novo dose-response meta-analyses using all available data by means of generalized least squares (GLST) for trend estimation.

[c] Effect sizes are relative risks (RRs) (95% confidence intervals (CIs)) except for sugar-sweetened beverage (SSB) effects on BMI (absolute in kg/m^2) and sodium effects on SBP (absolute in mm Hg). Effect sizes correspond to the relationship between increased consumption of each dietary target per unit of RR and respective change in cardiometabolic risk (directionality in risk: ↑ increased, ↓ decreased). Most meta-analyses did not stratify by sex, and those that did found no significant differences in proportional relationships of dietary factors between men and women; in addition, the proportional relationships of most metabolic risk factors with chronic diseases appear similar by sex.[16-24] Thus, we incorporated similar proportional effect sizes (RRs) of dietary factors by sex. Conversely, our own and others' work has demonstrated that proportional relationships of major risk factors with cardiometabolic diseases vary by age, with an inverse log-linear age association.[4,5] We therefore derived and utilized age-group specific RRs for diet-CMD relationships based on the age patterns of RRs for metabolic risk factors and incident cardiometabolic

eTable 5. Dietary factors having probable or convincing evidence for causal relationships with cardiometabolic outcomes and standardized magnitudes of effect sizes (continued)

events, based on established Global Burden of Disease (GBD) methods.[4,5] Except as indicated (SSBs, sodium), we did not identify sufficient evidence for effect size modification by other factors beyond age, e.g. race, obesity, or overall diet quality.

[d] The RR on CVD from a de novo dose-response meta-analysis was used for ischemic and hemorrhagic stroke (similar to the RR on total stroke, which was based on a limited number of cohorts and events).[10]

[e] Consistent with GBD and available evidence for harms of high BMI on specific cardiometabolic outcomes the relationships of high intake of SSBs with CHD, hypertensive heart disease (HHD), ischemic stroke, hemorrhagic stroke (only when BMI ≥25 kg/m^2), and diabetes were estimated through their measured relationships with BMI (i.e., as mediated by BMI relationships).[5,6] Direct relationships with BMI (risk estimates are continuous changes in BMI, rather than RRs)[5,6] were included. The association of change in BMI with change in SSB consumption was assessed using multivariate linear regression accounting for within-person repeated measures, as described in earlier work;[6,7] separate linear relationships were estimated for BMI <25 and BMI ≥25 since the rate of increase in BMI due to SSB intake varies based on an individual's baseline BMI. Independently of this, additional direct relationships with type 2 diabetes (after adjustment for BMI) and CHD were included; total relationships with diabetes (direct plus mediated; after excluding BMI-mediated relationships with diabetes) were investigated in sensitivity analyses (see eFigure 18).[10]

[f] Estimated RRs are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.

[g] Consistent with GBD and available evidence for harms of high BP on specific CVD outcomes the relationships of high intake of dietary sodium with CHD, ischemic stroke, hemorrhagic stroke, HHD, rheumatic heart disease (RHD), cardiomyopathy and myocarditis (CMM), atrial fibrillation and flutter (AF), aortic aneurysm (AA), peripheral vascular disease (PVD), endocarditis, and other cardiovascular and circulatory diseases were estimated through their measured effects on SBP (i.e., as mediated by SBP effects).[5,8] Direct effects on SBP are continuous changes in SBP, rather than RRs. For every year above or below age 50, there was 0.105 mm Hg (95%CI: 0.047, 0.164) larger or smaller BP reduction, respectively. No further interactions with SBP reduction were assumed below age 25 or above age 70, due to limited trial evidence outside this age range. Based on the evidence, we assumed a log-linear dose-response between SBP and CVD until a BP level of 115 mm Hg, below which we assumed no further contribution to risk.[8]

eTable 6. Participant sociodemographics by combined 2-year NHANES Cycles, 1999-2002 and 2009-2012.

	1999-2002 (n=8,104)[a]		2009-2012 (n=8,516)[b]	
	N	**% (95% CI)**	**N**	**% (95% CI)**
Age group (years)				
25-34	1579	22.2 (19.9, 24.6)	1,522	19.9 (18.1, 21.9)
35-44	1575	24.7 (23.0, 26.6)	1,596	20.2 (18.3, 22.3)
45-54	1405	21.3 (19.7, 23.0)	1,656	21.7 (19.9, 23.6)
55-64	1253	13.7 (12.2, 15.4)	1,579	19.2 (17.9, 20.6)
65-74	1217	10.7 (9.8, 11.6)	1,184	11.2 (10.2, 12.2)
≥75	1075	7.4 (6.5, 8.4)	979	7.8 (7.0, 8.7)
Sex				
Male	3,870	48.2 (46.8, 49.6)	4,085	47.7 (46.4, 48.9)
Female	4,234	51.8 (50.4, 53.2)	4,431	52.4 (51.1, 53.6)
Race/ethnicity				
Non-Hispanic White	4,045	72.7 (69.1, 76.0)	3,911	69.1 (63.7, 73.9)
Non-Hispanic Black	1,527	10.7 (8.6, 13.2)	1,802	11.0 (8.9, 13.6)
Hispanic	2,280	12.4 (9.1, 16.7)	2,017	13.3 (10.0, 17.6)
Other/mixed race	252	4.2 (3.1, 5.7)	786	6.7 (5.4, 8.3)
Education				
<High School	2,769	21.6 (20.0, 23.3)	2,172	17.3 (15.1, 19.8)
High school	3,727	52.2 (49.2, 55.0)	4,216	50.3 (47.6, 53.5)
College graduate	1,590	26.3 (23.2, 29.7)	2,115	32.2 (28.7, 35.8)

[a] Combines data from 1999-2000 (n=3,847) and 2001-2002 (n=4,257) National Health and Nutrition Examination Survey cycles (NHANES). All data are weighted to account for NHANES complex survey and sampling methods.

[b] Combines data from 2009-2010 (n=4,614) and 2011-2012 (n=3,902) NHANES. All data are weighted to account for NHANES complex survey and sampling methods.

eTable 7. US consumption levels for key dietary factors in 2009-2012 by population subgroups.

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Both genders mean ± SD
Fruits (g/d)	**Overall by age**	95.7 ± 96.3		91.7 ± 95.9		120.5 ± 123.3		130.6 ± 110.7		138.8 ± 104.5		136.8 ± 90		F: 121.8 ± 106.2 M: 107.5 ± 108.3
	Education													
	<High-school	100.7 ± 126.3	76.3 ± 125	65 ± 79.4	92.2 ± 90.9	80.6 ± 105.9	85.6 ± 68.4	98.9 ± 50.1	109.5 ± 71.3	88.1 ± 90.2	114 ± 96.4	86.3 ± 74	106.4 ± 68.7	90.9 ± 88.3
	High-school	81.5 ± 57.8	88.3 ± 83.8	61.7 ± 54.9	81.2 ± 93.2	108.1 ± 72.5	115 ± 101	99.4 ± 84.4	120.4 ± 101.3	104.2 ± 96.7	150.1 ± 99.7	133.7 ± 74.8	151.3 ± 56.6	103.5 ± 105.9
	College	92.7 ± 80.1	132.9 ± 81.9	114.7 ± 66.8	133 ± 69.9	172 ± 150.9	140.4 ± 112.4	169.8 ± 130.4	180.2 ± 130.9	166.5 ± 90.7	200.4 ± 132.5	174.6 ± 133.1	160.9 ± 139.5	146 ± 112.4
	Race													
	White	88 ± 90.4	103.3 ± 90.2	77.8 ± 72.7	100.9 ± 53.8	126.9 ± 112.8	117.7 ± 107.5	123.3 ± 108.9	140.1 ± 115.7	127.1 ± 91.4	159.5 ± 112.1	141.7 ± 101.4	138.4 ± 77.1	118.1 ± 109.9
	Black	63.4 ± 115.4	79.9 ± 80.2	58.1 ± 78.1	71.6 ± 88.8	95.6 ± 112.5	112.3 ± 78.9	110.2 ± 110.4	120.4 ± 99.6	103.2 ± 122.6	100.6 ± 65.7	74.3 ± 74.4	125.2 ± 13.9	91.3 ± 99.1
	Hispanic	107.4 ± 22.6	106 ± 141.9	84.4 ± 74.5	112.2 ± 82.8	123.6 ± 120.3	106.5 ± 81.4	109.4 ± 79	127 ± 77.1	97.5 ± 84.2	154.7 ± 104.4	112.4 ± 79.5	111.2 ± 76.2	109 ± 95.6
	Other	73.8 ± 71.1	126.7 ± 72.2	113.5 ± 118.6	152.3 ± 169.8	128.6 ± 134.8	153.5 ± 110.9	137.2 ± 117.1	185.8 ± 136.9	140.3 ± 113.3	137 ± 130.4	116.1 ± 164.8	237.1 ± 131.9	133.8 ± 110.7
	Total	88 ± 48.6	103.2 ± 100.6	80.3 ± 78	102.6 ± 109.3	123.2 ± 30.3	118.2 ± 101.9	121.7 ± 107.6	139 ± 112.9	123.4 ± 95.6	152.4 ± 110	134 ± 101.4	138.8 ± 81.1	115 ± 107.5
Vegetables (g/d)	**Overall by age**	166.1 ± 85.6		174.8 ± 85.4		195.9 ± 45.5		190.1 ± 105		197 ± 102.5		168.5 ± 80.4		F: 191.2 ± 106.6 M: 173 ± 104.9
	Education													
	<High-school	135.9 ± 60.9	164.1 ± 101.4	176.9 ± 70.5	151.7 ± 59.5	152.1 ± 19.3	172.7 ± 92.4	142.9 ± 76.6	188.6 ± 117.9	144.9 ± 74.3	182.9 ± 56.7	178.9 ± 104	153.3 ± 66.3	162 ± 79.6
	High-school	147.9 ± 69.4	158.3 ± 96.9	141.9 ± 58.5	166 ± 80.2	155.6 ± 90.4	185 ± 50.3	160.3 ± 93.3	191.9 ± 94	182.9 ± 54.8	202.5 ± 112.6	157.3 ± 58.7	175 ± 91.8	167.9 ± 92.1
	College	190.7 ± 63.2	190.6 ± 95.6	223.1 ± 110.9	194.2 ± 85.5	233.4 ± 45.3	273 ± 64.6	202.2 ± 95.3	241.7 ± 125.5	217.2 ± 52.6	236.5 ± 91.4	171.5 ± 70	181.4 ± 83.4	216.9 ± 129
	Race													
	White	161.3 ± 69.5	165.3 ± 85.9	162.9 ± 80.1	174.1 ± 72.7	177.8 ± 172	223.8 ± 151.1	170 ± 89.7	210.2 ± 118.8	190.8 ± 106.3	203.9 ± 102.4	163.3 ± 66.7	164.6 ± 76.4	182.6 ± 111.3
	Black	102.5 ± 26.3	131.5 ± 72.9	141.4 ± 96.2	123.6 ± 64.9	143.6 ± 79.2	153.5 ± 124	137.3 ± 92.1	173.1 ± 74.1	141.9 ± 81.4	196 ± 70.2	159 ± 70.3	149 ± 67.7	142.3 ± 73.4
	Hispanic	184 ± 62.4	183.9 ± 96.7	196.2 ± 30.1	191.1 ± 81.7	183 ± 69	190.9 ± 59.3	202.5 ± 85.1	202.5 ± 42.5	194.1 ± 89.1	220.5 ± 110.1	196.7 ± 78.7	218 ± 112.9	192 ± 80.1
	Other	181.3 ± 82.6	230.3 ± 79.8	260 ± 154.4	228 ± 110.7	241.7 ± 102.1	235.4 ± 96	196.2 ± 143.8	265.9 ± 79.4	204.9 ± 117.6	220 ± 100.6	214.2 ± 92.9	269.9 ± 121.1	229.2 ± 118.6
	Total	160.7 ± 69.7	171.2 ± 98.3	175.5 ± 89.9	174 ± 80.7	178.6 ± 49.3	211.2 ± 48.4	170.9 ± 94.2	208.2 ± 111.2	187.9 ± 104	205.1 ± 100.4	167.2 ± 76.9	169.4 ± 82.8	182.5 ± 106.2
Nuts & seeds (g/d)	**Overall by age**	9.7 ± 23.8		10.4 ± 21.8		11.9 ± 19.1		14 ± 15.4		14.2 ± 34.7		10.1 ± 21.9		F: 11.9 ± 20.7 M: 11.5 ± 21.6
	Education													
	<High-school	2.9 ± 6.2	1.8 ± 2.9	4.1 ± 4.9	5.4 ± 5.6	3.9 ± 10.4	6.8 ± 13.9	10.4 ± 22.9	8.7 ± 14.9	5 ± 14.7	7.7 ± 17.9	5.2 ± 6.3	8.1 ± 43.1	5.8 ± 14.2
	High-school	6.7 ± 9.6	6 ± 11.7	8.5 ± 9.1	9.4 ± 31.4	10.1 ± 17.6	11.9 ± 7.8	10.7 ± 12.7	13.2 ± 13	9.4 ± 13.5	13.3 ± 9.5	9.2 ± 8.2	9.4 ± 11.4	9.9 ± 13.1
	College	22.6 ± 17.5	12.8 ± 18.2	14.6 ± 20.7	15.4 ± 17.5	14 ± 23.1	19.4 ± 23.7	21.2 ± 25.5	17.2 ± 15.2	22.5 ± 26.7	27.9 ± 57.1	15.3 ± 21.1	17.3 ± 16.8	17.7 ± 30.9
	Race													
	White	14.2 ± 13.8	9.4 ± 12.7	11.6 ± 15.4	12.4 ± 22.5	11.4 ± 15.1	15.1 ± 16.1	15.5 ± 17.5	15 ± 14.1	14 ± 21.3	15.3 ± 40.7	10.6 ± 13.9	10 ± 12.2	13.1 ± 10.8
	Black	4.7 ± 8.4	5.4 ± 10.7	4.2 ± 6.5	9.9 ± 14.5	7.4 ± 12.3	9.5 ± 13.3	11.4 ± 11.7	12.4 ± 21.3	9.6 ± 35.2	10.9 ± 50.8	8.8 ± 14.5	17.3 ± 33.7	8.7 ± 22.6
	Hispanic	9.3 ± 31.6	4.8 ± 4.8	5.9 ± 4	7 ± 18.3	4.5 ± 8.8	8.4 ± 34.8	6.1 ± 11.3	9 ± 34.2	7.7 ± 26.9	6.3 ± 18.4	2.3 ± 4.4	4.5 ± 7.5	6.7 ± 17.4
	Other	7.3 ± 13.7	8.7 ± 16.6	10.4 ± 12	10.1 ± 28	14.7 ± 77.7	13.8 ± 19.2	8 ± 6.7	10.1 ± 20.9	16.4 ± 43.1	35.9 ± 99.5	10.5 ± 5.2	5 ± 8.3	11.4 ± 32.4
	Total	11.6 ± 6.2	7.9 ± 13.9	9.7 ± 14.3	11 ± 25	10.3 ± 18.9	13.4 ± 20.5	14 ± 4.9	13.9 ± 14.3	13.3 ± 19.6	15 ± 43.9	10 ± 13.8	10.2 ± 26.1	11.7 ± 21.1
Whole grains (g/d)	**Overall by age**	18.7 ± 17.1		19.8 ± 19		19.4 ± 16.8		23.1 ± 19.3		23.7 ± 19.7		27.7 ± 20.5		F: 21.2 ± 16.3 M: 21.2 ± 20.9
	Education													

eTable 7. US consumption levels for key dietary factors in 2009-2012 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD
	<High-school	13.3 ± 21.8	13.5 ± 8.4	8.7 ± 13.6	13.5 ± 14.1	13.8 ± 15.8	13.9 ± 10.7	10.7 ± 11.2	22.4 ± 17.4	13.9 ± 12.6	20.1 ± 17.5	21.4 ± 22.8	27.1 ± 21.8	15.5 ± 16.1
	High-school	16.1 ± 19.9	14.7 ± 11.6	15.8 ± 13.9	17.8 ± 11.5	18.6 ± 16.2	15.9 ± 9.6	24.6 ± 25.4	21.6 ± 18.1	26.7 ± 23.6	23.8 ± 20.5	30 ± 20.4	28.1 ± 17.7	19.7 ± 17.9
	College	24.3 ± 19.6	26.7 ± 14.7	28.2 ± 31.2	27.7 ± 16	29 ± 24.1	23.6 ± 18	27.6 ± 12.5	24.7 ± 16.7	25.8 ± 16.1	26.4 ± 6.7	25.8 ± 20.4	34.6 ± 22.5	26.5 ± 19.7
	Race													
	White	20 ± 15.9	21.9 ± 5.5	20.5 ± 19	22.3 ± 14	21.1 ± 17	18.6 ± 13.2	24.1 ± 21.9	22.9 ± 18.1	25.1 ± 20	24.8 ± 20.2	27.8 ± 21	28.9 ± 19.5	22.5 ± 17.7
	Black	17.1 ± 16.8	16.1 ± 16.6	14.1 ± 26.6	13.9 ± 13.8	22.2 ± 21.9	16.5 ± 15.6	17.2 ± 14.5	18.2 ± 16	18.8 ± 19.6	17.4 ± 26.4	19.7 ± 22.2	26.7 ± 17.8	17.3 ± 19.9
	Hispanic	14.3 ± 17.8	10.6 ± 10.6	10.8 ± 2.8	16.3 ± 21.2	17.1 ± 9.4	13.2 ± 12.4	20.7 ± 17.7	20.1 ± 4.3	20.7 ± 34	18.4 ± 10.9	17.2 ± 17.3	23.6 ± 16.7	15 ± 14.9
	Other	19.8 ± 13	22.6 ± 20.3	28.1 ± 45	30.1 ± 22.2	26.2 ± 38.5	24 ± 13	27 ± 29.6	35.6 ± 5.7	19.3 ± 24.9	25.1 ± 17.1	23.1 ± 12.8	36.1 ± 32.5	25.9 ± 27.1
	Total	18.5 ± 20	19 ± 13.8	18.7 ± 22.5	20.8 ± 14.9	21 ± 19.7	18 ± 13.6	23.4 ± 21	22.8 ± 17.7	23.9 ± 19.9	23.5 ± 19.5	26.4 ± 21.4	28.7 ± 19.8	21.2 ± 18.7
Red meats, unprocessed (g/d)	**Overall by age**	47.4 ± 31.6		49.6 ± 18.3		50.5 ± 22.6		43.9 ± 16.2		46.3 ± 26.9		42.9 ± 23.2		F: 39.4 ± 17.9 M: 56.1 ± 25.9
	Education													
	<High-school	50.2 ± 24.8	39 ± 21.3	80.1 ± 19.3	52.3 ± 26.6	72 ± 23.6	45.9 ± 18.1	58.4 ± 28.3	43.6 ± 16.9	55.1 ± 46	36.2 ± 33.7	46.5 ± 17.7	37.2 ± 26.3	52.3 ± 28.6
	High-school	59.7 ± 35	44.2 ± 11.5	59.9 ± 24.8	41.9 ± 17.3	62 ± 24.6	46.9 ± 19.5	58.8 ± 25.6	37.8 ± 7.1	53.7 ± 33	39.2 ± 29.1	55.5 ± 32.4	40.9 ± 20.4	50.3 ± 19.7
	College	51.6 ± 44	33.9 ± 5.1	49.8 ± 17.1	30 ± 14.7	46.7 ± 26.7	35 ± 28.7	39.5 ± 27	29.2 ± 15.3	55.2 ± 6	41.5 ± 25.6	40.2 ± 33.5	32.3 ± 22.4	40 ± 24.7
	Race													
	White	54.9 ± 36.1	41.4 ± 16.5	58.3 ± 20	37.7 ± 16.2	60.4 ± 20.4	43.8 ± 11.8	51 ± 19	34.1 ± 13.4	56.8 ± 16	39.6 ± 30.8	48.6 ± 27.6	38.8 ± 19.3	47.1 ± 20.7
	Black	52.4 ± 21.6	44.7 ± 24.5	62.3 ± 17.9	42.9 ± 35.4	38 ± 23.6	39.8 ± 17.9	47.2 ± 38.9	39.6 ± 32.9	44.2 ± 7.3	37.8 ± 18.4	41.2 ± 34.1	42.1 ± 37	44.5 ± 26.1
	Hispanic	59.1 ± 21.8	37.8 ± 14.4	67.9 ± 33.2	45.5 ± 3.6	64 ± 30.5	44.2 ± 22.7	70.2 ± 30.3	43.7 ± 30.3	48 ± 30.3	40.1 ± 5.2	46.4 ± 39.6	37 ± 36.9	52.2 ± 29.1
	Other	57.3 ± 53	25.9 ± 30.2	55.5 ± 31.1	32.7 ± 20.9	68.8 ± 53.9	38.4 ± 11.9	59.1 ± 31.7	35.5 ± 28.8	46.9 ± 48.7	29.7 ± 23.5	57.7 ± 37.5	39.8 ± 21.7	44.6 ± 32.5
	Total	55.6 ± 37.4	39.6 ± 12.4	60.3 ± 18.7	39.3 ± 10.3	58.9 ± 26.6	42.9 ± 14.6	52.6 ± 17.6	35.7 ± 8.7	54.5 ± 20.7	39 ± 29.6	48.4 ± 24.6	39 ± 21.3	47.4 ± 23.6
Processed meats (g/d)	**Overall by age**	31 ± 18		32 ± 17.1		32 ± 20.5		29.1 ± 17.8		32.3 ± 22		25.8 ± 18.8		F: 24.9 ± 17.1 M: 37.3 ± 18.9
	Education													
	<High-school	35.7 ± 26.9	25.2 ± 16.4	29.4 ± 6	25.1 ± 16.1	36.9 ± 28.9	18.6 ± 16.1	36.3 ± 18	27.2 ± 21.4	42.3 ± 16.1	23.7 ± 20.8	39.4 ± 32.1	24.7 ± 15.4	29.4 ± 14.1
	High-school	39.8 ± 21.9	27.5 ± 12.3	43.4 ± 24.5	29.6 ± 19.3	42.7 ± 17.4	29.7 ± 28.2	39.7 ± 13.9	24.4 ± 16.6	42.2 ± 33	28.6 ± 15.6	27.4 ± 17.5	21.8 ± 19.8	33.7 ± 21.3
	College	30.6 ± 24.9	25 ± 0.7	38.9 ± 18.2	20 ± 15.4	34.1 ± 16	22.9 ± 15.8	29.7 ± 17.7	18.1 ± 10.3	32.1 ± 7.4	24.6 ± 19.1	30.7 ± 22.7	15.4 ± 18.9	27.2 ± 16.5
	Race													
	White	37 ± 25.7	27.8 ± 12.2	43.2 ± 16.6	26.1 ± 13.9	41.9 ± 12.2	27.2 ± 24.4	37.2 ± 14.1	23.7 ± 16.8	38.7 ± 28.9	27.9 ± 15.2	32.6 ± 18.8	21.6 ± 17.9	32.3 ± 19.8
	Black	36.5 ± 28.7	29.9 ± 22.4	36.3 ± 24.4	30.1 ± 21.7	44.2 ± 22	27.7 ± 9.2	40 ± 31.5	29.1 ± 13.6	46.4 ± 52.2	29.8 ± 10.4	31.4 ± 13.4	31.9 ± 25.6	33.7 ± 17.6
	Hispanic	34.4 ± 20.2	19.8 ± 16.5	30.6 ± 22.6	20.6 ± 18.4	28.8 ± 29	22.6 ± 6.5	28.3 ± 9.7	13.1 ± 14.5	32 ± 26.7	14 ± 4.3	26.9 ± 23.4	12.6 ± 15.6	25 ± 16.4
	Other	32.5 ± 24.4	25.2 ± 19.1	30.5 ± 22.2	18.6 ± 17.7	19.9 ± 22.8	12.6 ± 14.6	22.6 ± 5	11.9 ± 7.5	36.1 ± 30.5	22.9 ± 18.5	20.7 ± 27	10.7 ± 18.3	22.7 ± 10.9
	Total	36.1 ± 21.6	26.2 ± 11.8	39.1 ± 16.2	25.2 ± 15.1	39.2 ± 15.4	25.7 ± 22.3	36 ± 16.5	22.7 ± 16.5	38.6 ± 26.4	26.7 ± 18.2	31.6 ± 8.8	21.7 ± 18.6	30.8 ± 19
SSB (servings (8 oz)/d)	**Overall by age**	1.66 ± 1.69		1.48 ± 1.67		1.12 ± 1.29		0.85 ± 1.18		0.6 ± 0.93		0.53 ± 0.81		F: 1 ± 1.41 M: 1.3 ± 1.45
	Education													
	<High-school	2.22 ± 1.52	1.98 ± 1.63	2.24 ± 1.81	1.96 ± 2.16	1.67 ± 1.15	1.55 ± 1.62	1.26 ± 1.42	0.81 ± 0.97	0.83 ± 0.83	0.98 ± 0.68	0.76 ± 0.92	0.59 ± 0.87	1.49 ± 1.56
	High-school	2.44 ± 1.94	1.74 ± 1.81	1.87 ± 1.74	1.6 ± 1.89	1.29 ± 1.29	1.16 ± 1.32	1.02 ± 1	0.91 ± 1.4	0.68 ± 0.97	0.57 ± 0.85	0.56 ± 0.81	0.51 ± 0.85	1.31 ± 1.56
	College	1.1 ± 1	0.67 ± 0.91	0.94 ± 1.17	0.74 ± 0.98	0.9 ± 1.37	0.51 ± 0.62	0.81 ± 0.22	0.35 ± 0.74	0.38 ± 0.42	0.26 ± 0.54	0.4 ± 0.75	0.28 ± 0.5	0.69 ± 0.99
	Race													

eTable 7. US consumption levels for key dietary factors in 2009-2012 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Both genders mean ± SD
	White	2.06 ± 2.05	1.32 ± 1.77	1.59 ± 1.31	1.35 ± 1.47	1.2 ± 1.4	0.95 ± 0.99	0.92 ± 0.9	0.64 ± 1.24	0.53 ± 0.76	0.53 ± 1.01	0.55 ± 0.82	0.42 ± 0.79	1.06 ± 1.54
	Black	1.93 ± 1.13	1.84 ± 1.37	2.04 ± 1.34	1.81 ± 1.28	1.43 ± 1.05	1.55 ± 1.35	1.26 ± 0.94	1.28 ± 0.92	1.04 ± 0.92	1.05 ± 0.92	0.95 ± 0.33	1.33 ± 1.02	1.57 ± 1.21
	Hispanic	1.93 ± 0.92	1.5 ± 1.3	1.68 ± 1.19	1.19 ± 1.01	1.42 ± 1.17	1.06 ± 0.74	1.12 ± 0.72	0.78 ± 1.13	0.84 ± 0.41	0.51 ± 1.4	0.52 ± 0.6	0.45 ± 0.2	1.33 ± 1.12
	Other	1.25 ± 1.15	0.88 ± 1.15	1.33 ± 1.13	0.7 ± 0.62	0.75 ± 0.44	0.58 ± 0.5	1.39 ± 0.75	0.32 ± 0.2	0.55 ± 0.61	0.93 ± 0.25	0.39 ± 0.91	0.36 ± 0.72	0.87 ± 1.03
	Total	1.95 ± 1.73	1.38 ± 1.6	1.62 ± 1.59	1.34 ± 1.74	1.23 ± 1.32	1.02 ± 1.26	0.99 ± 1.15	0.71 ± 1.19	0.6 ± 0.8	0.6 ± 1.03	0.57 ± 0.79	0.5 ± 0.82	1.14 ± 1.44
Polyunsaturated fats (%E)	**Overall by age**	7.3 ± 1.5		7.7 ± 1.3		7.8 ± 1.7		7.9 ± 1.5		7.8 ± 1.6		7.9 ± 1.7		F: 7.9 ± 1.5 M: 7.5 ± 1.5
	Education													
	<High-school	6.5 ± 1.6	6.7 ± 1.6	7.1 ± 1.8	7.1 ± 0.5	7.8 ± 2.1	7.5 ± 1.5	7.6 ± 2	7.7 ± 1.3	7.6 ± 2	7.4 ± 1.6	7.7 ± 1.6	7.9 ± 1.4	7.4 ± 1.6
	High-school	7.1 ± 1.1	7.4 ± 1.6	7.5 ± 1.4	8 ± 1.9	7.5 ± 1.9	8.2 ± 0.9	7.6 ± 1.7	8.3 ± 1.4	7.4 ± 1.5	8 ± 1.6	7.4 ± 1.5	8.1 ± 1.9	7.7 ± 1.7
	College	7.7 ± 1.6	7.5 ± 1.2	7.8 ± 1.1	8 ± 1.6	7.8 ± 0.9	7.9 ± 1.4	7.8 ± 1.1	8.2 ± 1.4	8.1 ± 1.5	7.9 ± 1.4	7.8 ± 1.6	8.3 ± 1.8	7.9 ± 1.2
	Race													
	White	7.4 ± 1.5	7.1 ± 1.7	7.6 ± 1.2	8 ± 1	7.7 ± 1.8	8 ± 1.8	7.8 ± 1.5	8.2 ± 1.3	7.8 ± 1.6	7.9 ± 1.6	7.7 ± 1.6	8.2 ± 1.8	7.8 ± 1.6
	Black	7.3 ± 0.3	8 ± 1.9	7.8 ± 1.1	8.1 ± 1.8	8.1 ± 1.5	8.3 ± 1.4	8 ± 1.6	8.6 ± 1.9	7.7 ± 1.7	8.4 ± 1.3	7.6 ± 1.3	7.5 ± 1.5	8 ± 1.5
	Hispanic	7 ± 1.4	7.2 ± 1.3	7.3 ± 0.6	7.6 ± 1.9	7.1 ± 0.9	7.2 ± 1.5	7.2 ± 1.9	7.2 ± 1.7	7 ± 1.7	7.1 ± 0.4	6.6 ± 1.5	7 ± 1.4	7.2 ± 1.6
	Other	7 ± 1.3	8 ± 1.4	7.6 ± 0.4	7.3 ± 1.9	7.3 ± 1.5	8.5 ± 1.9	6.6 ± 1.6	8.7 ± 2.5	6.7 ± 1.5	6.2 ± 1.7	7.6 ± 1.8	7.1 ± 0.5	7.6 ± 1
	Total	7.3 ± 1.4	7.3 ± 1.5	7.5 ± 1.2	7.9 ± 1.4	7.7 ± 1.7	8 ± 1.6	7.7 ± 1.6	8.2 ± 1.4	7.6 ± 1.6	7.8 ± 1.6	7.6 ± 1.6	8.1 ± 1.7	47.4 ± 23.6
Saturated fats (%E)	**Overall by age**	10.4 ± 1.9		10.6 ± 2		10.9 ± 1.9		10.6 ± 2.3		10.7 ± 2.1		10.7 ± 2		F: 10.6 ± 1.9 M: 10.7 ± 2.1
	Education													
	<High-school	9.6 ± 1.4	10.1 ± 2.2	9.7 ± 1.5	9.6 ± 1.1	11 ± 2.4	10.2 ± 2.2	10.5 ± 2.4	10.3 ± 2.8	11 ± 2.5	10.2 ± 2.5	10.6 ± 2.3	10.1 ± 2.5	10.2 ± 2
	High-school	10.5 ± 1.8	10.7 ± 1.7	11 ± 1.8	10.4 ± 1.7	11.1 ± 2	11.2 ± 2.1	11.1 ± 2.4	10.5 ± 2.3	11 ± 1.9	10.8 ± 2.1	10.6 ± 2.1	10.9 ± 1.8	10.8 ± 2
	College	10.2 ± 2.1	10.4 ± 1.9	11 ± 3.2	10.7 ± 1.7	10.8 ± 1.4	10.7 ± 1	10.5 ± 2.4	10.2 ± 1.5	10.2 ± 1.7	11.2 ± 1.9	11.2 ± 1.5	10.8 ± 1.8	10.6 ± 2
	Race													
	White	10.7 ± 2	10.8 ± 1.6	11.2 ± 2.1	10.5 ± 1.7	11.5 ± 1.7	11.2 ± 1.8	11 ± 2.5	10.6 ± 2.2	10.9 ± 2.1	11 ± 2.3	11 ± 1.9	10.9 ± 1.9	11 ± 2
	Black	10.1 ± 1.9	10.5 ± 1.8	9.9 ± 2	10.5 ± 1.7	10.4 ± 2.2	10.3 ± 1.6	10.5 ± 2.1	10.4 ± 1.9	10.1 ± 3.9	10.5 ± 3.4	10.9 ± 1	9.4 ± 2.3	10.3 ± 1.8
	Hispanic	9.7 ± 1	10.3 ± 1	10.6 ± 0.8	10.1 ± 1.6	9.9 ± 0.6	10.3 ± 1.8	10.3 ± 1.9	9.6 ± 1.7	10.2 ± 1.2	9.6 ± 1.7	9.1 ± 1.7	9.8 ± 2.3	10.1 ± 1.9
	Other	9 ± 2.2	9.4 ± 2	8.8 ± 1.8	10 ± 1.1	8.7 ± 1.8	10 ± 1.4	8.9 ± 1.6	8.7 ± 1.8	9.4 ± 2.5	8.5 ± 1.7	9.1 ± 2.4	8.6 ± 2.7	9.2 ± 1.9
	Total	10.3 ± 1.9	10.5 ± 1.8	10.8 ± 2.4	10.4 ± 1.7	11 ± 1.9	10.9 ± 1.8	10.8 ± 2.4	10.4 ± 2.2	10.7 ± 2	10.7 ± 2.2	10.8 ± 2	10.7 ± 2.1	10.7 ± 2
Carbohydrates (%E)	**Overall by age**	50.3 ± 6.7		49.3 ± 7.4		48.6 ± 7.1		48.9 ± 7.3		49 ± 7.2		51 ± 6.1		F: 50.5 ± 6.7 M: 48.2 ± 7.3
	Education													
	<High-school	52.5 ± 8.2	53.4 ± 4	49.7 ± 4.9	53.1 ± 6.3	48.4 ± 9.2	51.7 ± 4	48.2 ± 5.8	51.2 ± 7.5	47 ± 7.5	51.9 ± 8.1	50.2 ± 7.2	52.4 ± 6.1	50.9 ± 7.3
	High-school	49.9 ± 6.3	51.7 ± 4.7	46.6 ± 7.9	50.4 ± 6.2	47.4 ± 6.6	49 ± 7.1	47.6 ± 7.8	49.9 ± 6.2	47.7 ± 6.3	50 ± 6.6	50.8 ± 6.2	51.8 ± 4.9	49.2 ± 6.8
	College	46.5 ± 6.6	50.4 ± 6.1	47.5 ± 9	50.8 ± 6.4	48.2 ± 6.2	48.7 ± 8.2	48.6 ± 8.4	48.7 ± 7.1	47.5 ± 6.9	50 ± 8.4	49.3 ± 6.5	48.8 ± 6.3	48.7 ± 7.4
	Race													
	White	48.4 ± 7.8	51.2 ± 6.2	46.5 ± 7.8	50.7 ± 6.9	46.8 ± 7	48.7 ± 7.7	47.7 ± 7.9	48.9 ± 6.7	46.7 ± 6.6	49.7 ± 7.3	49.8 ± 6.3	51 ± 5.3	48.7 ± 7.3
	Black	47.8 ± 5.1	50.7 ± 4.4	48.2 ± 7.5	50 ± 5.2	48 ± 7	50 ± 3.3	47.7 ± 6.3	50.1 ± 7.5	48.9 ± 3.6	50.3 ± 5.6	49.1 ± 7.5	54.8 ± 7	49.5 ± 6
	Hispanic	51.1 ± 5.5	52.3 ± 6.5	48.2 ± 3.2	51.8 ± 5.1	51 ± 5.6	51.2 ± 7.7	49.1 ± 5.9	52.9 ± 5	50.4 ± 6.7	53 ± 6.7	54.4 ± 6.9	53.5 ± 5.7	51.1 ± 6.6
	Other	51.2 ± 4.2	52.4 ± 7	53.1 ± 6.3	54 ± 4.8	51.8 ± 5.6	51 ± 4.4	52.6 ± 8.6	54.2 ± 4.8	52.8 ± 3.1	58.6 ± 7.3	53.8 ± 7.8	55 ± 3.8	52.8 ± 6.2

eTable 7. US consumption levels for key dietary factors in 2009-2012 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Both genders mean ± SD
	Total	49.1 ± 7	51.5 ± 6.2	47.5 ± 8	51 ± 6.4	47.8 ± 7	49.3 ± 7.2	48 ± 7.8	49.7 ± 6.7	47.5 ± 6.8	50.4 ± 7.4	50.2 ± 6.6	51.5 ± 5.6	49.4 ± 7.1
Seafood omega-3s (mg/d)	**Overall by age**	97.6 ± 84.3		96.8 ± 30.2		97.3 ± 24.1		98.9 ± 75		118.5 ± 98.4		99.5 ± 93.6		F: 95.6 ± 79.4 M: 105 ± 54.5
	Education													
	<High-school	103.6 ± 92.2	81.6 ± 69.3	133.6 ± 121.3	74.8 ± 34	108.5 ± 72.5	85.7 ± 47.2	99 ± 104.4	82.4 ± 80	128.7 ± 170.7	84 ± 53.2	132.6 ± 139.5	96.8 ± 204.1	99.2 ± 82.6
	High-school	96.6 ± 75.5	72.6 ± 46.5	99.1 ± 56.5	97.2 ± 68.8	83.1 ± 58.4	84.6 ± 21.6	100.1 ± 67.7	90.3 ± 60.5	116.1 ± 51.8	115.4 ± 71.8	75.4 ± 35.3	68.9 ± 66.7	91.6 ± 61.1
	College	118.2 ± 57.1	117.4 ± 98.3	91.8 ± 31.6	90.6 ± 71.7	115.8 ± 64.5	124.5 ± 46.9	111.3 ± 8	106 ± 55.9	145.5 ± 149.1	117.6 ± 96.4	114.5 ± 94.2	200.1 ± 115.8	113.8 ± 70.5
	Race													
	White	83.6 ± 45.9	72.5 ± 45.9	76 ± 40.7	82.7 ± 50.5	87.7 ± 50.6	89.9 ± 43.4	100.2 ± 47.7	89.3 ± 90.1	123.6 ± 130.4	104.7 ± 76.1	95.7 ± 75.6	90.9 ± 123	90 ± 60.9
	Black	102.6 ± 89.8	93.2 ± 77.1	98.3 ± 55	114.9 ± 71.1	116.1 ± 93.9	128.3 ± 97.8	119.7 ± 113.8	106.9 ± 52.7	163.2 ± 175.3	121.9 ± 23.8	114.3 ± 133	136.9 ± 192.2	114.2 ± 82.4
	Hispanic	115.8 ± 96.6	92.8 ± 72.9	156.3 ± 139.8	79.6 ± 52.8	105.9 ± 103	78.7 ± 65.7	91.9 ± 98.9	81 ± 56	82.2 ± 24.4	86.1 ± 82.8	106.4 ± 176.8	107.7 ± 35.4	102.4 ± 75.8
	Other	245.4 ± 173.3	184.8 ± 87.9	189.1 ± 133.4	137.2 ± 35.1	151.6 ± 132.8	145.8 ± 41.3	142.3 ± 217.2	168.5 ± 136.9	228.2 ± 186.5	206.7 ± 238.4	199.1 ± 214.4	154.3 ± 127.7	176.8 ± 127.5
	Total	104.9 ± 71.7	90.7 ± 62.8	103 ± 44.6	90.8 ± 59.6	96.9 ± 4.7	97.6 ± 32.8	103.5 ± 42.5	94.5 ± 95.8	129.1 ± 122.4	109.1 ± 69.3	102.2 ± 94.9	97.7 ± 125.9	100.1 ± 68.8
Sodium (mg/d)	**Overall by age**	3439 ± 576		3471 ± 590		3485 ± 515		3434 ± 632		3612 ± 322		3520 ± 646		F: 3511 ± 599 M: 3446 ± 609
	Education													
	<High-school	3107 ± 319	3495 ± 816	3283 ± 666	3352 ± 521	3381 ± 403	3457 ± 674	3498 ± 560	3655 ± 443	3644 ± 836	3646 ± 522	4005 ± 775	3670 ± 635	3484 ± 691
	High-school	3384 ± 309	3409 ± 668	3422 ± 590	3532 ± 531	3456 ± 509	3509 ± 574	3404 ± 609	3532 ± 659	3611 ± 504	3619 ± 596	3403 ± 522	3394 ± 492	3471 ± 565
	College	3464 ± 534	3626 ± 597	3607 ± 351	3494 ± 409	3549 ± 323	3494 ± 491	3243 ± 479	3379 ± 545	3572 ± 1385	3590 ± 669	3289 ± 132	3629 ± 638	3493 ± 614
	Race													
	White	3331 ± 249	3438 ± 510	3406 ± 569	3488 ± 368	3462 ± 439	3450 ± 500	3334 ± 558	3447 ± 662	3476 ± 564	3589 ± 579	3496 ± 738	3474 ± 618	3441 ± 533
	Black	3206 ± 568	3390 ± 895	3302 ± 628	3394 ± 355	3366 ± 895	3525 ± 715	3362 ± 482	3513 ± 1341	3727 ± 54	3704 ± 521	3701 ± 523	3588 ± 370	3434 ± 285
	Hispanic	3296 ± 250	3402 ± 411	3405 ± 345	3332 ± 806	3419 ± 431	3461 ± 755	3369 ± 580	3531 ± 1019	3553 ± 734	3655 ± 597	3506 ± 483	3693 ± 254	3414 ± 549
	Other	4134 ± 627	4210 ± 1118	4099 ± 978	3973 ± 674	3902 ± 625	3914 ± 900	3895 ± 625	4127 ± 755	5316 ± 4309	3916 ± 739	3910 ± 1007	4073 ± 1073	4093 ± 364
	Total	3372 ± 467	3503 ± 659	3455 ± 677	3487 ± 491	3473 ± 448	3495 ± 568	3367 ± 570	3497 ± 678	3603 ± 1114	3619 ± 587	3529 ± 732	3514 ± 579	3480 ± 605

[a] Dietary factors with probable or convincing evidence, based on criteria for assessing causality,[11,13,14,86] for etiologic relationships with cardiometabolic outcomes including coronary heart disease (CHD), stroke, type 2 diabetes, body mass index (BMI), or systolic blood pressure (SBP).[9,10] National Health and Nutrition Examination Survey (NHANES) data were used to inform nationally representative estimates of exposure to dietary factors, accounting for complex survey design and sampling weights as appropriate;[3] analyses are representative of the US population aged ≥25y. Specifically, sodium, macronutrient and energy intake were obtained from the Food and Nutrient Database for Dietary Studies, and intakes for food groups of interest were obtained from the Food Patterns Equivalents Database (FPED) for the 2012 estimate.[87] Servings in FPED were converted to grams per day. We estimated the mean and standard deviation (SD) of dietary intakes for the entire population and relevant sub-groups (e.g., by age/sex/race) using data from the 2009-2010 and 2011-2012 cycles (n=8,516); data from two recalls were used.[88] Means and SDs, correcting for within- versus between person variance were estimated for the strata of interest.[89] All factors were adjusted for energy using the residual method (2,000 kcal/d)[89] or as percent of energy (%E, macronutrients). Because distributions of many dietary factors are non-normal, a gamma distribution was utilized for each based on the mean and SD, which allows for both normal and highly skewed distributions. Optimal metrics and units for each dietary factor were defined to be consistent with definitions used in epidemiological studies that provided evidence on diet-disease relative risks.[9] Specifically, **fruits** were defined as: total fruits (g/d), excluding fruit juices and salted or pickled fruits; **vegetables**: total vegetables (g/d), including beans/legumes, and excluding salted, pickled, starchy vegetables (e.g., potatoes, corn) vegetables, or vegetable juices; **nuts/seeds**: total nuts and seeds (g/d); **whole grains**: total whole grain foods and grain-based products made with 100% whole grains or their flours (g/d); **red meats**: total red meats (g/d), excluding poultry, fish, eggs, and all processed meats; **processed meats**: total processed meat intake (g/d); **sugar-sweetened beverages (SSBs)**: total SSBs (servings [8 fluid ounces]/d) with ≥50 kcal per 8 oz (237 mL) serving, including carbonated soft drinks, fruit drinks, presweetened iced teas, sports drinks, energy drinks, and excluding 100% fruit and vegetable juices, non-caloric artificially-sweetened drinks, and alcoholic beverages (servings/d); **polyunsaturated fats (PUFA)**: total PUFA intake (%E/d); **saturated fats (SFA):** total SFA intake (%E/d); **carbohydrates (carbs)**: total carbohydrate intake (%E/d); **seafood omega-3 fats**: total dietary eicosapentaenoic (EPA) + docosahexaenoic (DHA) (mg/d) intake, excluding supplements; **sodium**: total dietary sodium intake (mg/d).

[b] Population strata were assigned as follows: age (25-34, 35-44, 45-54, 55-64, 65-74, and ≥75 yrs), sex (male and female), education (<high-school: less than high school degree, high-school: high school degree/equivalent or some college, and College: ≥4-year college degree), and race/ethnicity (White: non-Hispanic White, Black: non-Hispanic Black, Hispanic: Mexican American/other Hispanic, and Other: other race/mixed race).

eTable 8. US consumption levels for key dietary factors in 1999-2002 by population subgroups.

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Both genders mean ± SD
Fruits (g/d)	**Overall by age**	63.1 ± 104.1		81.9 ± 110.6		97.6 ± 112.8		110.8 ± 139.1		138.8 ± 172.4		136.5 ± 167.5		F: 97.5 ± 120.9 M: 95.2 ± 134.8
	Education													
	<High-school	45 ± 84	62.4 ± 107.1	67.3 ± 134.5	64.9 ± 119.1	74.1 ± 128.3	67.8 ± 116.2	64.5 ± 135.4	105.5 ± 180.9	138.6 ± 311.8	104.6 ± 159	109 ± 208.1	96.4 ± 118	77.4 ± 146
	High-school	61.1 ± 117.9	46.7 ± 87	76 ± 112	66.3 ± 87.4	92.9 ± 110.5	87.6 ± 94.5	89.4 ± 121.2	105.4 ± 115.8	132.8 ± 161.4	148.6 ± 138.9	127.6 ± 170.7	154.8 ± 155	85.3 ± 116.3
	College	68.9 ± 64	103.1 ± 110.7	109.8 ± 110.3	111.1 ± 104	126.7 ± 111.2	129.7 ± 111.8	157.6 ± 130.6	152.8 ± 137.4	154.6 ± 145.4	165.6 ± 103.3	222.4 ± 196.1	165.2 ± 168.4	121.6 ± 117.1
	Race													
	White	62 ± 85.8	66.5 ± 83.7	82.1 ± 91	75.6 ± 76.4	102.5 ± 99.1	96.4 ± 85.2	103.3 ± 105	117.3 ± 108.3	135.4 ± 143.4	148.9 ± 118.3	147.2 ± 184	142 ± 136.1	99.5 ± 105.2
	Black	36.1 ± 77.4	46.9 ± 90.6	83.1 ± 170.5	79.2 ± 154.3	74.2 ± 139.7	83.2 ± 172.6	82.4 ± 238.9	82.3 ± 161.1	149.8 ± 509.7	76.8 ± 187.7	63.6 ± 177.8	71.7 ± 148.5	73.6 ± 172.9
	Hispanic	73.3 ± 172.9	82 ± 162.6	95.2 ± 210.1	92.2 ± 154.8	103.7 ± 168.3	91.6 ± 160.9	128.4 ± 263.2	142.6 ± 269.5	162.7 ± 344.6	108.3 ± 210.2	123.5 ± 276	105.8 ± 192.5	98 ± 199.1
	Other	29.1 ± 36.9	72.3 ± 87.7	106.8 ± 75.6	79.9 ± 76.6	114 ± 104.4	108.1 ± 101.4	141.9 ± 124.8	118.3 ± 122.1	213.2 ± 288.2	95.3 ± 93.3	114.2 ± 194.3	81 ± 259.6	93.9 ± 101.5
	Total	59.2 ± 103	67.1 ± 101.7	85.3 ± 118.3	78.5 ± 101.5	100.3 ± 118	95.3 ± 107.9	105.2 ± 138.3	116.1 ± 139.6	140.1 ± 202.7	137.8 ± 145.8	140.1 ± 197.2	134.2 ± 148.3	96.4 ± 127.8
Vegetables (g/d)	**Overall by age**	163.7 ± 127.3		173 ± 136		180.8 ± 126.3		193.7 ± 174.4		204.9 ± 185.9		179.9 ± 199.1		F: 191.9 ± 160.6 M: 166.7 ± 135.6
	Education													
	<High-school	140.8 ± 121	175.7 ± 181.4	155.7 ± 147.4	129.4 ± 164.7	165.8 ± 208.8	160.3 ± 154.1	134.7 ± 232.5	210.6 ± 268.4	170.8 ± 216.3	232.5 ± 254.8	152.4 ± 221.1	146.7 ± 145.9	160.4 ± 187.7
	High-school	146.3 ± 101	161.1 ± 143.5	144.3 ± 104.6	163 ± 146.5	154.1 ± 102.8	184.4 ± 122.9	158.9 ± 122.7	207.1 ± 162	185.5 ± 155.3	212.9 ± 169.7	196.4 ± 273.2	203.4 ± 172.3	165.5 ± 134.2
	College	179.2 ± 102.7	198.8 ± 129.9	210.3 ± 107.3	236.9 ± 138.4	202.7 ± 113.6	223.3 ± 111.9	207.1 ± 117.4	250.3 ± 168.1	170.7 ± 121	281.4 ± 144.1	177.8 ± 161.6	198.5 ± 227.9	209.8 ± 127.9
	Race													
	White	156.7 ± 88.1	173.8 ± 125.6	164.6 ± 90.3	188.5 ± 130.7	172.7 ± 100.3	190.1 ± 108.1	168.6 ± 111.2	214.8 ± 146.2	169 ± 124.5	224.4 ± 149.6	175.4 ± 228.3	191 ± 156.9	181.2 ± 124.8
	Black	118.8 ± 117.1	137.1 ± 150.7	154.1 ± 165.5	117.5 ± 144.6	112.3 ± 144.5	155.9 ± 148.6	132.5 ± 187.4	244.3 ± 333.5	196.3 ± 305.6	242.7 ± 323	168.6 ± 269.6	136.4 ± 226.8	149.5 ± 191.6
	Hispanic	176.2 ± 160.1	200.2 ± 184	194.2 ± 193.1	175 ± 163.6	196 ± 201.7	203 ± 184.7	164.6 ± 264.5	214.3 ± 309.8	230.7 ± 403.7	194.9 ± 298.7	193.1 ± 319.5	124.3 ± 223.5	190 ± 211.8
	Other	92.7 ± 66.9	203 ± 172.8	173 ± 98.7	233.5 ± 123	189.8 ± 111.8	228 ± 95.6	254.1 ± 275.4	208.9 ± 103.2	291.5 ± 121.1	363.7 ± 208.8	231.1 ± 104.8	120.5 ± 179.1	201.5 ± 137.6
	Total	152.3 ± 107.5	175.5 ± 146.8	167.9 ± 116.9	178.1 ± 153.7	170.1 ± 123.1	190.5 ± 128.5	168.2 ± 150.7	217.7 ± 191.1	178.2 ± 167.4	227.6 ± 194.1	176.8 ± 242.5	182 ± 171.6	179.8 ± 149.5
Nuts & seeds (g/d)	**Overall by age**	5.2 ± 12.5		7.5 ± 14.8		7.7 ± 14.3		8.2 ± 18.3		8.3 ± 25.3		7.8 ± 27.6		F: 7 ± 17.7 M: 7.6 ± 16.4
	Education													
	<High-school	2.3 ± 9.3	7.6 ± 17.8	9.1 ± 25.5	2.9 ± 10	5 ± 20.7	4.6 ± 14.3	5.6 ± 18.4	5.2 ± 13.4	3.4 ± 13.4	2.9 ± 12.8	4.7 ± 19	10.4 ± 42.2	5.1 ± 20
	High-school	4.3 ± 11.1	4.4 ± 11	6 ± 12.8	6.4 ± 12.4	8.6 ± 14.1	7.4 ± 13.6	9.8 ± 17.7	6.8 ± 16.2	8.8 ± 17.1	8.3 ± 31.9	7.3 ± 20.2	7.2 ± 16.1	6.7 ± 15.7
	College	7.2 ± 12.1	6.9 ± 14.2	9.5 ± 13.2	11.5 ± 15.7	11 ± 14.8	6.9 ± 9.8	11.1 ± 17.1	11 ± 20.7	16 ± 20.2	15.6 ± 15.6	9.8 ± 33.8	7.7 ± 19.7	9.8 ± 15.4
	Race													
	White	5.3 ± 10.2	6.1 ± 11.6	8.5 ± 12.9	8.2 ± 11.3	8.6 ± 11.7	7.5 ± 10.6	9.9 ± 14.9	7.9 ± 14.3	9.9 ± 15.8	7.4 ± 14.4	7.3 ± 22.9	6.9 ± 15.3	7.8 ± 13.3
	Black	3.4 ± 13.1	3.7 ± 9.4	4.7 ± 14.9	4.9 ± 16.3	7.6 ± 29.7	5.5 ± 18.8	7.8 ± 25	5.2 ± 15.7	5.7 ± 24.8	4.4 ± 24.3	7.5 ± 31.6	33.5 ± 122.8	6 ± 26.5
	Hispanic	2.8 ± 10	7 ± 20.8	6.6 ± 23.6	5.7 ± 22.1	12.8 ± 29	5.4 ± 22.8	3.5 ± 22.4	3 ± 15.9	5 ± 30.6	12.4 ± 138	0.7 ± 9.2	3.8 ± 18.3	6.1 ± 31.2
	Other	4.3 ± 9.4	2.3 ± 8.6	6.9 ± 9.5	3.9 ± 9.2	0.4 ± 0.9	1.7 ± 3.9	11.4 ± 23.7	13.2 ± 27.1	4.9 ± 9.9	7.8 ± 8.8	1 ± 3.9	3.7 ± 4.6	5 ± 12.6
	Total	4.6 ± 11.5	5.8 ± 13.4	7.7 ± 15.5	7.3 ± 14.1	8.8 ± 15.6	6.7 ± 13	9.2 ± 18.6	7.3 ± 18	9.1 ± 19.2	7.6 ± 28.7	6.9 ± 24.2	8.4 ± 28.1	7.3 ± 17.1
Whole grains (g/d)	**Overall by age**	10.2 ± 17.1		12.8 ± 20.3		15.5 ± 21.5		18.4 ± 29		19.6 ± 28		23.5 ± 34.4		F: 16 ± 23.8 M: 14.6 ± 23.4
	Education													

eTable 8. US consumption levels for key dietary factors in 1999-2002 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD
	<High-school	3.8 ± 15.4	5.6 ± 11.4	6.4 ± 16.3	5.6 ± 14	9.2 ± 17.5	7 ± 15.7	11.9 ± 32.9	15 ± 32.7	18.5 ± 38.7	13.3 ± 29.6	22.9 ± 47.2	14.5 ± 26.8	10.2 ± 24.4
	High-school	9.4 ± 14.4	8.8 ± 15.2	8.7 ± 15.3	13.9 ± 21.4	12.6 ± 17.2	17.2 ± 22.7	17.2 ± 26	18.6 ± 25	24.3 ± 30.4	17 ± 21.2	25.3 ± 35.3	24.5 ± 27.5	14.4 ± 21.4
	College	12.7 ± 14	19.6 ± 24.2	18.3 ± 19	20.2 ± 22.9	17.7 ± 21.6	24.6 ± 21.4	26.4 ± 31.9	18.8 ± 20.6	21.9 ± 23.9	30.6 ± 21.6	39.2 ± 50.3	28.8 ± 32.6	20.6 ± 23.3
	Race													
	White	9.5 ± 11.4	11.5 ± 15.3	12.7 ± 14.4	15.7 ± 18.5	15.2 ± 17.3	19.1 ± 18.9	19.2 ± 24.2	18.3 ± 20	23 ± 25.1	18.8 ± 18.4	27.6 ± 38.5	22.1 ± 25.5	16.6 ± 19.8
	Black	8.6 ± 17.3	10.5 ± 24.4	10.7 ± 32.7	11.8 ± 24.9	7.9 ± 18.8	7.6 ± 17.9	10 ± 38.9	12.2 ± 28	20.2 ± 53.2	10.7 ± 33.3	14.8 ± 44.5	14.5 ± 42.7	10.7 ± 27.9
	Hispanic	7.4 ± 25.6	8.5 ± 23.6	6.1 ± 17.6	12.7 ± 32	9.6 ± 23.5	13.8 ± 29.2	23.5 ± 67.9	12.2 ± 39.3	9.3 ± 46.5	14.5 ± 62.3	26.8 ± 96.6	17.5 ± 43.4	11 ± 33
	Other	7.6 ± 12.3	26.8 ± 24.6	9.8 ± 11.7	3.6 ± 6.4	7.1 ± 11.5	18 ± 25.9	23.9 ± 36.3	36.2 ± 37	28.5 ± 34.7	19.1 ± 22.5	58.2 ± 80.4	7.8 ± 18.1	16.9 ± 24.3
	Total	8.9 ± 14.9	11.6 ± 19.2	11.4 ± 17.9	14.3 ± 22.5	13.6 ± 19.9	17.2 ± 22.7	18.9 ± 31.6	17.9 ± 26.5	21.8 ± 31.7	17.7 ± 24.8	27.2 ± 43.8	21.1 ± 28.3	15.3 ± 23.6
Red meats, unprocessed (g/d)	**Overall by age**	52.3 ± 58.5		52.1 ± 55.3		50.5 ± 55.5		53.9 ± 64.5		46.5 ± 68.8		40.5 ± 67.7		F: 43 ± 56.5 M: 58.5 ± 64.1
	Education													
	<High-school	74.7 ± 64.9	61.3 ± 65.5	76.7 ± 83.7	45 ± 71.7	60.7 ± 86.7	55.4 ± 95.4	65.1 ± 93.1	51.5 ± 72.3	55.1 ± 111.6	49.3 ± 83	62 ± 113.3	32 ± 61.7	56.1 ± 82.6
	High-school	50.6 ± 50.5	40 ± 54.1	59.4 ± 53.7	47.2 ± 54.9	67.9 ± 58.6	44.6 ± 43.9	63.5 ± 60.9	49.9 ± 56.3	58 ± 66.9	37.8 ± 53.1	50.4 ± 74	33.2 ± 48.1	49.8 ± 55.7
	College	74.8 ± 58.2	37.9 ± 56.1	51.2 ± 45	38.2 ± 35.3	36 ± 35	35.9 ± 40.3	53.1 ± 61	38.5 ± 44.2	42.6 ± 55.8	36.9 ± 39.3	42.1 ± 61.7	32.9 ± 63.2	44.4 ± 48.7
	Race													
	White	54.6 ± 45.2	43.5 ± 49.9	57.7 ± 43.3	43.8 ± 40.6	54.4 ± 45.5	41.2 ± 37.5	62.5 ± 56.5	48.7 ± 46	52.5 ± 59.5	40.7 ± 47.5	51.4 ± 74	33.4 ± 50.6	48.9 ± 48.7
	Black	65.8 ± 73.7	45.8 ± 67.5	60.3 ± 92.6	40.2 ± 70.5	61.7 ± 92.1	44.5 ± 63.6	60.3 ± 98.8	38.1 ± 81.8	48.4 ± 158.1	41.2 ± 89.7	63.9 ± 160.8	22.4 ± 62	50 ± 85.6
	Hispanic	69.1 ± 71.8	44.3 ± 73.7	69.4 ± 90.4	43.4 ± 80.5	65.9 ± 92.1	57.2 ± 139.6	51.6 ± 108.5	59 ± 102.9	65.5 ± 137.1	46.2 ± 127	59.3 ± 154.4	31 ± 69.9	56.5 ± 99.5
	Other	105.5 ± 58.4	27.3 ± 39.7	63.8 ± 49.2	74.4 ± 49.2	87.8 ± 55.1	54.8 ± 43.8	40.3 ± 47.8	31.4 ± 33.8	31.4 ± 61.9	36.2 ± 36.1	74.7 ± 144.5	46.1 ± 63.2	59.9 ± 54.7
	Total	61.3 ± 56.9	43.1 ± 57.4	59.9 ± 56.9	44.3 ± 52.8	57.4 ± 57.6	44.2 ± 53.3	60.4 ± 69.9	47.7 ± 58.5	52.8 ± 77.8	41.1 ± 60.7	53 ± 86.4	32.6 ± 54.5	50.5 ± 60.6
Processed meats (g/d)	**Overall by age**	31.2 ± 44.7		31.1 ± 40.4		29.5 ± 38.7		28.7 ± 43.9		29.8 ± 47.8		26 ± 48.2		F: 23.9 ± 37.3 M: 36.3 ± 48.7
	Education													
	<High-school	33.3 ± 48	24.4 ± 47.7	36.3 ± 60.4	32.8 ± 54.3	28.2 ± 46.5	23.6 ± 40.1	42.3 ± 67.5	20.2 ± 44	41.8 ± 76.8	24.6 ± 54.2	33.6 ± 71.3	28.4 ± 50.6	31.4 ± 57.4
	High-school	38.2 ± 46.4	28.2 ± 41.6	40.2 ± 39.1	25.7 ± 34.5	41 ± 45.5	24.2 ± 31.7	39.6 ± 49	23.3 ± 31.1	36.1 ± 48	24.7 ± 33.6	27.6 ± 48.6	20.7 ± 35.8	31.1 ± 40.3
	College	37.4 ± 39.3	20.5 ± 34.2	29.9 ± 37.5	21.5 ± 29	37.5 ± 37.9	15.3 ± 21.8	26.1 ± 40.9	19.7 ± 27.2	24.1 ± 30.5	33.5 ± 50.3	30.6 ± 53.9	16.8 ± 33.9	26.2 ± 36.2
	Race													
	White	41.9 ± 40.6	26.7 ± 36.1	38.7 ± 34.4	26.8 ± 29.2	40.5 ± 38.2	22.3 ± 25	39.4 ± 42.9	24.2 ± 27.5	34.5 ± 41.3	28.3 ± 35.5	31.3 ± 52.6	24.5 ± 38.1	31.9 ± 37.1
	Black	31.9 ± 46	30 ± 48.5	40.6 ± 59.7	33 ± 54.7	25.1 ± 46.5	26.6 ± 52.8	32.2 ± 71	18.8 ± 40.7	41.2 ± 87.8	24.3 ± 59.9	42 ± 104.5	25.8 ± 73.3	30.8 ± 57.2
	Hispanic	28.5 ± 54.5	18.6 ± 45.6	31.3 ± 71.5	16.3 ± 35.7	35.4 ± 63.5	13.4 ± 37	22 ± 58.6	11.6 ± 40.8	25.5 ± 78	10.1 ± 53	8.6 ± 39.7	5.5 ± 28.6	21.7 ± 57.1
	Other	19.2 ± 16.4	18.1 ± 32	9.6 ± 18.3	10.1 ± 15	32.1 ± 40.4	20.8 ± 25.6	10 ± 26.3	14.8 ± 29.5	38.6 ± 87	13.5 ± 20.9	9.6 ± 24.8	24.2 ± 49.2	17.1 ± 27.4
	Total	37.1 ± 45.7	25.1 ± 40.6	36.5 ± 43.4	25.7 ± 36.4	38.1 ± 45.1	21.6 ± 31	36 ± 52	21.7 ± 33.7	34.5 ± 52.7	25.8 ± 43.2	30.5 ± 58.1	23.3 ± 41.7	29.9 ± 43.5
SSB (servings (8 oz)/d)	**Overall by age**	2.38 ± 2.13		1.82 ± 1.71		1.35 ± 1.53		1.14 ± 1.54		0.71 ± 1.25		0.65 ± 1.21		F: 1.35 ± 1.77 M: 1.7 ± 1.83
	Education													
	<High-school	3.06 ± 2.24	2.66 ± 3.31	2.49 ± 2.09	2.05 ± 2.64	1.63 ± 2.05	1.46 ± 1.7	1.66 ± 2.49	1.25 ± 1.98	1.12 ± 2.17	0.71 ± 1.37	0.84 ± 1.74	0.81 ± 1.24	1.86 ± 2.44
	High-school	2.78 ± 1.78	2.44 ± 2.41	2.38 ± 1.81	1.86 ± 1.69	1.57 ± 1.64	1.35 ± 1.45	1.33 ± 1.57	1.07 ± 1.34	0.91 ± 1.4	0.49 ± 0.78	0.68 ± 1.29	0.55 ± 1	1.83 ± 1.87
	College	1.9 ± 1.31	1.36 ± 1.81	1.25 ± 1.09	0.85 ± 0.97	0.85 ± 1.03	1.22 ± 1.32	0.87 ± 1.05	0.63 ± 0.77	0.76 ± 1.07	0.22 ± 0.46	0.34 ± 0.76	0.51 ± 1.02	1.08 ± 1.25
	Race													

eTable 8. US consumption levels for key dietary factors in 1999-2002 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD	mean ± SD
	White	2.64 ± 1.54	2.32 ± 2.33	1.97 ± 1.36	1.49 ± 1.31	1.23 ± 1.29	1.26 ± 1.19	1.19 ± 1.26	0.91 ± 1.04	0.9 ± 1.2	0.43 ± 0.63	0.59 ± 1.18	0.62 ± 1.01	1.42 ± 1.5
	Black	2.6 ± 2.01	2.39 ± 2.23	2.42 ± 2.48	1.92 ± 2.09	2.47 ± 2.49	2.2 ± 2.58	1.96 ± 3.23	1.74 ± 2.42	1.4 ± 3.12	1.18 ± 2.14	1.64 ± 2.6	0.98 ± 1.68	2.1 ± 2.49
	Hispanic	2.4 ± 1.87	1.47 ± 1.87	1.85 ± 1.98	1.66 ± 2.53	1.39 ± 1.87	1.02 ± 1.97	1.54 ± 2.79	0.9 ± 1.73	0.9 ± 2.62	0.71 ± 2.15	0.88 ± 2.29	0.59 ± 1.14	1.51 ± 2.24
	Other	3.06 ± 1.89	1.8 ± 2.36	2.58 ± 1.78	2.45 ± 2.12	0.89 ± 0.9	1.43 ± 0.85	0.43 ± 0.77	1.13 ± 1.58	0 ± 0	0.55 ± 0.64	0.59 ± 0.75	0.6 ± 1.78	1.76 ± 1.8
	Total	2.62 ± 1.8	2.14 ± 2.44	2.04 ± 1.7	1.61 ± 1.7	1.36 ± 1.57	1.34 ± 1.48	1.26 ± 1.66	1.02 ± 1.4	0.93 ± 1.56	0.52 ± 0.93	0.67 ± 1.38	0.65 ± 1.1	1.52 ± 1.8
Polyunsaturated fats (%E)	**Overall by age**	6.5 ± 2.5		6.8 ± 2.5		7.1 ± 2.7		7.3 ± 3.1		7.2 ± 3.5		7.3 ± 3.5		F: 7.2 ± 3 M: 6.7 ± 2.7
	Education													
	<High-school	6.2 ± 2.5	6.7 ± 3.5	6.1 ± 2.5	6.4 ± 2.8	6.3 ± 3.2	7 ± 3.1	6.8 ± 3.5	6.7 ± 3.3	6.7 ± 3.9	7 ± 3.6	6.5 ± 3.6	7.4 ± 3.7	6.6 ± 3.3
	High-school	6.7 ± 2.1	6.5 ± 2.7	6.3 ± 2.2	7.2 ± 2.6	6.9 ± 2.3	7.7 ± 2.9	7.5 ± 3	7.5 ± 3.3	6.7 ± 3	7.8 ± 3.2	7.1 ± 3.7	7.4 ± 2.7	7 ± 2.7
	College	6.1 ± 2.1	6.7 ± 2.4	6.9 ± 2.2	7.4 ± 2.6	7.1 ± 2.3	7 ± 2.2	7.2 ± 2.3	7.7 ± 2.5	7.6 ± 3.6	7.2 ± 2.2	7.1 ± 3.9	8.7 ± 4.8	7 ± 2.5
	Race													
	White	6.5 ± 1.8	6.6 ± 2.4	6.4 ± 1.8	7 ± 2.1	6.9 ± 2	7.4 ± 2.2	7.5 ± 2.4	7.5 ± 2.4	7.1 ± 2.9	7.6 ± 2.7	6.9 ± 3.4	7.6 ± 2.9	7 ± 2.4
	Black	6.8 ± 3.1	6.7 ± 3.2	6.7 ± 3.1	7.7 ± 3.6	6.5 ± 3.1	7.2 ± 4.1	6.4 ± 4.5	8.1 ± 6.1	6.5 ± 4.6	7.4 ± 4.5	6.1 ± 5	8 ± 4.2	7 ± 4
	Hispanic	6.2 ± 2.9	6.7 ± 3.2	6.7 ± 3.3	7.3 ± 4.2	6.9 ± 4.6	7 ± 4	6.3 ± 4.2	6.3 ± 4.8	6.1 ± 5.5	6.7 ± 4.6	6.7 ± 5.8	6.5 ± 6.5	6.7 ± 4.1
	Other	5.3 ± 1.8	5.6 ± 2.6	6.9 ± 2.3	6.7 ± 2	7.4 ± 2	7.7 ± 3.2	6.2 ± 2.4	6.6 ± 2.9	7.1 ± 2.9	6.7 ± 1.9	8.3 ± 5.5	6.4 ± 2.1	6.6 ± 2.7
	Total	6.4 ± 2.2	6.6 ± 2.8	6.5 ± 2.3	7.1 ± 2.7	6.9 ± 2.5	7.4 ± 2.8	7.3 ± 3	7.4 ± 3.3	7 ± 3.6	7.5 ± 3.3	6.9 ± 3.8	7.5 ± 3.3	7 ± 2.9
Saturated fats (%E)	**Overall by age**	10.7 ± 3.1		10.9 ± 3		10.8 ± 3		10.7 ± 3.4		10.5 ± 3.9		10.3 ± 3.8		F: 10.7 ± 3.3 M: 10.8 ± 3.2
	Education													
	<High-school	9.9 ± 3.1	10.4 ± 3.6	10.6 ± 4.6	11.2 ± 4.4	9.6 ± 3.7	10.9 ± 4.1	10.6 ± 4.7	10.4 ± 4.4	11.1 ± 5.1	10.1 ± 4.2	11.2 ± 5.1	10 ± 3.9	10.5 ± 4.3
	High-school	10.9 ± 2.5	10.6 ± 3.4	11.3 ± 3	10.8 ± 2.6	11.2 ± 2.7	11.1 ± 2.8	11.1 ± 3	11 ± 3	10.3 ± 3.5	10.8 ± 3.4	10.6 ± 3.8	10.3 ± 3.1	10.9 ± 3
	College	10.9 ± 2.4	10.9 ± 3.2	10.6 ± 2.5	10.4 ± 2.5	10.3 ± 2.5	10.7 ± 3	10.4 ± 2.7	10.3 ± 3	10.6 ± 3.4	9.8 ± 2.9	9.9 ± 3.9	9.3 ± 3.5	10.5 ± 2.9
	Race													
	White	11 ± 2.2	10.3 ± 3	11.5 ± 2.6	11.1 ± 2.9	11 ± 2.3	9.8 ± 4.7	11.3 ± 2.5	8.4 ± 6.8	10.7 ± 3.2	10.7 ± 6.6	10.8 ± 4	8.8 ± 2.7	11 ± 2.7
	Black	10.4 ± 3.5	10.7 ± 2.9	9.6 ± 3.8	11.3 ± 2.4	9 ± 4	10.1 ± 4.6	9.4 ± 5.5	9.5 ± 6.9	10.1 ± 6.3	11.1 ± 5.7	9.5 ± 5.2	9.1 ± 4.3	9.9 ± 4.3
	Hispanic	10.1 ± 3.8	10.8 ± 2.6	10 ± 3.8	9.6 ± 5.9	10.6 ± 4.2	10.2 ± 4.3	9.1 ± 5.5	10.3 ± 4.1	10.6 ± 7.4	8 ± 1.9	10.2 ± 5.7	9.5 ± 2.2	10.2 ± 4.9
	Other	10.2 ± 1.8	11 ± 2.3	8.8 ± 2.5	9.8 ± 4.2	9.5 ± 3.1	10.4 ± 3.6	6.8 ± 2.9	10.4 ± 3.7	6.5 ± 2.3	8.2 ± 3.7	9.5 ± 4.7	10.1 ± 3.5	9 ± 2.9
	Total	10.7 ± 2.7	10.7 ± 3.4	11 ± 3.1	10.8 ± 2.9	10.7 ± 2.9	11 ± 3.1	10.7 ± 3.4	10.7 ± 3.4	10.6 ± 4	10.4 ± 3.7	10.7 ± 4.4	10.1 ± 3.5	10.7 ± 3.3
Carbohydrates (%E)	**Overall by age**	51.9 ± 9.6		50 ± 9.3		49.2 ± 9.3		49.4 ± 10.5		50.5 ± 11.6		52.6 ± 11.3		F: 51.6 ± 10.2 M: 49.2 ± 9.9
	Education													
	<High-school	51 ± 10.5	54.1 ± 11.7	49.5 ± 13.1	50.9 ± 12.8	50.7 ± 13.7	48.9 ± 11.7	49.2 ± 14.3	53.2 ± 12.3	49.6 ± 14.8	52.5 ± 13	50.2 ± 15.4	54.6 ± 12.4	51.6 ± 13.2
	High-school	50.1 ± 7.9	53.6 ± 11	49.6 ± 8.4	50.7 ± 8.6	47.3 ± 8.3	50.3 ± 8.9	46.8 ± 9.3	50.2 ± 9.5	49.5 ± 10.4	50.8 ± 10.3	51.2 ± 11.2	53.1 ± 8.6	50.6 ± 9.4
	College	51.1 ± 7.3	52.3 ± 9.6	48.5 ± 7.8	51 ± 8.6	48.1 ± 8	51.4 ± 8.5	48.2 ± 9.1	49.5 ± 8.6	48.8 ± 10.8	51.3 ± 8.6	52.1 ± 11.4	52.9 ± 9	50.1 ± 8.8
	Race													
	White	49.8 ± 6.7	52.6 ± 9.2	48.5 ± 7.2	50.7 ± 7.3	47.5 ± 7.2	49.7 ± 7.1	46.8 ± 7.7	49.9 ± 7.5	49.3 ± 9.5	50.7 ± 8.8	50.7 ± 11.6	53.4 ± 8.5	49.8 ± 8.2
	Black	49.6 ± 10.8	54.4 ± 12.6	51.5 ± 13.3	48.9 ± 11.5	51.1 ± 14.8	51.7 ± 13.1	49.9 ± 21.5	51.3 ± 16.3	49.9 ± 20.6	52.5 ± 15	54.1 ± 20.2	51 ± 16.6	51.1 ± 14.4
	Hispanic	51.9 ± 11.7	53 ± 12.3	50.4 ± 12	52.3 ± 15.1	49.9 ± 14.9	50.1 ± 17.4	53.7 ± 17.5	54.2 ± 18.6	49.8 ± 20.5	54.8 ± 20.9	51.9 ± 18.5	60.1 ± 20.8	52.1 ± 15.6
	Other	54.7 ± 7	61.1 ± 12.3	50.5 ± 8.7	54.6 ± 7.6	43.6 ± 7.9	56.6 ± 10	51.5 ± 11.6	56 ± 9.3	51.2 ± 15.5	56.1 ± 6.1	49.6 ± 10.8	49.9 ± 15.7	54.2 ± 10.1

eTable 8. US consumption levels for key dietary factors in 1999-2002 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Males mean ± SD	Females mean ± SD	Both genders mean ± SD
	Total	10.7 ± 2.7	10.7 ± 3.4	11 ± 3.1	10.8 ± 2.9	10.7 ± 2.9	11 ± 3.1	10.7 ± 3.4	10.7 ± 3.4	10.6 ± 4	10.4 ± 3.7	10.7 ± 4.4	10.1 ± 3.5	50.4 ± 10.1
Seafood omega-3s (mg/d)	**Overall by age**	95.3 ± 225		124.2 ± 301.6		117.3 ± 247.8		137.5 ± 380.1		117.4 ± 274.2		115.9 ± 400.5		F: 109.7 ± 295.8 M: 125.1 ± 297.8
	Education													
	<High-school	165 ± 409.7	79.4 ± 186.7	151.2 ± 435.7	129.7 ± 459.1	90.2 ± 212.7	91.2 ± 226.7	151.7 ± 617.1	134.2 ± 500.2	98 ± 273.8	160.4 ± 412.5	96.4 ± 363.3	137 ± 537	119.5 ± 399.9
	High-school	86.7 ± 133.6	81.1 ± 174.5	83.6 ± 139.2	101.1 ± 174.3	124.6 ± 250.2	78.1 ± 120.6	129.4 ± 261.2	112.6 ± 306.2	127 ± 282.2	97.3 ± 191.1	112 ± 436.2	107.6 ± 266.6	94.8 ± 199.3
	College	87.8 ± 221.5	102.3 ± 276.7	139.7 ± 186.5	202.6 ± 503.5	234.5 ± 382.7	96.1 ± 170.8	188.7 ± 414.7	132.1 ± 268.5	124.3 ± 250.2	110.5 ± 233.5	92.5 ± 299.7	185.6 ± 410.5	144.4 ± 329.7
	Race													
	White	101.8 ± 199.4	81.8 ± 188.8	101.1 ± 159.6	111.1 ± 280.4	160.8 ± 281.5	81.1 ± 124.5	138.2 ± 303.3	119.4 ± 272.2	109.6 ± 208.5	114 ± 204.2	99.8 ± 368	113.5 ± 309.7	110.8 ± 243.4
	Black	154.1 ± 261.7	103.7 ± 210.6	156.4 ± 426	198.4 ± 475.5	154.9 ± 309.1	140 ± 279.9	165.3 ± 408	160.3 ± 334.3	183 ± 633	129.8 ± 328.2	55.4 ± 239	218.8 ± 799.9	155.2 ± 391.5
	Hispanic	96.1 ± 253	89.3 ± 212.2	108.7 ± 294	111.7 ± 303.1	62.1 ± 150	75.8 ± 272.9	91.3 ± 624	50.7 ± 218.9	68.1 ± 312.3	70 ± 252	146.9 ± 668.9	27 ± 57	86.9 ± 289.3
	Other	36.8 ± 28.9	107.9 ± 363.4	229.4 ± 253.1	423.6 ± 716	299.8 ± 406.3	66.2 ± 73.6	603 ± 835.7	224.9 ± 557.5	361.4 ± 517	312.7 ± 440.8	296.7 ± 522.6	1118.3 ± 1674.8	222.7 ± 445.3
	Total	102.9 ± 224.1	87.4 ± 217.7	114.4 ± 219.8	134.1 ± 369.4	152.3 ± 318.7	85.5 ± 158.9	153.8 ± 413.4	122 ± 346.4	117.2 ± 283.8	117.5 ± 265.1	102.3 ± 395.1	124.5 ± 391.7	117.1 ± 296.8
Sodium (mg/d)	**Overall by age**	3326 ± 931		3344 ± 929		3396 ± 973		3447 ± 1047		3543 ± 1091		3485 ± 1151		F: 3413 ± 1018 M: 3386 ± 999
	Education													
	<High-school	3116 ± 1040	3051 ± 887	3244 ± 1098	3284 ± 1398	3116 ± 1270	3393 ± 1110	3399 ± 1571	3628 ± 1414	3491 ± 1413	3573 ± 1464	3463 ± 1441	3510 ± 1145	3322 ± 1274
	High-school	3301 ± 823	3362 ± 951	3261 ± 904	3272 ± 756	3470 ± 834	3372 ± 1129	3501 ± 1127	3417 ± 824	3661 ± 1042	3518 ± 855	3572 ± 1171	3441 ± 1024	3365 ± 946
	College	3416 ± 856	3540 ± 935	3482 ± 779	3562 ± 954	3382 ± 746	3457 ± 734	3379 ± 751	3358 ± 792	3404 ± 875	3594 ± 962	3456 ± 1050	3477 ± 1074	3449 ± 858
	Race													
	White	3277 ± 653	3383 ± 860	3353 ± 680	3380 ± 663	3427 ± 674	3414 ± 885	3446 ± 855	3476 ± 766	3502 ± 855	3554 ± 809	3531 ± 1124	3473 ± 988	3418 ± 810
	Black	3361 ± 979	3353 ± 981	3311 ± 1231	3163 ± 1192	2960 ± 1121	3134 ± 1122	3364 ± 2037	3410 ± 1308	3775 ± 1961	3568 ± 1722	3466 ± 2124	3504 ± 1359	3296 ± 1302
	Hispanic	3085 ± 1244	3288 ± 1093	3264 ± 1541	3217 ± 1245	3242 ± 1412	3271 ± 1177	3258 ± 1705	3292 ± 1644	3402 ± 2109	3267 ± 1828	3114 ± 1656	3280 ± 1344	3238 ± 1430
	Other	3950 ± 1286	3391 ± 910	3304 ± 1152	4229 ± 2000	4651 ± 1460	3881 ± 989	3885 ± 1351	3608 ± 665	4694 ± 1624	4090 ± 1162	3736 ± 965	4283 ± 1587	3839 ± 1331
	Total	3291 ± 888	3362 ± 955	3334 ± 915	3355 ± 943	3394 ± 884	3399 ± 1044	3438 ± 1127	3455 ± 968	3539 ± 1126	3546 ± 1058	3509 ± 1248	3469 ± 1075	3400 ± 1009

[a] Dietary factors with probable or convincing evidence, based on criteria for assessing causality,[11,13,14,86] for etiologic relationships with cardiometabolic outcomes including coronary heart disease (CHD), stroke, type 2 diabetes, body mass index (BMI), or systolic blood pressure (SBP).[9,10] National Health and Nutrition Examination Survey (NHANES) data were used to inform nationally representative estimates of exposure to dietary factors, accounting for complex survey design and sampling weights as appropriate;[3] analyses are representative of the US population aged ≥25y. Specifically, sodium, macronutrient and energy intake were obtained from the Food and Nutrient Database for Dietary Studies, and intakes for food groups of interest were obtained from the MyPyramid Equivalents Database (MPED), for the 2002 estimate.[90] Servings in MPED were converted to grams per day. We estimated the mean and standard deviation (SD) of dietary intakes for the entire population and relevant sub-groups (e.g., by age/sex/race) using data from the 1999-2000 and 2001-2002 cycles (n=8,104); data from a single 24-hour recall were used.[88] Means and SDs, correcting for within- versus between person variance were estimated the strata of interest.[89] Because the 1999-2002 cycles included one 24-hr recall per person, which accurately estimates stratum mean intake but not SD, we utilized the observed ratio of between-person to total variance for each dietary factor in 2009-2012 to correct SDs in 1999-2002 for within-person variation.[89] All factors were adjusted for energy using the residual method (2,000 kcal/d)[89] or as percent of energy (%E, macronutrients). Because distributions of many dietary factors are non-normal, a gamma distribution was utilized for each based on the mean and SD, which allows for both normal and highly skewed distributions. Optimal metrics and units for each dietary factor were defined to be consistent with definitions used in epidemiological studies that provided evidence on diet-disease relative risks.[9] Specifically, **fruits** were defined as: total fruits (g/d), excluding fruit juices and salted or pickled fruits; **vegetables**: total vegetables (g/d), including beans/legumes, and excluding salted, pickled, starchy vegetables (e.g., potatoes, corn) vegetables, or vegetable juices; **nuts/seeds**: total nuts and seeds (g/d); **whole grains**: total whole grain foods and grain-based products made with 100% whole grains or their flours (g/d); **red meats**: total red meats (g/d), excluding poultry, fish, eggs, and all processed meats; **processed meats**: total processed meat intake (g/d); **sugar-sweetened beverages (SSBs)**: total SSBs (servings [8 fluid ounces]/d) with ≥50 kcal per 8 oz (237 mL) serving, including carbonated soft drinks, fruit drinks, presweetened iced teas, sports drinks, energy drinks, and excluding 100% fruit and vegetable juices, non-caloric artificially-sweetened drinks, and alcoholic beverages (servings/d); **polyunsaturated fats (PUFA)**: total PUFA intake (%E/d); **saturated fats (SFA):** total SFA intake (%E/d); **carbohydrates (carbs)**: total carbohydrate intake (%E/d); **seafood omega-3 fats**: total dietary eicosapentaenoic (EPA) + docosahexaenoic (DHA) (mg/d) intake, excluding supplements; **sodium**: total dietary sodium intake (mg/d).

[b] Population strata were assigned as follows: age (25-34, 35-44, 45-54, 55-64, 65-74, and ≥75 yrs), sex (male and female), education (<high-school: less than high school degree, high-school: high school degree/equivalent or some college, and College: ≥4-year college degree), and race/ethnicity (White: non-Hispanic White, Black: non-Hispanic Black, Hispanic: Mexican American/other Hispanic, and Other: other race/mixed race).

eTable 9. US consumption levels (median and inter-quartile range) for key dietary factors in 2009-2012 by population subgroups.

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
Fruits (g/d)	**Overall by age**	48.6 (0, 153.5)		52 (0, 141.4)		70.4 (2.1, 172.6)		88.2 (14.2, 205)		112.1 (27.1, 201)		113.2 (38.7, 201)		F: 81.6 (7.6, 185.7) M: 61.4 (0, 164.6)
	Education													
	<High-school	59 (0, 158.6)	7.4 (0, 99.3)	0 (0, 84.7)	52.9 (0, 139.3)	9.8 (0, 122.9)	59.7 (0, 133.3)	57.7 (0, 142.7)	84.5 (0, 153.4)	52.6 (0, 129.6)	76.5 (4.3, 181.7)	63.5 (0, 136.1)	92.6 (12.2, 154)	52.9 (0, 147)
	High-school	16.6 (0, 119.7)	33.9 (0, 123.2)	10.2 (0, 97.9)	29.2 (0, 139.3)	30.6 (0, 148.4)	70 (5.1, 172)	58.7 (4.3, 145.5)	82 (9.6, 197.2)	70.4 (4.9, 166.8)	118.8 (53.8, 199.2)	122.2 (42.8, 195.2)	140.1 (66.1, 210.7)	61 (0, 157.8)
	College	54 (0, 155.6)	107.8 (31.8, 195.8)	94.3 (30.7, 175.6)	87.9 (14.4, 197)	121.6 (15.5, 227.7)	96.3 (37.2, 195.9)	140 (39.3, 241.9)	161 (63.8, 245.9)	145 (71.2, 243.1)	162.3 (80.6, 306.4)	134 (37.3, 255.6)	113.1 (67.8, 225.8)	110.9 (28.9, 215.5)
	Race													
	White	30 (0, 147.7)	54.2 (0, 183.8)	45.4 (0, 117.3)	55.3 (1.4, 154.6)	62.9 (0, 176.1)	72.4 (24.2, 167.8)	72.4 (9, 191)	110.5 (20.9, 215.5)	104.9 (14.5, 204.9)	120.6 (55.4, 214.9)	113.2 (34.8, 212.9)	123.6 (50.7, 199.5)	74.4 (5.4, 178.3)
	Black	0 (0, 57)	9.8 (0, 122.2)	0 (0, 87.9)	14.1 (0, 104.1)	22.1 (0, 154.8)	61 (0, 179.9)	48.5 (0, 169.8)	77.3 (2.7, 174.1)	75.3 (0, 135)	77.4 (17, 158.1)	29.4 (0, 122.5)	105.2 (32, 175.8)	35.4 (0, 139.4)
	Hispanic	68.2 (0, 171.9)	62.5 (0, 158.8)	33.4 (0, 131.9)	75.1 (8.4, 180.6)	78.8 (0, 191.4)	73.2 (3.7, 165.6)	76.8 (6.4, 151.6)	109.9 (45.5, 175)	65.2 (0, 160.1)	135.4 (51.4, 220)	85.2 (0, 174.2)	90.8 (29.2, 199.7)	71.5 (0, 166)
	Other	37.2 (0, 109.7)	83.4 (21.3, 220.3)	58.3 (11.6, 194.3)	110.5 (66.2, 220.9)	91.5 (0, 189.1)	114.1 (44.1, 219.4)	82.4 (57.9, 174.4)	116.4 (80.6, 269.9)	107 (15.3, 242.6)	103.8 (7.2, 171.3)	67.4 (5.1, 126.4)	234.4 (121.3, 308.4)	88.8 (13.1, 206.4)
	Total	28.8 (0, 144.9)	55.2 (0, 168)	38.6 (0, 124)	61.5 (0.8, 156.9)	63.4 (0, 176.1)	74.4 (12.7, 172)	72.4 (9, 184.2)	104.1 (20.7, 215.5)	102.2 (8.7, 196.1)	119.4 (46.8, 203.1)	101.1 (23.7, 201)	121.3 (50.7, 201.7)	71.2 (3.5, 174.9)
Vegetables (g/d)	**Overall by age**	144 (72.2, 231.2)		148.2 (81.2, 232.9)		157.9 (91.5, 252.5)		161.8 (87.4, 262)		165.8 (94.5, 269.5)		143.8 (79.3, 235.2)		F: 160.6 (87.4, 253) M: 144.9 (80.7, 231.6)
	Education													
	<High-school	115.2 (47.2, 178.7)	125.1 (65.7, 219.6)	161.4 (88.7, 234.6)	123.7 (61, 201.5)	146.4 (72.5, 196.8)	143.1 (81.1, 212.8)	117.4 (52.2, 197.8)	133.6 (71.5, 242.5)	116.7 (60, 184)	157.3 (89.1, 210.3)	132.3 (60.8, 257.4)	132 (75, 200.4)	134.4 (71.7, 215.2)
	High-school	133.8 (66.8, 199.4)	127.5 (63.5, 197.6)	122.7 (59.8, 193.3)	143.7 (73.4, 232.9)	134 (59.1, 205.2)	153.2 (88.3, 239)	138.1 (66.8, 212.1)	157.7 (78.8, 269.1)	149.8 (68.5, 245.2)	177.1 (97.2, 266.8)	131 (79.8, 233.1)	152.8 (83, 243.9)	141.9 (72.2, 226.4)
	College	190 (111.4, 269.6)	173.2 (93.1, 257.6)	186.6 (116.4, 265.5)	155.8 (88.8, 251)	171.2 (116.1, 304)	216 (146.7, 342.4)	178.3 (112.1, 266)	203.9 (151.4, 314.1)	187.6 (122.3, 272.4)	200.3 (119.6, 330.1)	142.9 (87.1, 235.5)	149.8 (79.2, 244.3)	184.8 (115.4, 285.9)
	Race													
	White	141.1 (77.5, 235.9)	140.1 (74.3, 228.6)	136.4 (81.2, 215)	152 (77.8, 238.8)	144.3 (78.1, 215.8)	172.1 (113.8, 288)	144.9 (84, 218.4)	182.1 (98.1, 284.8)	155 (85.2, 269.5)	174.9 (101.8, 275.5)	132.3 (80.7, 239.8)	146.6 (79, 222.5)	152.7 (84.2, 242.4)
	Black	75.4 (35.4, 154.6)	110.4 (59.9, 177.4)	103.7 (50.2, 199.9)	101.3 (40.2, 177.8)	118.1 (48.7, 209.1)	121.5 (57.3, 231.5)	112.3 (46.8, 184.5)	135.8 (79.2, 240.2)	120.8 (50.1, 216.7)	180.8 (94.3, 262.6)	127 (71.7, 208.4)	124 (72.6, 214.5)	116.4 (54.3, 198.2)
	Hispanic	161.4 (96.2, 258.3)	158.1 (79.1, 248.8)	176.2 (115.7, 255.6)	161 (102.9, 237.2)	171.2 (104.9, 229.7)	163.9 (114.3, 240.4)	183.4 (102.6, 285)	174.4 (88.4, 306.8)	170.9 (103.7, 253.3)	187.1 (117.9, 275.3)	141.5 (82.8, 258.9)	173.7 (108, 298.3)	167.9 (100.7, 255.6)
	Other	152 (103, 236.4)	167.6 (89.4, 315.5)	210 (122.2, 328.2)	198.6 (106.7, 336.5)	172.9 (129, 318.4)	195 (99.8, 341.5)	196.5 (41.3, 316.5)	244.3 (125.5, 374.6)	153.9 (132, 241.2)	184.2 (151.6, 319.8)	150.3 (117.2, 313.3)	198.5 (148, 324.6)	187.2 (117.2, 319.8)
	Total	142.9 (72.2, 229.1)	145.7 (72.5, 231.2)	148.2 (85.2, 229)	148.8 (76.2, 237.2)	146.1 (80.3, 219.1)	170.8 (98.5, 274.9)	144.9 (78.4, 224.7)	180.6 (98.1, 286.2)	153.9 (85.2, 257.4)	178 (101.8, 275.5)	136.3 (80.7, 242.8)	147.9 (79.2, 231.7)	154 (83.6, 243.2)
Nuts & seeds (g/d)	**Overall by age**	0 (0, 7)		0.8 (0, 10.2)		2.1 (0, 13.5)		2.6 (0, 18.1)		2.8 (0, 15.5)		1.7 (0, 11.9)		F: 2 (0, 12.8) M: 1 (0, 12.4)
	Education													
	<High-school	0 (0, 0)	0 (0, 0.3)	0 (0, 2.6)	0 (0, 5.6)	0 (0, 2.1)	0 (0, 6.6)	0 (0, 7.5)	0 (0, 5.5)	0 (0, 3)	0 (0, 7.2)	0 (0, 3.5)	0 (0, 5.7)	0 (0, 3.9)
	High-school	0 (0, 3.9)	0 (0, 5)	0 (0, 9.5)	0 (0, 7.3)	1.3 (0, 9.2)	2.5 (0, 12.4)	0.8 (0, 12.3)	3.3 (0, 18.8)	1.4 (0, 9.1)	5.7 (0, 15.3)	1.9 (0, 10.6)	2.7 (0, 13.8)	1 (0, 10.2)
	College	5 (0, 27.7)	2.1 (0, 14.6)	4.8 (0, 19)	5.4 (0, 18.2)	6 (0, 20.8)	6.1 (0, 23.4)	5.9 (0, 29.5)	7.3 (0, 24.3)	6.4 (0, 35.1)	5.2 (0, 17.9)	4.5 (0, 24.7)	9.1 (0.7, 25.8)	5 (0, 21.4)
	Race													
	White	1.4 (0, 15.5)	1.5 (0, 8.1)	3 (0, 16.1)	2.2 (0, 11.3)	3.2 (0, 15.7)	4.6 (0, 18.5)	2.6 (0, 19.5)	5.2 (0, 20)	2.4 (0, 17.4)	5.3 (0, 16.1)	1.8 (0, 13.8)	2.7 (0, 13.7)	2.9 (0, 15.9)
	Black	0 (0, 1.2)	0 (0, 1.5)	0 (0, 1.7)	0 (0, 8.5)	0 (0, 4.7)	0 (0, 10.1)	1.2 (0, 11.6)	2 (0, 13.7)	0 (0, 4.7)	0.2 (0, 8.7)	0 (0, 3.7)	0 (0, 4.2)	0 (0, 6.3)
	Hispanic	0 (0, 3.3)	0 (0, 2.9)	0 (0, 3.2)	0 (0, 5.7)	0 (0, 2)	0 (0, 4.8)	0 (0, 3.4)	0 (0, 4)	0 (0, 4.6)	0 (0, 6.2)	0 (0, 1.6)	0 (0, 5.7)	0 (0, 3.5)
	Other	0 (0, 7.3)	0.9 (0, 10.7)	1.4 (0, 8.4)	2.1 (0, 8.9)	0 (0, 6.7)	3.7 (0, 22.7)	0 (0, 9.6)	2.9 (0, 14.6)	4.5 (0, 11)	0.4 (0, 20.6)	0.4 (0, 13.1)	0 (0, 0)	0.8 (0, 10.5)
	Total	0 (0, 7.8)	0 (0, 6)	0.5 (0, 11.7)	1.1 (0, 9.8)	1.2 (0, 11.5)	2.9 (0, 14.8)	1.8 (0, 17.4)	3.5 (0, 18.6)	1.9 (0, 15.5)	3.6 (0, 15.3)	1.1 (0, 11)	2.1 (0, 12.2)	1.5 (0, 12.6)
Whole grains (g/d)	**Overall by age**	9 (0, 27.7)		9.4 (0, 29)		10.9 (0, 30.5)		14.8 (2.3, 36.3)		15.4 (2.6, 33.7)		21.4 (4.9, 41.8)		F: 13.8 (0.9, 32.5) M: 10.8 (0, 31.6)
	Education													

eTable 9. US consumption levels (median and inter-quartile range) for key dietary factors in 2009-2012 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
	<High-school	0 (0, 14.1)	0.9 (0, 17.5)	0 (0, 10.9)	1.6 (0, 14.9)	4.6 (0, 22.4)	6.5 (0, 22.6)	0 (0, 16.7)	16.2 (2.7, 35.4)	7.3 (0, 23.4)	14.7 (3.1, 28.3)	11 (0, 33.7)	17.2 (4.6, 45.9)	5.9 (0, 23.5)
	High-school	5.8 (0, 23.5)	7.1 (0, 25.7)	6.4 (0, 24.2)	10.4 (0, 26.2)	9.9 (0, 29.3)	10 (0, 26.3)	12.8 (0, 41.4)	13.8 (2.6, 30.1)	15.7 (0, 41.5)	14.4 (4.6, 33.4)	24.3 (2.9, 41.9)	24.8 (7.7, 41)	11 (0, 29.1)
	College	16.1 (3.4, 34.2)	23 (5.8, 38.6)	15 (1.6, 42.1)	21.1 (6.4, 46)	19.1 (3.6, 46.3)	15.8 (1.3, 38.6)	22.7 (3.8, 47.3)	17.3 (4.3, 36.6)	20.5 (5.9, 41.3)	21.6 (4.2, 34.4)	21.3 (7.1, 36.1)	30.4 (5.7, 56.3)	19.2 (4.2, 41)
	Race													
	White	10.7 (0, 28.2)	16.6 (0.7, 34.7)	9.6 (0, 29.1)	14.5 (2.7, 36.4)	11.2 (0, 33.3)	13.1 (0.4, 30.6)	14.3 (0, 41.7)	15.5 (4, 34.9)	17.4 (0.4, 39.5)	16.1 (5, 33.7)	21.7 (4.7, 40.6)	24.8 (7.2, 43.7)	14.7 (1.4, 34.8)
	Black	4.6 (0, 24.4)	6.1 (0, 20.7)	4.7 (0, 14.5)	4.2 (0, 19.9)	10.5 (0, 30.1)	7.1 (0, 22.5)	12.6 (0, 26.2)	9.4 (0, 27.6)	7.6 (0, 26.2)	8.5 (0, 22.8)	10.3 (0, 27.3)	21.2 (2.5, 43.9)	6.8 (0, 24.4)
	Hispanic	2.5 (0, 21.4)	3 (0, 14)	2 (0, 16.5)	8.3 (0, 25)	7.5 (0, 30.2)	5.2 (0, 18.9)	10.6 (0, 32)	10.5 (3.5, 28.7)	11.4 (0, 31.4)	12.5 (0.2, 29.9)	12.8 (0, 23.6)	12.9 (4.6, 35.3)	5.6 (0, 22.7)
	Other	6.1 (0, 21.3)	9.3 (0, 33.6)	9.6 (0, 29.5)	21.1 (9.8, 38)	9.3 (0, 31.4)	18.2 (2.5, 36.9)	15.2 (0.3, 51.8)	30.1 (3.6, 48)	13.7 (0, 21.2)	19.6 (5.2, 41.1)	7.9 (0, 43.1)	25.4 (0, 60.5)	13.2 (0.7, 36.9)
	Total	7.3 (0, 25.1)	10.8 (0, 31.1)	6.8 (0, 26.7)	12.2 (0, 33.1)	10.8 (0, 31.6)	11.5 (0, 27.8)	14 (0, 40.5)	15.4 (3.6, 34.7)	15 (0, 36.1)	15.5 (4.2, 32.6)	19.6 (0, 40.5)	23.4 (6.7, 43.7)	12.4 (0, 32.1)
Red meats, unprocessed (g/d)	**Overall by age**	30.5 (0, 72.4)		37.3 (0, 78.1)		39.8 (0, 78.3)		28.3 (0, 69)		32.6 (0, 72.8)		30.9 (0, 69.2)		F: 27 (0, 62.7) M: 41.8 (2, 86.7)
	Education													
	<High-school	34.8 (6, 84.2)	28.7 (0, 64)	73.7 (24.9, 121.1)	38.8 (0, 85.6)	65 (21.7, 111.9)	38.3 (0, 74.5)	53 (0, 90.5)	39.6 (0, 65.6)	36.8 (1.7, 82.4)	18.6 (0, 61.1)	38.7 (0, 69.2)	25.8 (0, 53.4)	39.2 (0, 80.8)
	High-school	38.7 (0, 97.1)	34.6 (2.1, 64.6)	48.9 (12, 90)	28.1 (0, 66.3)	50.4 (9.7, 102.6)	43.7 (5.6, 74.4)	48.7 (16.3, 82.1)	26.8 (0, 62.8)	39.4 (0, 77)	21.3 (0, 65.4)	41.3 (4.4, 93.5)	31.8 (0, 62.7)	38.4 (0, 76)
	College	28.8 (0, 74.8)	18.3 (0, 57.5)	36.4 (7.9, 79.4)	20.5 (0, 49.6)	36.4 (0, 78.3)	18.2 (0, 51.7)	23.9 (0, 68.2)	9.8 (0, 47.1)	45.1 (6.2, 88.7)	23.1 (0, 66.9)	26.9 (0, 65.6)	7 (0, 71.7)	24.3 (0, 63.8)
	Race													
	White	31.9 (0, 89.2)	31.3 (0, 63.2)	46.1 (13.3, 87.5)	26.7 (0, 57.5)	48.1 (3.6, 92.4)	33.9 (0, 66.2)	35.1 (4.2, 76.2)	21.9 (0, 57.7)	41.8 (1.7, 83.2)	21.4 (0, 65.7)	36.3 (0, 79.9)	27.8 (0, 62.1)	34.7 (0, 74.1)
	Black	35.9 (2, 74.5)	31.4 (0, 72)	55.3 (5.2, 94)	25.7 (0, 66.8)	26.6 (0, 50.4)	27.5 (0, 65.5)	40.9 (0, 72.1)	26.8 (0, 66.6)	33.8 (0, 73.7)	23.1 (0, 56.8)	19 (0, 68.6)	22.9 (0, 65.9)	30.8 (0, 69.8)
	Hispanic	43.7 (9.4, 97.6)	25.9 (0, 67.9)	54.1 (17.4, 100.1)	34.6 (0, 69.6)	53.5 (4.1, 103)	32.3 (0, 69.7)	58.5 (15.1, 106.3)	31.8 (0, 67.2)	29.4 (0, 81.4)	13.7 (0, 63.3)	36.2 (12.2, 60.3)	16.8 (0, 60.1)	38.6 (0, 79.4)
	Other	33 (0, 100.9)	5.5 (0, 43.1)	41 (0, 94.6)	25.8 (0, 57.6)	46.9 (7.8, 106)	22.5 (0, 61.4)	58.6 (21, 74.5)	21.4 (1.7, 48.3)	30.3 (0, 75.1)	5.9 (4, 54.5)	60.2 (8.5, 94.5)	34.4 (0, 62.1)	27.5 (0, 68.3)
	Total	35.9 (0, 89.4)	26.9 (0, 62.3)	46.9 (12.6, 90.6)	28 (0, 62)	45.7 (3.4, 92.1)	33.5 (0, 66.2)	39.7 (5.3, 79.2)	24.2 (0, 59.2)	39.8 (0, 80.9)	21.1 (0, 65.2)	36.3 (0, 77.7)	27.5 (0, 62.1)	34.4 (0, 74)
Processed meats (g/d)	**Overall by age**	16.9 (0, 47.3)		17 (0, 50.5)		18.7 (0, 49.5)		17.7 (0, 46.1)		20.1 (0, 49.3)		14.5 (0, 40.5)		F: 12.1 (0, 37.2) M: 24.4 (0, 56.8)
	Education													
	<High-school	14.9 (0, 49)	17.1 (0, 38.9)	14 (0, 45.2)	7.5 (0, 37.7)	14.5 (0, 66.2)	9.2 (0, 29.3)	23.3 (0, 60.8)	12 (0, 36.7)	28.4 (6.3, 56.8)	9.3 (0, 35.9)	33.6 (0, 58.5)	13.6 (0, 44.4)	15.4 (0, 45.7)
	High-school	26.6 (0.8, 57.8)	16.7 (0, 40.3)	30.5 (3.2, 70.8)	15.6 (0, 45.4)	32.8 (4, 59.6)	16.8 (0, 37.6)	28.3 (1.6, 57.6)	17.5 (0, 38.7)	31.6 (0, 59.8)	18.6 (0, 43.1)	20 (0, 38.1)	8.7 (0, 34.8)	21.6 (0, 50.4)
	College	14.5 (0, 49.9)	11.3 (0, 36.9)	24.1 (0, 68.1)	4 (0, 33.1)	22.5 (0, 52.8)	4.6 (0, 32)	16.8 (0, 43.3)	5.3 (0, 27.4)	22.1 (2.6, 51.3)	8.1 (0, 35.5)	18.1 (0, 43)	0 (0, 22)	11.5 (0, 41.9)
	Race													
	White	21.8 (0, 53.9)	17.2 (0, 38.9)	28 (1.6, 71)	7.8 (0, 40.4)	33.7 (6, 59.3)	15.2 (0, 35.6)	25 (0, 57.6)	12.4 (0, 38.7)	26.3 (4.1, 52.6)	15.1 (0, 42.1)	22.2 (0, 47.9)	11.7 (0, 34.8)	20.1 (0, 49.3)
	Black	20.9 (0, 55.3)	15.8 (0, 47.1)	27.1 (3.9, 52.8)	16.6 (0, 42.3)	31.1 (6.4, 66.2)	16.1 (0, 39.1)	23.2 (0, 62.4)	23.4 (0, 47.6)	31.5 (4.8, 66.2)	19.8 (7.4, 41.4)	25.1 (0, 49.3)	18.1 (0, 53)	21.6 (0, 51.8)
	Hispanic	24.9 (0, 54.1)	5.1 (0, 33.1)	14 (0, 46.6)	8.6 (0, 29.4)	9.8 (0, 33.7)	5.5 (0, 32.7)	15.8 (0, 47.6)	0 (0, 18)	15.4 (0, 45.3)	0 (0, 20.9)	21.9 (0, 52.6)	0 (0, 23.6)	9.9 (0, 37.8)
	Other	13.5 (0, 58.5)	11.7 (0, 37.3)	19.7 (0, 49.5)	0 (0, 28.6)	1.1 (0, 21.9)	0 (0, 11)	0 (0, 43)	0 (0, 9.5)	10 (0, 62.1)	7.6 (0, 46.5)	0 (0, 21.8)	0 (0, 7)	2.7 (0, 35.7)
	Total	21.8 (0, 54.1)	15 (0, 37.8)	24.4 (0, 63.2)	8.8 (0, 37.6)	26.7 (1.1, 58.7)	12.6 (0, 34.1)	24.5 (0, 55.1)	9.3 (0, 36.7)	25.9 (2.3, 53)	14.8 (0, 40.6)	20.9 (0, 49.9)	9.4 (0, 34.8)	17.6 (0, 47.6)
SSB (servings (8 oz)/d)	**Overall by age**	1.02 (0, 2.62)		0.85 (0, 2.35)		0.5 (0, 1.74)		0 (0, 1.24)		0 (0, 0.77)		0 (0, 0.7)		F: 0 (0, 1.48) M: 0.69 (0, 2.07)
	Education													
	<High-school	1.66 (0.79, 3.03)	1.51 (0, 2.85)	2.25 (0.92, 2.91)	1.33 (0, 2.67)	1.24 (0, 2.43)	1.07 (0, 2.39)	0.73 (0, 1.89)	0 (0, 1.55)	0.33 (0, 1.42)	0 (0, 1.29)	0 (0, 1.24)	0 (0, 0.91)	0.97 (0, 2.3)
	High-school	2.07 (0.63, 3.63)	1.02 (0, 2.8)	1.3 (0, 2.98)	0.84 (0, 2.57)	0.81 (0, 1.83)	0.46 (0, 1.93)	0.59 (0, 1.57)	0 (0, 1.34)	0 (0, 1.02)	0 (0, 0.61)	0 (0, 0.88)	0 (0, 0.59)	0.62 (0, 2.05)
	College	0.8 (0, 1.43)	0 (0, 0.96)	0.32 (0, 1.25)	0 (0, 1.17)	0 (0, 1.2)	0 (0, 0.69)	0 (0, 1.05)	0 (0, 0.33)	0 (0, 0.6)	0 (0, 0.06)	0 (0, 0.63)	0 (0, 0.31)	0 (0, 0.94)
	Race													

eTable 9. US consumption levels (median and inter-quartile range) for key dietary factors in 2009-2012 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
	White	1.3 (0, 3.3)	0.38 (0, 1.72)	0.84 (0, 2.63)	0.35 (0, 1.73)	0.59 (0, 1.7)	0 (0, 1.27)	0.39 (0, 1.34)	0 (0, 0.57)	0 (0, 0.76)	0 (0, 0.47)	0 (0, 0.72)	0 (0, 0.51)	0.02 (0, 1.48)
	Black	1.64 (0.7, 2.99)	1.6 (0.41, 2.57)	2.01 (0.42, 3.03)	1.51 (0, 2.95)	1.13 (0, 2.34)	1.17 (0, 2.41)	0.85 (0, 2.1)	0.81 (0, 2.03)	0.63 (0, 1.86)	0.67 (0, 1.81)	0.64 (0, 1.53)	1.1 (0, 2.02)	1.23 (0, 2.52)
	Hispanic	1.73 (0.81, 2.96)	1.22 (0, 2.15)	1.32 (0.42, 2.54)	0.79 (0, 1.85)	1.12 (0, 2.26)	0.74 (0, 1.82)	0.74 (0, 1.56)	0 (0, 1.28)	0.43 (0, 1.39)	0 (0, 0.8)	0.29 (0, 0.66)	0 (0, 0.74)	1.01 (0, 2.09)
	Other	0.76 (0, 2.21)	0.29 (0, 1.41)	1.04 (0, 2.49)	0 (0, 1.4)	0.19 (0, 1.23)	0 (0, 1.05)	0.55 (0, 2.52)	0 (0, 0.57)	0 (0, 0.92)	0.03 (0, 0.85)	0 (0, 0.6)	0 (0, 0.6)	0.28 (0, 1.3)
	Total	1.43 (0.39, 3.08)	0.72 (0, 2.06)	1 (0, 2.63)	0.64 (0, 1.85)	0.66 (0, 1.89)	0.32 (0, 1.63)	0.46 (0, 1.53)	0 (0, 0.86)	0 (0, 0.84)	0 (0, 0.61)	0 (0, 0.74)	0 (0, 0.6)	0.45 (0, 1.74)
Polyunsaturated fats (%E)	**Overall by age**	7.1 (5.6, 8.7)		7.3 (5.9, 9.1)		7.6 (5.9, 9.3)		7.7 (6.1, 9.5)		7.4 (5.8, 9.4)		7.6 (6, 9.4)		F: 7.5 (6, 9.4) M: 7.3 (5.8, 9)
	Education													
	<High-school	6.5 (4.5, 8.1)	6.5 (5.2, 8.2)	6.8 (5.4, 8.1)	7 (5.8, 8.3)	7.3 (5.5, 9.2)	7.2 (5.5, 9.3)	7.2 (6, 9.2)	7.5 (6.1, 8.6)	7.8 (5.6, 9)	6.9 (5.7, 8.7)	7.7 (5.9, 9.3)	7.4 (6.3, 9.4)	7.1 (5.5, 8.7)
	High-school	7.2 (5.5, 8.6)	7.2 (5.6, 8.9)	7.1 (5.7, 9.1)	7.6 (6, 9.6)	7.2 (5.8, 8.8)	7.7 (6.1, 9.8)	7.3 (5.7, 9.3)	8 (6.4, 9.6)	7 (5.3, 8.9)	7.5 (5.9, 9.5)	7.4 (5.4, 9.2)	7.6 (6.1, 9.5)	7.4 (5.8, 9.3)
	College	7.4 (6.1, 9)	7 (5.9, 8.6)	7.6 (6.3, 9.2)	7.5 (6.2, 9.4)	7.8 (6.2, 9)	7.7 (6.2, 9.3)	7.8 (6.2, 9.1)	8.4 (6.2, 10.2)	8 (6.2, 9.6)	7.6 (5.6, 10.5)	7.4 (5.8, 9.1)	8.5 (6.4, 9.5)	7.7 (6.2, 9.3)
	Race													
	White	7.3 (5.6, 8.9)	6.7 (5.6, 8.5)	7.3 (5.8, 8.9)	7.4 (6.2, 9.4)	7.5 (6, 9.1)	7.7 (5.9, 9.6)	7.7 (5.9, 9.3)	8.2 (6.4, 9.9)	7.6 (6, 9.4)	7.5 (5.9, 9.8)	7.5 (5.7, 9.3)	7.8 (6.3, 9.5)	7.5 (6, 9.3)
	Black	7.1 (5.6, 8.6)	7.9 (6.2, 9.5)	7.5 (6, 9.3)	7.5 (6.1, 10)	8.1 (6.2, 9.2)	7.9 (6.5, 10)	7.4 (6.6, 9.3)	7.9 (6.5, 10.2)	7.4 (5.5, 9.6)	8.2 (6.7, 9.8)	7.5 (6.1, 9.4)	7.6 (5.7, 9.3)	7.7 (6.2, 9.6)
	Hispanic	7 (5.5, 8)	7 (5.5, 8.3)	7 (5.6, 8.4)	7.3 (5.8, 8.8)	7 (5.6, 8.1)	7 (5.5, 8.7)	7 (5.4, 8.5)	6.7 (5.7, 8)	6.9 (5.4, 8.6)	6.7 (5.6, 7.6)	6.7 (5.1, 8)	6.9 (5.5, 8.1)	7 (5.6, 8.4)
	Other	6.8 (5.3, 8.9)	7.8 (6.4, 9.1)	7.5 (5.7, 9.4)	7 (5.5, 8.7)	7.6 (5.7, 9)	8.4 (6.6, 10.1)	7.2 (4, 8)	8.3 (6.2, 11.2)	6.3 (5, 8.4)	5.8 (5.1, 7.6)	8.2 (5.7, 9.2)	7.6 (6, 8.2)	7.5 (5.8, 9.1)
	Total	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.2 (5.5, 8.6)	7.4 (5.9, 9.2)
Saturated fats (%E)	**Overall by age**	10.4 (8.3, 12.3)		10.4 (8.5, 12.4)		10.9 (8.8, 12.9)		10.4 (8.4, 12.6)		10.6 (8.6, 12.8)		10.5 (8.6, 12.7)		F: 10.4 (8.5, 12.5) M: 10.6 (8.6, 12.7)
	Education													9.9 (8.1, 12.2)
	<High-school	9 (7.6, 11.5)	10 (7.6, 12.3)	9.6 (8, 11.5)	9.4 (7.9, 10.8)	10.6 (8.8, 13.1)	10 (8.4, 12.2)	10.2 (8.3, 12.8)	10 (7.6, 12.4)	10.8 (8.7, 13.6)	9.8 (8.1, 11.9)	10.4 (8.2, 12)	9.7 (7.9, 11.9)	10.7 (8.7, 12.8)
	High-school	10.5 (8.7, 12.2)	10.8 (8.8, 12.7)	11 (8.7, 12.7)	10.1 (8.4, 12.2)	11.2 (9, 13.3)	11 (9.2, 13.3)	11.1 (8.8, 13)	9.9 (8.3, 12.6)	10.8 (8.9, 13)	10.7 (8.7, 12.7)	10.5 (8.5, 12.3)	10.8 (8.9, 12.8)	10.5 (8.5, 12.5)
	College	10.4 (8.2, 11.8)	10.1 (8.2, 12.4)	10.5 (8.6, 13.1)	10.5 (8.6, 12.7)	11 (8.9, 12.7)	10.6 (8.4, 12.8)	10.3 (8.6, 12.4)	10.1 (8.2, 12)	10 (8.4, 12.2)	11.5 (8.6, 13.4)	11.2 (9, 13.1)	10.8 (9.1, 12.3)	
	Race													
	White	10.5 (8.7, 12.5)	10.9 (8.8, 12.6)	11.2 (9.3, 13.1)	10.1 (8.5, 12.3)	11.7 (9.6, 13.3)	11 (9, 13.3)	11 (8.7, 13.1)	10 (8.4, 12.7)	10.7 (8.8, 13.1)	10.9 (8.8, 13)	10.7 (8.7, 13)	10.7 (9, 12.8)	10.8 (8.8, 12.9)
	Black	10.3 (8.1, 11.9)	10.4 (8, 12.3)	10.4 (7.7, 12.2)	10.4 (8.5, 12.2)	10.3 (8.5, 12.5)	10.1 (8.2, 12.2)	10.2 (8.5, 12.4)	10.3 (8.4, 12.3)	10.1 (8.6, 11.6)	10.3 (8.4, 12.3)	10.4 (9, 12.7)	8.9 (7.1, 11.3)	10.2 (8.2, 12.2)
	Hispanic	9.9 (7.9, 11.6)	9.6 (7.9, 12.1)	10 (8.3, 12.3)	10.2 (8.2, 12)	9.8 (7.8, 11.6)	10.1 (8.5, 11.9)	10.4 (8.1, 12.4)	9.1 (7.3, 11.8)	10.4 (8.1, 12.4)	9 (7.5, 11.2)	9.1 (7.7, 11.2)	9.5 (7.6, 11.1)	9.8 (8.1, 11.9)
	Other	9.2 (6.6, 11.3)	9.2 (7.2, 11.1)	8.3 (6.4, 11.1)	10 (8.2, 11.9)	8.9 (6, 10.8)	10.1 (7.7, 11.8)	8.9 (6.8, 10.7)	8.6 (7, 10.7)	8.5 (7.5, 12.6)	8.9 (6.5, 11.2)	8.8 (6.8, 11.1)	7.4 (6.9, 11.7)	9.2 (7.1, 11.3)
	Total	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.4 (8.3, 12)	10.5 (8.5, 12.6)
Carbohydrates (%E)	**Overall by age**	50.4 (44.1, 56.4)		49.7 (43, 55.3)		48.9 (42.7, 54.7)		48.7 (43.1, 54.6)		48.6 (43.2, 54.7)		51.4 (46.1, 56.9)		F: 50.6 (44.9, 56.3) M: 48.2 (42.1, 54.2)
	Education													
	<High-school	53.5 (44.9, 60)	53.9 (45.8, 60.4)	48.9 (44.3, 56.4)	52.5 (45.8, 58.9)	50 (39.8, 54.7)	51.4 (45.9, 57.6)	48 (42.7, 54.6)	49.5 (45.5, 57.2)	46.1 (40.4, 52)	53 (44.8, 59.5)	49.9 (44.4, 56.3)	53.5 (48, 57.8)	51.2 (44.4, 57.5)
	High-school	49.7 (44.2, 55.3)	51.4 (46.6, 57)	47.2 (39.4, 53.1)	50.5 (44.2, 56.2)	47.5 (41.1, 53.8)	49.1 (43.6, 55.2)	46.8 (42.1, 54)	50.1 (44.1, 56.2)	47.3 (42.5, 52.9)	49.9 (44.7, 56.2)	50.2 (45.1, 57.1)	51.9 (47.2, 57.1)	49.3 (43.4, 55.3)
	College	46.3 (41.1, 52.5)	50.2 (44.5, 56.4)	47.8 (40.8, 54.1)	50.8 (47.2, 55.5)	48.5 (42.1, 54.2)	49.2 (44.5, 54.3)	49.1 (41.1, 54.1)	49.3 (43.9, 53.8)	46.8 (42.3, 52.9)	50.2 (42.7, 53.5)	50.1 (44.7, 55.1)	49.1 (46.5, 52.4)	49.2 (42.9, 54.3)
	Race													
	White	48.5 (42.5, 54.4)	50.7 (45.6, 57)	46.7 (39.5, 52.9)	50.4 (45.1, 55.9)	47.1 (40.7, 52.7)	49.2 (43.5, 55.2)	47 (41.3, 54)	49.3 (43.7, 54.6)	46.2 (41.7, 50.8)	49.9 (43.7, 55.5)	50 (44.7, 56)	51.3 (46.8, 56.7)	48.8 (42.7, 54.6)
	Black	48.3 (41.3, 54.8)	50.7 (44.7, 56.5)	48.2 (42.5, 53.7)	49.6 (43.2, 55.5)	48.1 (40.6, 54.3)	49.4 (45.2, 54.7)	48.1 (41.5, 52.8)	49.3 (43.8, 56.2)	48.6 (42.5, 55.1)	51.4 (44.5, 55.8)	48.7 (43.5, 54.7)	56.2 (48.5, 61.2)	49.5 (43.2, 55.3)
	Hispanic	51.1 (44.5, 56.6)	53.3 (46, 58.3)	49.6 (43.4, 54.1)	52.1 (47.1, 57.2)	51.3 (45.2, 56.1)	52 (46.6, 57.6)	49.9 (44.3, 55.1)	53.1 (48, 58.5)	49.9 (44.5, 57)	54.2 (47.3, 59)	53.7 (47.9, 61.5)	54.2 (48.8, 58.4)	51.6 (45.6, 57)
	Other	51.4 (47.5, 54.6)	52.5 (45.8, 60.6)	54 (47.4, 60.2)	54.7 (48.5, 61.7)	51.3 (45.8, 58.9)	49.9 (45.2, 57.4)	50.6 (44.3, 62.6)	53 (49.5, 58.4)	49.1 (44.1, 56.8)	59.5 (51.5, 66.5)	55.2 (49, 59.2)	53.8 (52.6, 60)	52.7 (46.1, 59.2)

eTable 9. US consumption levels (median and inter-quartile range) for key dietary factors in 2009-2012 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
	Total	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (42.9, 55)	49.5 (43.4, 55.3)
Seafood omega-3s (mg/d)	**Overall by age**	37.3 (15.3, 76.3)		37.1 (14.8, 82.2)		37.6 (15.3, 95.1)		39.4 (15.3, 95.3)		40.5 (15.8, 113.9)		34 (13.7, 83.9)		F: 36.1 (13.9, 86.5) M: 39.2 (16.7, 92)
	Education													
	<High-school	35 (18.4, 76.2)	38.4 (12.9, 63.4)	45.5 (14, 94.1)	35.6 (14.4, 87.9)	39 (10.5, 77.9)	46.6 (18.6, 111.9)	35.8 (14.1, 77.7)	27.7 (12.3, 74.9)	49.2 (18.8, 102.5)	35.7 (14.8, 88.5)	44.5 (14.3, 104.7)	29.1 (14.2, 69.1)	38 (14.2, 83.8)
	High-school	35.3 (16.1, 63.3)	29.1 (14.1, 62.2)	38.1 (17.5, 81.3)	35.4 (12.8, 74.6)	35 (13.9, 73.3)	34.9 (13.9, 82)	41.1 (15.9, 84.8)	39.5 (15.8, 84.6)	36.8 (13.8, 104.6)	41.2 (15, 102.9)	34.3 (11.6, 81)	25.2 (12.1, 50.5)	35.1 (14.7, 77.6)
	College	53.5 (23.1, 123.2)	43.8 (13.2, 102.5)	35 (18.7, 71.5)	35.2 (13.2, 83.9)	37.5 (17.4, 108)	43 (18, 147.5)	45.6 (16.8, 143.2)	38.5 (10.9, 96.5)	42.4 (21.1, 201.8)	40.7 (18, 95.6)	46.6 (22.4, 98.3)	78.7 (22.8, 196.4)	40.7 (16.9, 110.8)
	Race													
	White	35.5 (16.1, 69.8)	29.2 (12, 61.1)	32.2 (15.2, 67.4)	28.2 (12.4, 72.5)	33.9 (13, 68.6)	34.2 (14.3, 84.8)	42.3 (16.2, 104)	32 (12.2, 80.9)	36.8 (15.4, 124.8)	40.7 (15.5, 96.1)	42.7 (15.2, 91.6)	27.2 (12.8, 73.2)	34.3 (13.9, 75.6)
	Black	58.3 (24.7, 109.2)	40.4 (15.6, 93.1)	56.1 (30.7, 105.4)	42.2 (25.2, 122.7)	50.6 (23.6, 111.4)	64.8 (26.3, 135.4)	60.3 (23.4, 133.5)	48.7 (20.2, 107.7)	56.3 (24.8, 118.2)	55.6 (18.9, 143)	46.9 (21.6, 115.3)	30.5 (15.4, 97.2)	52.5 (23.1, 112.3)
	Hispanic	38.4 (20.5, 81.9)	40.5 (15, 81)	49.5 (23.7, 100.2)	41.5 (21.1, 83.9)	45.8 (19.9, 100.1)	37.8 (19.2, 87.6)	38.9 (20, 74.8)	37.3 (14.9, 79.4)	44.8 (16, 83.8)	38.1 (17.9, 96.9)	23.4 (6.4, 61.6)	39.2 (12.1, 71.6)	40.8 (18, 87.6)
	Other	64.1 (18.4, 281.1)	90.1 (30.1, 221.3)	59.4 (23.1, 162.4)	35.7 (5.9, 196.5)	48.4 (20.7, 176.4)	76.4 (11.7, 191.7)	57.4 (8.4, 107.5)	63.9 (25.7, 143.8)	103.7 (41.2, 248.2)	30.9 (11.5, 35.1)	50.7 (9.7, 158.1)	79.2 (29.8, 179.7)	59.9 (20.4, 194.3)
	Total	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	38.6 (18.4, 81.9)	37.9 (15.1, 88.5)
Sodium (mg/d)	**Overall by age**	3325 (2832, 3864)		3355 (2879, 3917)		3362 (2907, 3917)		3314 (2873, 3877)		3458 (2926, 4134)		3409 (2838, 4072)		F: 3377 (2899, 3990) M: 3337 (2861, 3877)
	Education													
	<High-school	2965 (2413, 3658)	3261 (2754, 4095)	3188 (2499, 3750)	3312 (2818, 3689)	3247 (2887, 3758)	3310 (2789, 3901)	3396 (2867, 3860)	3361 (2699, 4168)	3616 (2801, 4340)	3540 (2854, 4420)	3879 (3230, 4571)	3503 (3008, 4236)	3340 (2794, 4014)
	High-school	3321 (2833, 3783)	3221 (2788, 3795)	3363 (2865, 3858)	3360 (2918, 3997)	3354 (2848, 3913)	3385 (2926, 3956)	3258 (2915, 3708)	3434 (2930, 4116)	3473 (3003, 4036)	3483 (2963, 4151)	3301 (2823, 3806)	3309 (2867, 3933)	3356 (2887, 3917)
	College	3392 (2946, 4033)	3494 (3005, 4071)	3533 (2899, 4147)	3398 (2985, 3917)	3449 (3018, 3966)	3342 (2949, 3875)	3036 (2810, 3754)	3297 (2948, 3718)	3340 (2930, 3839)	3360 (2881, 3954)	3188 (2616, 3749)	3394 (2879, 4282)	3369 (2913, 3924)
	Race													
	White	3243 (2862, 3747)	3379 (2860, 3837)	3369 (2824, 3874)	3345 (2997, 3925)	3354 (2923, 3866)	3319 (2842, 3875)	3223 (2834, 3708)	3342 (2913, 3956)	3406 (2927, 3914)	3435 (2896, 4156)	3380 (2775, 4040)	3347 (2858, 4010)	3343 (2875, 3890)
	Black	3200 (2564, 3682)	3143 (2788, 3643)	3193 (2775, 3648)	3387 (2864, 3841)	3235 (2772, 3754)	3323 (2941, 3901)	3261 (2804, 3779)	3398 (2779, 3907)	3635 (3124, 4207)	3538 (2958, 4271)	3611 (3244, 4173)	3442 (2979, 4202)	3291 (2850, 3858)
	Hispanic	3255 (2625, 3875)	3344 (2829, 3894)	3290 (2864, 3750)	3114 (2723, 3657)	3341 (2871, 3951)	3442 (2930, 3868)	3334 (2779, 3971)	3309 (2845, 3990)	3414 (3036, 4114)	3617 (2938, 4180)	3546 (2967, 4102)	3747 (3122, 4343)	3316 (2803, 3876)
	Other	4106 (3485, 4699)	3736 (3130, 5162)	3679 (3084, 4866)	3698 (3306, 4318)	3721 (3186, 4229)	3598 (3058, 4452)	3404 (3190, 4636)	4227 (3391, 4790)	4515 (3346, 4969)	3801 (3200, 4582)	3507 (3228, 4353)	3496 (3248, 4795)	3769 (3190, 4700)
	Total	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3288 (2824, 3812)	3355 (2873, 3933)

[a] Dietary factors with probable or convincing evidence, based on criteria for assessing causality,[11,13,14,86] for etiologic relationships with cardiometabolic outcomes including coronary heart disease (CHD), stroke, type 2 diabetes, body mass index (BMI), or systolic blood pressure (SBP).[9,10,11] National Health and Nutrition Examination Survey (NHANES) data were used to inform nationally representative estimates of exposure to dietary factors, accounting for complex survey design and sampling weights as appropriate;[3] analyses are representative of the US population aged ≥25y. Specifically, sodium, macronutrient and energy intake were obtained from the Food and Nutrient Database for Dietary Studies, and intakes for food groups of interest were obtained from the Food Patterns Equivalents Database (FPED) for the 2012 estimate.[87] Servings in FPED were converted to grams per day. We estimated the mean and inter-quartile range (IQR) of dietary intakes for the entire population and relevant sub-groups (e.g., by age/sex/race) using data from the 2009-2010 and 2011-2012 cycles (n=8,516); data from two recalls were used. All factors were adjusted for energy using the residual method (2,000 kcal/d)[89] or as percent of energy (%E, macronutrients). Optimal metrics and units for each dietary factor were defined to be consistent with definitions used in epidemiological studies that provided evidence on diet-disease relative risks.[9] Specifically, **fruits** were defined as: total fruits (g/d), excluding fruit juices and salted or pickled fruits; **vegetables**: total vegetables (g/d), including beans/legumes, and excluding salted, pickled, starchy vegetables (e.g., potatoes, corn) vegetables, or vegetable juices; **nuts/seeds**: total nuts and seeds (g/d); **whole grains**: total whole grain foods and grain-based products made with 100% whole grains or their flours (g/d); **red meats**: total red meats (g/d), excluding poultry, fish, eggs, and all processed meats; **processed meats**: total processed meat intake (g/d); **sugar-sweetened beverages (SSBs)**: total SSBs (servings [8 fluid ounces]/d) with ≥50 kcal per 8 oz (237 mL) serving, including carbonated soft drinks, fruit drinks, presweetened iced teas, sports drinks, energy drinks, and excluding 100% fruit and vegetable juices, non-caloric artificially-sweetened drinks, and alcoholic beverages (servings/d); **polyunsaturated fats (PUFA)**: total PUFA intake (%E/d); **saturated fats (SFA):** total SFA intake (%E/d); **carbohydrates (carbs)**: total carbohydrate intake (%E/d); **seafood omega-3 fats**: total dietary eicosapentaenoic (EPA) + docosahexaenoic (DHA) (mg/d) intake, excluding supplements; **sodium**: total dietary sodium intake (mg/d).

[b] Population strata were assigned as follows: age (25-34, 35-44, 45-54, 55-64, 65-74, and ≥75 yrs), sex (male and female), education (<high-school: less than high school degree, high-school: high school degree/equivalent or some college, and College: ≥4-year college degree), and race/ethnicity (White: non-Hispanic White, Black: non-Hispanic Black, Hispanic: Mexican American/other Hispanic, and Other: other race/mixed race).

eTable 10. US consumption levels (median and inter-quartile range) for key dietary factors in 1999-2002 by population subgroups.

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
Fruits (g/d)	**Overall by age**	0.1 (0, 101.3)		2.2 (0, 123)		11.8 (0, 151.3)		37.1 (0, 174.5)		96.7 (0, 208.5)		101.1 (0, 215.6)		F: 25.3 (0, 144.8) M: 7.3 (0, 139.5)
	Education													
	<High-school	0 (0, 50.2)	0.3 (0, 96)	0 (0, 65.5)	0 (0, 109.3)	0 (0, 136.1)	0 (0, 121.8)	0 (0, 107.9)	14.6 (0, 132.6)	54.5 (0, 157)	60.5 (0, 158.7)	25.5 (0, 156.1)	55.3 (0, 152.1)	0.1 (0, 124.1)
	High-school	0 (0, 65.4)	0.1 (0, 65.2)	0 (0, 115.7)	0.1 (0, 104.1)	4 (0, 139.6)	10.2 (0, 137.4)	8.8 (0, 147.3)	50.1 (0, 138.7)	70.6 (0, 207.7)	115.7 (7.2, 212.5)	108.3 (0.4, 194.6)	121.5 (16.9, 231.9)	8.3 (0, 134.2)
	College	6.2 (0, 137)	46.2 (0, 161.2)	36.2 (0, 170.9)	35.9 (0, 178.6)	81.2 (0, 201.7)	62.9 (0, 185)	134.5 (0, 240)	96.1 (0.3, 238.9)	119.6 (9, 245.5)	145.6 (68.6, 241.6)	206.9 (78.1, 311.9)	119.5 (39, 216.3)	67.9 (0, 197.4)
	Race													
	White	0 (0, 82)	4.8 (0, 109.7)	0.2 (0, 123)	3.1 (0, 121.8)	11.8 (0, 155)	15.6 (0, 147.1)	16.2 (0, 171.3)	59.2 (0, 175)	72.9 (0, 215.7)	117.9 (4, 213.1)	113.1 (0.1, 238.9)	111.3 (9.6, 218.4)	19.5 (0, 148.2)
	Black	0 (0, 19.2)	0 (0, 66.9)	0 (0, 116.6)	0 (0, 115.4)	0 (0, 119.9)	0 (0, 122.2)	0 (0, 107.1)	3.9 (0, 138.5)	43.3 (0, 139.2)	1.3 (0, 139.4)	0 (0, 74.3)	9.5 (0, 107.6)	0 (0, 115.7)
	Hispanic	0.1 (0, 109.8)	23.5 (0, 116.5)	8 (0, 107.5)	29.1 (0, 144.4)	19.2 (0, 166.1)	18.5 (0, 143)	67.7 (0, 196.6)	73.9 (0, 213.4)	117.7 (19.7, 260.6)	76.8 (0, 211)	107.5 (0, 194.6)	6.4 (0, 200.4)	24.9 (0, 139.8)
	Other	0 (0, 2.3)	0 (0, 118.5)	36.1 (0, 228.1)	21.9 (0, 149.2)	32.1 (0, 202.7)	9.1 (0, 144.7)	67.8 (0, 306.3)	0 (0, 279.7)	77.8 (0, 289.6)	53.3 (0, 174.8)	0 (0, 204.3)	0 (0, 0)	9.1 (0, 144.7)
	Total	0 (0, 75)	4.8 (0, 111.8)	1.2 (0, 124.3)	3 (0, 123)	9.9 (0, 155)	14.6 (0, 144.5)	15 (0, 173.1)	54.5 (0, 174.5)	74.9 (0, 209.7)	103.4 (0.3, 205.8)	105.2 (0, 228.9)	96.1 (3.8, 215.6)	14.2 (0, 141.8)
Vegetables (g/d)	**Overall by age**	122.6 (49.2, 236.5)		126.4 (48.2, 249)		143.4 (46.9, 272.5)		139.5 (49.8, 286.1)		163.5 (67.1, 282.1)		137.4 (50.3, 257.8)		F: 144.2 (55, 280) M: 129.2 (46.2, 239.6)
	Education													
	<High-school	110.1 (49.9, 204.7)	122.4 (55.3, 243.4)	122.5 (40.7, 215)	65.5 (23.2, 180.3)	93.7 (0.2, 249.7)	120.2 (27, 239.4)	85.2 (1, 180.5)	132.4 (45.3, 285.1)	139.4 (52.5, 240.4)	178.7 (77.5, 298.9)	93.5 (24, 256.7)	114.7 (19.9, 238.9)	114.5 (31, 228.4)
	High-school	112.4 (38.3, 218)	109.4 (47.9, 231.9)	98.8 (35.6, 208.3)	105.1 (39, 225.8)	129.3 (36.6, 224.5)	143.1 (46.9, 283)	110.5 (37.6, 249.5)	165.7 (54.7, 310)	143.2 (51.6, 251)	167.9 (68.7, 302.2)	137.4 (62.1, 258.9)	155.8 (72.7, 283)	126.3 (45.1, 250.7)
	College	146 (55, 253.7)	169 (80.2, 303.1)	162.3 (88, 302.4)	187.4 (82, 308.9)	163.7 (81.6, 288.8)	190.8 (85.1, 324.5)	181.3 (86.3, 295.8)	213.9 (80.3, 347.9)	147 (56.9, 259.9)	235.8 (156.6, 386.4)	145.2 (80.1, 238.8)	150.1 (55.8, 236.4)	173 (80.6, 302.4)
	Race													
	White	117 (48.7, 224.9)	137.5 (51, 231.9)	131.7 (52.8, 238.4)	129.8 (51.4, 246.8)	140.6 (44.7, 239.6)	138.9 (55.2, 296.7)	126.8 (45.4, 237.5)	159.6 (61.8, 310)	138 (49.3, 247.6)	192 (80.6, 305.8)	121.9 (46.9, 243)	151.1 (65.8, 268)	137.4 (53.3, 258.9)
	Black	85.8 (19.6, 181.1)	88.2 (40.1, 193)	99.9 (35.5, 236.8)	54 (5, 176.4)	62.5 (3, 188)	138.4 (38.7, 234.2)	97.3 (9.7, 189.7)	185.7 (54.7, 320.3)	144.3 (33.9, 264.9)	191.5 (73.6, 327.8)	93.5 (32.9, 227.2)	113.5 (10.3, 180.9)	96.3 (22.8, 219.9)
	Hispanic	149.2 (65.5, 253)	159.8 (68.7, 304.1)	172.1 (63.1, 271.8)	150.4 (60.3, 267.6)	145.5 (65, 302.2)	192.9 (74, 284.2)	135.5 (62.3, 248.1)	165.8 (45.3, 319.1)	154.3 (101.7, 310)	157.6 (73, 284)	161.4 (69.6, 279.4)	38.3 (19.2, 217.1)	154.1 (62.9, 274.8)
	Other	55.1 (0, 117.8)	167 (51, 290.2)	116.2 (79.6, 195.9)	208.1 (106.7, 308.9)	163.7 (117.8, 277.9)	274.7 (66, 355.1)	215.7 (11.3, 411.4)	204.7 (103.4, 327.5)	247.8 (218.3, 327.3)	324.7 (71.4, 535.1)	231.4 (148.5, 259.6)	0.2 (0, 198.8)	162.3 (61.7, 303)
	Total	115.5 (43.5, 223.3)	130.5 (55.3, 255.6)	130.6 (52.8, 243.3)	124.5 (46.4, 249.6)	137.2 (40.6, 241)	156.6 (53.6, 299.3)	127.3 (40.9, 237.7)	166.4 (61.8, 313.7)	142.5 (55.3, 252.3)	186.9 (78.8, 305.9)	123.6 (48.3, 248.6)	143.5 (51.8, 259)	136.5 (50.1, 259.7)
Nuts & seeds (g/d)	**Overall by age**	0 (0, 1.9)		0 (0, 3.5)		0 (0, 4.9)		0 (0, 4.9)		0 (0, 6.9)		0 (0, 5.8)		F: 0 (0, 4.3) M: 0 (0, 3.8)
	Education													
	<High-school	0 (0, 0)	0 (0, 3)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 1.3)	0 (0, 0)	0 (0, 0)	0 (0, 1.1)	0 (0, 2.6)	0 (0, 0)
	High-school	0 (0, 1)	0 (0, 1.9)	0 (0, 1.5)	0 (0, 4.3)	0 (0, 7.1)	0 (0, 4.3)	0 (0, 7.9)	0 (0, 2.3)	0 (0, 8.7)	0 (0, 3.2)	0 (0, 3.2)	0 (0, 8.5)	0 (0, 3.6)
	College	0 (0, 3.9)	0 (0, 7)	0 (0, 7.2)	0 (0, 10.4)	0.3 (0, 9.8)	0 (0, 9.5)	0 (0, 12.8)	0 (0, 5.5)	2.9 (0, 24.5)	6.8 (0, 25.9)	0 (0, 5.6)	0 (0, 8.1)	0 (0, 9.4)
	Race													
	White	0 (0, 1.7)	0 (0, 4.1)	0 (0, 3)	0 (0, 8)	0 (0, 7.3)	0 (0, 6.4)	0 (0, 8.2)	0 (0, 5.4)	0 (0, 11.1)	0 (0, 6.8)	0 (0, 4.2)	0 (0, 8)	0 (0, 5.6)
	Black	0 (0, 0)	0 (0, 1.2)	0 (0, 0.2)	0 (0, 0)	0 (0, 0)	0 (0, 0.9)	0 (0, 0)	0 (0, 0.8)	0 (0, 3.2)	0 (0, 0)	0 (0, 1.1)	0 (0, 9.2)	0 (0, 0)
	Hispanic	0 (0, 0)	0 (0, 3.6)	0 (0, 3.2)	0 (0, 0)	0 (0, 14.1)	0 (0, 1)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)
	Other	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 1.1)	0 (0, 0)	0 (0, 0)	0 (0, 1.4)	0 (0, 1.3)	0 (0, 0)	0 (0, 11.8)	0 (0, 0)	0 (0, 8.4)	0 (0, 0)
	Total	0 (0, 0.8)	0 (0, 3.6)	0 (0, 2.5)	0 (0, 4.5)	0 (0, 7)	0 (0, 4.5)	0 (0, 6.6)	0 (0, 3.1)	0 (0, 9.7)	0 (0, 3.5)	0 (0, 2.8)	0 (0, 7.5)	0 (0, 4.1)
Whole grains (g/d)	**Overall by age**	0 (0, 11.5)		0 (0, 14.2)		0.5 (0, 20.9)		4 (0, 21.1)		7.3 (0, 29.7)		10.5 (0, 34.4)		F: 1.7 (0, 20.9) M: 0 (0, 17.7)
	Education													

eTable 10. US consumption levels (median and inter-quartile range) for key dietary factors in 1999-2002 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
	<High-school	0 (0, 0)	0 (0, 6.6)	0 (0, 1.3)	0 (0, 1.1)	0 (0, 13.5)	0 (0, 1.4)	0 (0, 10.3)	0 (0, 16.3)	1.2 (0, 22.8)	0.3 (0, 17.4)	5.8 (0, 32.2)	0 (0, 16.7)	0 (0, 10.4)
	High-school	0 (0, 10.4)	0 (0, 11.1)	0 (0, 8.8)	0 (0, 13.3)	0 (0, 16.2)	3 (0, 23.6)	0.7 (0, 17.3)	5.9 (0, 21.5)	11 (0, 39.4)	7 (0, 26.7)	13.2 (0.9, 39.3)	12 (0, 39.2)	0.8 (0, 17.8)
	College	0 (0, 15.9)	4.7 (0, 30.3)	6.3 (0, 25.5)	5.8 (0, 24)	2.2 (0, 21.7)	10.4 (0, 40.5)	9.1 (0, 31.4)	9.6 (0, 23)	10.1 (0, 32.4)	22.2 (8.9, 43.5)	22.3 (9.3, 60)	14.2 (5.2, 45.4)	7.7 (0, 28.9)
	Race													
	White	0 (0, 11.3)	0.2 (0, 18.7)	0 (0, 17.7)	2.2 (0, 18.1)	1.4 (0, 20.8)	4.4 (0, 26.8)	4 (0, 22.6)	7.3 (0, 21.8)	10.1 (0, 36)	8.6 (0, 30.4)	14.8 (0, 41.5)	10.5 (0, 32)	3.3 (0, 22.4)
	Black	0 (0, 9.1)	0 (0, 11.5)	0 (0, 10)	0 (0, 8.4)	0 (0, 9)	0 (0, 5.4)	0 (0, 8.7)	0 (0, 11.3)	1.4 (0, 22.4)	0.2 (0, 11.8)	0 (0, 14.8)	0 (0, 9.5)	0 (0, 10.4)
	Hispanic	0 (0, 0)	0 (0, 8.9)	0 (0, 4.1)	0 (0, 10.3)	0 (0, 9.9)	0 (0, 12.6)	0 (0, 23.9)	0 (0, 10.2)	0 (0, 6.6)	0 (0, 11.4)	0.7 (0, 17.7)	0.4 (0, 22.4)	0 (0, 8.8)
	Other	0 (0, 0)	19.9 (0, 43.1)	0 (0, 15.4)	0 (0, 0)	0 (0, 0)	0 (0, 8)	0 (0, 55.3)	6.2 (0, 67.7)	6.2 (0, 67.9)	3.7 (0, 10.7)	10.4 (0, 139.2)	0 (0, 0)	0 (0, 17.5)
	Total	0 (0, 8.6)	0 (0, 15.1)	0 (0, 14.1)	0.1 (0, 14.5)	0 (0, 18.7)	1 (0, 23.6)	1.4 (0, 21.1)	5.8 (0, 21.3)	8.1 (0, 32.8)	7.1 (0, 28)	12.8 (0, 39.8)	8.8 (0, 30.5)	0.7 (0, 19.5)
Red meats, unprocessed (g/d)	**Overall by age**	14.3 (0, 91.1)		16.8 (0, 81.7)		4.7 (0, 85.7)		19.2 (0, 87.5)		1.7 (0, 74.4)		0 (0, 68)		F: 1.6 (0, 70.3) M: 26.7 (0, 95.1)
	Education													
	<High-school	60 (0, 122.7)	52.3 (0, 107)	50.6 (0, 120.5)	2.4 (0, 79.6)	4.9 (0, 117.3)	1.2 (0, 95.4)	30.7 (0, 103.9)	31.1 (0, 80.5)	11.1 (0, 81)	3.6 (0, 82.6)	17.2 (0, 105.8)	0 (0, 48.3)	20.7 (0, 95.4)
	High-school	17.8 (0, 85.4)	2.2 (0, 66)	32 (0, 97.1)	4.8 (0, 72.3)	40.4 (0, 111.8)	3.9 (0, 70.1)	46.1 (0, 100.6)	14.7 (0, 84)	30.6 (0, 94.2)	0 (0, 59.5)	20.3 (0, 85.8)	0 (0, 61.9)	12.9 (0, 83.1)
	College	39.1 (0, 131.5)	0 (0, 50.7)	15.6 (0, 83.9)	5.2 (0, 70.3)	1.1 (0, 71)	0 (0, 59.1)	7.7 (0, 89.8)	0 (0, 72.6)	0 (0, 68.1)	0 (0, 58.8)	0 (0, 79.6)	0 (0, 28.3)	1.5 (0, 76.7)
	Race													
	White	16.8 (0, 88.1)	2.3 (0, 78.6)	30 (0, 91.2)	10.5 (0, 71.4)	9.7 (0, 89.8)	0 (0, 69)	36.7 (0, 92.7)	6.8 (0, 84)	16.2 (0, 81)	0 (0, 62.3)	18.8 (0, 89.2)	0 (0, 55.6)	5.3 (0, 81.7)
	Black	36 (0, 102.1)	11 (0, 67.5)	17.2 (0, 92)	0 (0, 67.2)	11 (0, 106.7)	0 (0, 84.3)	29.4 (0, 110.2)	0 (0, 42.6)	0 (0, 68.6)	1.3 (0, 63.7)	0 (0, 88.5)	0 (0, 43.6)	2.8 (0, 79.7)
	Hispanic	51.2 (0, 117.4)	7.4 (0, 67.5)	46.2 (0, 105)	0.4 (0, 77.4)	35.2 (0, 108.4)	4.9 (0, 60)	10.9 (0, 90.7)	37.3 (0, 101)	52.9 (0, 124.8)	0 (0, 71.7)	41.7 (0, 90)	0.6 (0, 54.3)	24 (0, 92.5)
	Other	101.8 (2.6, 173.2)	0 (0, 40.6)	49.5 (0, 105.1)	70.3 (0, 126.2)	86.7 (11.7, 115)	45.4 (0, 95.2)	5.4 (0, 70.9)	0 (0, 39)	0 (0, 48.2)	15.7 (0, 61.5)	0 (0, 290.1)	3.2 (0, 127.2)	37.9 (0, 101.8)
	Total	29.5 (0, 103.6)	2.3 (0, 72.7)	30.3 (0, 94.7)	3.9 (0, 72.8)	19.3 (0, 96.9)	0.7 (0, 69)	31.3 (0, 92.7)	10.3 (0, 78.2)	11.1 (0, 82.7)	0 (0, 62.6)	17.2 (0, 89.5)	0 (0, 54)	8.7 (0, 84.2)
Processed meats (g/d)	**Overall by age**	0 (0, 45.5)		0 (0, 45.8)		0 (0, 44.2)		0 (0, 40.8)		0 (0, 46.9)		0 (0, 35.1)		F: 0 (0, 32.5) M: 5.6 (0, 56)
	Education													
	<High-school	0 (0, 46.7)	0 (0, 32.4)	0 (0, 51.1)	0 (0, 43.5)	0 (0, 50.8)	0 (0, 34.4)	21 (0, 60.2)	0 (0, 26.1)	14.5 (0, 57.5)	0 (0, 33.4)	0 (0, 46.5)	0 (0, 41.7)	0 (0, 43.3)
	High-school	0 (0, 58.2)	0 (0, 42.5)	18.9 (0, 69.3)	0 (0, 37.8)	11.9 (0, 62.6)	0 (0, 31.4)	16.7 (0, 57.9)	0 (0, 30.4)	12.7 (0, 55.2)	0 (0, 37)	0 (0, 38)	0 (0, 32.4)	0 (0, 48.1)
	College	0 (0, 45.5)	0 (0, 22.1)	0 (0, 32.4)	0 (0, 24.1)	0 (0, 61.6)	0 (0, 15.7)	0 (0, 29.9)	0 (0, 30.1)	0 (0, 44.9)	0 (0, 51.9)	0 (0, 47.3)	0 (0, 20.2)	0 (0, 32.4)
	Race													
	White	7.2 (0, 61.8)	0 (0, 38.1)	11.7 (0, 60.3)	0 (0, 37.8)	10.6 (0, 62.6)	0 (0, 30.7)	15.8 (0, 57.7)	0 (0, 32.9)	11 (0, 53.2)	0 (0, 41.7)	0 (0, 48.7)	0 (0, 34.8)	0 (0, 47.8)
	Black	2.7 (0, 53.3)	0 (0, 47.8)	12.3 (0, 71.3)	0 (0, 49.8)	0 (0, 34.2)	0 (0, 34.4)	0 (0, 42.6)	0 (0, 23.3)	19.4 (0, 65.2)	0 (0, 30.2)	18.2 (0, 42.1)	0 (0, 17.3)	0 (0, 44.6)
	Hispanic	0 (0, 44.5)	0 (0, 21)	0 (0, 34.1)	0 (0, 28.2)	10.2 (0, 55.3)	0 (0, 10.3)	0 (0, 36.9)	0 (0, 5.9)	0 (0, 48.5)	0 (0, 0)	0 (0, 6.1)	0 (0, 0)	0 (0, 27.8)
	Other	0 (0, 28.4)	0 (0, 23.3)	0 (0, 0)	0 (0, 12.7)	0 (0, 23.7)	0 (0, 27.3)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 18.7)	0 (0, 0)	0 (0, 0)	0 (0, 13.5)
	Total	0 (0, 55.3)	0 (0, 35.9)	5.6 (0, 57.6)	0 (0, 34.6)	8.7 (0, 60.9)	0 (0, 28.3)	9.5 (0, 51.5)	0 (0, 29.3)	9.7 (0, 53.2)	0 (0, 36.1)	0 (0, 43.8)	0 (0, 34.1)	0 (0, 43.5)
SSB (servings (8 oz)/d)	**Overall by age**	1.86 (0, 3.7)		1.23 (0, 3)		0 (0, 2.14)		0 (0, 1.86)		0 (0, 1.2)		0 (0, 1.14)		F: 0 (0, 2.14) M: 1.07 (0, 2.74)
	Education													
	<High-school	2.43 (1.22, 4.57)	2.02 (0, 4.15)	2.13 (0, 3.81)	1.07 (0, 3.35)	0.82 (0, 3.16)	1.13 (0, 2.28)	1 (0, 2.92)	0 (0, 1.94)	0 (0, 1.85)	0 (0, 1.31)	0 (0, 1.24)	0 (0, 1.49)	1 (0, 2.8)
	High-school	2.57 (0.83, 3.95)	1.8 (0, 3.7)	1.82 (0, 3.54)	1.27 (0, 3.08)	0.8 (0, 2.39)	0 (0, 2.16)	0.24 (0, 2.14)	0 (0, 1.96)	0 (0, 1.36)	0 (0, 0.75)	0 (0, 1.28)	0 (0, 0.88)	0.9 (0, 2.7)
	College	1.35 (0, 3.04)	0 (0, 1.96)	0.33 (0, 2.18)	0 (0, 1.35)	0 (0, 1.22)	0 (0, 1.92)	0 (0, 1.35)	0 (0, 1.08)	0 (0, 1.48)	0 (0, 0)	0 (0, 0)	0 (0, 0.59)	0 (0, 1.8)
	Race													

eTable 10. US consumption levels (median and inter-quartile range) for key dietary factors in 1999-2002 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
	White	2.36 (0, 3.89)	1.48 (0, 3.88)	1.4 (0, 3.27)	0 (0, 2.41)	0 (0, 1.72)	0 (0, 1.92)	0 (0, 1.8)	0 (0, 1.61)	0 (0, 1.51)	0 (0, 0.51)	0 (0, 0.99)	0 (0, 1.08)	0 (0, 2.27)
	Black	2.33 (1.05, 3.93)	2.14 (0.63, 3.62)	1.99 (0, 3.55)	1.44 (0, 3.04)	2.08 (0, 3.91)	1.71 (0, 2.96)	1.46 (0, 3.15)	1.48 (0, 2.69)	0 (0, 2.08)	0 (0, 2.25)	1.33 (0, 2.86)	0.58 (0, 1.58)	1.67 (0, 3.32)
	Hispanic	2.16 (0.92, 3.76)	1.17 (0, 2.39)	1.42 (0, 2.91)	1.01 (0, 2.34)	0.91 (0, 2.61)	0 (0, 1.61)	0.88 (0, 3.41)	0 (0, 1.75)	0 (0, 1.36)	0 (0, 1.18)	0.7 (0, 1.63)	0 (0, 0.92)	1.07 (0, 2.4)
	Other	2.01 (1.18, 5.21)	0.15 (0, 2.23)	2.16 (0, 3.22)	1.12 (0, 3.67)	0 (0, 1.49)	1.69 (0, 2.23)	0 (0, 0.13)	0 (0, 1.86)	0 (0, 0)	0 (0, 0.85)	0.35 (0, 1.22)	0 (0, 0)	0.87 (0, 2.39)
	Total	2.29 (0.77, 3.91)	1.47 (0, 3.27)	1.48 (0, 3.27)	0.56 (0, 2.64)	0 (0, 2.14)	0 (0, 2.15)	0.17 (0, 1.93)	0 (0, 1.8)	0 (0, 1.51)	0 (0, 0.75)	0 (0, 1.18)	0 (0, 1.11)	0.6 (0, 2.4)
Polyunsaturated fats (%E)	**Overall by age**	6.1 (4.4, 8.1)		6.1 (4.5, 8.4)		6.5 (4.8, 8.6)		6.6 (4.9, 9.1)		6.5 (4.8, 9)		6.8 (5, 8.9)		F: 6.5 (4.8, 8.8) M: 6.2 (4.5, 8.4)
	Education													
	<High-school	5.8 (4.1, 7.7)	6.2 (4.1, 8.5)	5.9 (4.2, 7.8)	6.1 (4.4, 8)	6.1 (4.4, 8)	6.3 (5.2, 8.8)	6.3 (4.4, 9)	5.7 (4.6, 8.5)	6.4 (4.4, 8.8)	6.2 (4.7, 8.8)	6.4 (4.3, 8)	7.3 (4.7, 8.9)	6.3 (4.5, 8.4)
	High-school	6.2 (4.7, 7.9)	6.1 (4.3, 8.3)	5.9 (4, 8.1)	6.4 (4.8, 8.9)	6.3 (4.8, 8.5)	6.9 (4.8, 9.4)	6.6 (5, 9)	6.7 (4.9, 9.2)	6.3 (4.6, 7.9)	6.8 (5.1, 9.5)	6.5 (4.9, 8.9)	7 (5.3, 9.2)	6.4 (4.7, 8.7)
	College	5.9 (4.2, 7.3)	6.2 (4.7, 8.4)	6.1 (4.5, 8.1)	6.5 (4.5, 9.2)	6.6 (4.8, 8.4)	6.2 (4.5, 8.4)	7 (4.8, 9.5)	7 (5.5, 10.5)	6.3 (4.8, 10.5)	6.9 (5.1, 9.5)	6.7 (4.6, 9)	8 (5.4, 10.6)	6.4 (4.7, 8.6)
	Race													
	White	6.2 (4.7, 7.8)	6.1 (4.3, 8.5)	5.9 (4.1, 7.8)	6.2 (4.7, 8.4)	6.4 (4.8, 8.4)	6.8 (4.9, 9.3)	7 (5, 9.5)	6.8 (5, 9.3)	6.4 (4.7, 8.8)	6.8 (5, 9.5)	6.5 (4.8, 8.7)	7.2 (5.2, 9.2)	6.4 (4.7, 8.7)
	Black	5.9 (4.9, 7.9)	6.3 (4.6, 8.2)	6.6 (4.9, 8.5)	6.8 (5.2, 9.4)	6.5 (4.4, 8.2)	6.8 (4.9, 8.4)	5.7 (4.2, 8.4)	7.2 (5.5, 9.9)	6.1 (4.4, 8.5)	7.1 (4.9, 9.7)	6 (3.6, 7.9)	8 (5.5, 9.7)	6.5 (4.8, 8.6)
	Hispanic	6.1 (4.3, 7.4)	6.7 (4.7, 8.1)	6.3 (4.4, 8.4)	6.5 (4.8, 8.8)	6.2 (4, 8.3)	6.6 (4.5, 8.3)	6.1 (4.3, 8.4)	5.3 (4.2, 8)	5.9 (4, 7.4)	6.1 (4.9, 8.6)	6.9 (4.4, 8.3)	5.6 (3.1, 9.6)	6.3 (4.4, 8.2)
	Other	4.5 (2.8, 6.6)	5.1 (3.3, 8.4)	5.7 (4.8, 8.4)	5.5 (4.8, 8.3)	7 (5.5, 8.7)	5.8 (3.9, 9.4)	6 (3.9, 7.4)	5.9 (3.3, 7.9)	5.4 (5, 9.7)	6.3 (5, 8)	5 (4.8, 12.5)	6.2 (5.5, 8.5)	5.6 (4.2, 8.5)
	Total	6.1 (4.5, 7.8)	6.2 (4.4, 8.4)	6 (4.3, 8.1)	6.3 (4.7, 8.8)	6.4 (4.7, 8.4)	6.7 (4.8, 9.2)	6.7 (4.9, 9.2)	6.6 (4.9, 9.1)	6.3 (4.6, 8.7)	6.7 (5, 9.2)	6.5 (4.7, 8.5)	7.2 (5.2, 9.3)	6.4 (4.7, 8.6)
Saturated fats (%E)	**Overall by age**	10.7 (8.1, 13)		10.6 (8.1, 13.4)		10.7 (8.2, 13.1)		10.5 (8.1, 13.2)		10.1 (7.7, 13)		10.1 (7.9, 12.5)		F: 10.5 (8, 13.1) M: 10.6 (8.1, 13.1)
	Education													
	<High-school	10 (7.4, 11.7)	10.3 (7.6, 12.9)	10.2 (6.8, 13.8)	10.8 (7.7, 13.8)	9.4 (7.5, 12)	10.3 (7.8, 14.1)	10.6 (7.8, 13.2)	10 (7.8, 13)	10.2 (8.1, 13.8)	10.1 (7.6, 12.5)	10.9 (8.5, 13.6)	9.8 (7.3, 12.4)	10.2 (7.6, 13)
	High-school	11 (8.5, 13.3)	10.7 (7.9, 13.2)	11.3 (8.5, 14)	10.6 (8.6, 13.2)	11.1 (8.6, 13)	10.8 (8.3, 13.3)	10.7 (8.7, 13.4)	11 (8.4, 13.6)	10.2 (7.5, 12.8)	10.6 (7.9, 13.5)	10.1 (8, 12.6)	10.3 (8.1, 12.3)	10.8 (8.3, 13.3)
	College	10.9 (8.4, 12.8)	10.9 (8.3, 13)	9.9 (8.1, 12.2)	10.4 (7.7, 13.3)	10.7 (7.3, 12.9)	10.3 (8, 12.9)	10.3 (8.3, 12.4)	9.8 (7.5, 13.5)	9.7 (8, 13.7)	9 (7.4, 12.2)	10 (6.9, 11.7)	9.2 (6.8, 11.8)	10.3 (7.8, 12.8)
	Race													
	White	11 (8.5, 13.3)	11.1 (8.3, 13.2)	11.3 (8.5, 14.1)	10.9 (8.5, 13.5)	11.1 (8.5, 13.1)	11 (8.4, 13.5)	11 (8.9, 13.4)	10.6 (8, 13.4)	10 (7.9, 13.4)	10.4 (8.1, 13)	10.6 (8, 13)	10.2 (7.9, 12.3)	10.9 (8.3, 13.3)
	Black	10.1 (8.5, 12.4)	9.9 (7.3, 12.7)	9.6 (6.8, 12.5)	10.2 (7.8, 13.3)	9.3 (6.3, 11.8)	9.2 (7.2, 11.9)	9.5 (6.4, 11.8)	9.4 (7.6, 12.4)	10.2 (7.5, 13.1)	9 (6.3, 11.5)	9.6 (6.9, 11.5)	8.9 (8.1, 10.7)	9.7 (7.3, 12.3)
	Hispanic	9.9 (7.2, 12.3)	10.1 (8.2, 12.8)	9.4 (7.9, 11.9)	9.8 (7.9, 12.7)	10 (8, 12.9)	10.3 (7.3, 14.6)	8.6 (6, 11.4)	10.3 (7.5, 14.6)	10.2 (8.2, 12.8)	9.1 (6.1, 12.5)	10.1 (8.3, 12.5)	10 (4, 11.9)	9.9 (7.7, 12.7)
	Other	10.7 (8.6, 12.2)	7.9 (5, 11.1)	8.2 (5.8, 10.6)	8.9 (7.8, 11)	7.5 (7.3, 12.2)	9 (5, 11.3)	7.2 (3.2, 8.6)	11.2 (5.9, 13)	6.3 (5.7, 6.5)	7.4 (6, 9.1)	7 (6.8, 14.8)	8 (5.4, 13.5)	8.8 (5.9, 11.5)
	Total	10.8 (8.3, 13)	10.6 (8, 13)	10.7 (8.1, 13.6)	10.6 (8.2, 13.3)	10.7 (8.2, 12.9)	10.7 (8.1, 13.4)	10.5 (8.4, 13.2)	10.5 (7.9, 13.4)	10 (7.8, 13.3)	10.1 (7.6, 12.8)	10.4 (8, 12.9)	10 (7.8, 12.3)	10.6 (8.1, 13.1)
Carbohydrates (%E)	**Overall by age**	51.7 (44.1, 59.6)		50.2 (42, 58)		49.3 (40.9, 57.1)		49.5 (41.6, 57.3)		50.8 (43, 58.1)		52.7 (45.9, 58.8)		F: 51.8 (44, 59.4) M: 49.2 (41.2, 56.9)
	Education													
	<High-school	51 (42, 59.1)	53.9 (46, 62.1)	49.6 (40.5, 58.9)	52.8 (41.3, 60.7)	50.3 (41.1, 60.9)	49.8 (40.9, 57.2)	48 (42, 56.5)	52.6 (46.3, 60.9)	49.9 (42.1, 57)	52.7 (44.5, 59)	50.5 (41.9, 57.2)	54.4 (46.1, 60.9)	51.4 (42.9, 59.3)
	High-school	49 (43, 57.7)	53.1 (46.3, 62.3)	50.3 (42, 56.4)	50.7 (43, 58.9)	46.8 (39.4, 55.1)	50 (42.9, 57.9)	46.2 (39, 54.6)	50.9 (43, 58.3)	50.8 (42.9, 57.1)	51 (41.8, 58.6)	51.1 (45, 57.7)	53 (47, 58.7)	50.2 (42.7, 57.7)
	College	51.1 (43.7, 59.9)	52.6 (45.7, 59.7)	48.4 (40.4, 57.3)	50 (44.3, 60.7)	48.4 (39.3, 55.2)	51.4 (43.7, 60.8)	48.3 (40.5, 56.8)	47.4 (42.9, 58.5)	50 (42.8, 57.7)	50.3 (44.8, 57.3)	52.9 (46, 58.9)	52.1 (46.2, 58.1)	50.5 (42.7, 58)
	Race													
	White	49.1 (42.3, 58.4)	52.9 (45.3, 59.6)	48.7 (40.6, 56.5)	50 (43.3, 59.6)	47.5 (39.3, 55.1)	49.7 (42.8, 57.2)	46.1 (39.7, 54.7)	50.2 (42.8, 57.9)	50.2 (42.8, 57.4)	50.4 (42.9, 58.1)	51.3 (43.9, 57.6)	53.2 (46.9, 58.9)	49.9 (42.3, 57.4)
	Black	50.3 (43.8, 57.8)	53.9 (46.6, 63.1)	52.3 (44.6, 58.5)	48.9 (41.9, 55.9)	50.1 (41.6, 61.5)	52.3 (43.7, 58.6)	48.3 (38.3, 56.8)	52.4 (43.4, 61)	49.9 (42.1, 56.6)	53.4 (43.9, 60.9)	52.3 (45.5, 63.9)	51.5 (39.7, 61)	51.5 (42.9, 59.4)
	Hispanic	51.6 (44.8, 58.9)	53 (46, 59)	50.2 (43.6, 58.8)	53.6 (44.8, 60.9)	49.8 (39.4, 58.3)	54.2 (41.5, 59.9)	54.1 (46.3, 60.2)	53.2 (45.5, 62.7)	49.5 (42.9, 57.4)	55.2 (48.1, 63.7)	52.6 (48.4, 57)	56.4 (51.3, 68.5)	52.7 (44.4, 59.7)
	Other	52.4 (46.1, 59.9)	63.1 (52.8, 73.1)	51.4 (36.7, 59)	56.8 (48.4, 61.5)	46.2 (35.8, 51.1)	54.8 (47.2, 64.8)	53.7 (38, 60.3)	56.5 (45.6, 60.9)	51.6 (51.6, 57.6)	55.8 (47.3, 64.3)	51.8 (37.9, 55.8)	39.6 (39.6, 67.1)	53.4 (45.9, 63.1)

eTable 10. US consumption levels (median and inter-quartile range) for key dietary factors in 1999-2002 by population subgroups (continued)

Dietary Factor[a]	Population Strata[b]	Age												
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Both genders
		Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)	Median (IQR)
	Total	49.8 (43, 58.4)	53.1 (46, 61)	49.7 (40.7, 57.3)	50.7 (43.3, 59.6)	48 (39.4, 55.8)	50.4 (42.9, 58.2)	47.3 (40.2, 55.4)	51.2 (43.2, 58.8)	50.2 (42.8, 57.4)	51.3 (43.2, 58.6)	51.4 (44.4, 57.9)	53.5 (46.6, 59.5)	50.5 (42.7, 58.1)
Seafood omega-3s (mg/d)	**Overall by age**	25.8 (0, 72.5)		29.3 (1.6, 71.9)		29.5 (0, 73.1)		29.2 (1, 73.2)		28.9 (1, 71.6)		20.5 (0, 61.3)		F: 26.2 (0, 68.7) M: 29 (1.1, 74.5)
	Education													
	<High-school	35.3 (6.4, 89.5)	24.7 (0, 78)	37.4 (0, 84)	27.3 (3.3, 64.4)	26.9 (0, 72.6)	33 (0, 71.5)	24.7 (0, 60.5)	29.8 (0, 72.2)	31.9 (1.1, 63.3)	29.2 (0, 96.6)	18.4 (0, 57.6)	15.5 (0, 60.6)	27.9 (0, 70.9)
	High-school	30.1 (0.7, 86.8)	18.1 (0, 72)	26.5 (0.6, 68.5)	32.4 (0, 67.9)	29.5 (2.1, 62.2)	22.3 (0, 62.8)	28.8 (1.8, 94.2)	23.9 (2.5, 63.5)	25.3 (0, 73.6)	28.3 (1, 61.3)	16.4 (0, 53.2)	24.5 (4.5, 76.2)	26 (0, 70)
	College	19.4 (0, 55.2)	22.5 (0, 68.7)	28.6 (4.5, 121.4)	26.1 (0, 69.5)	44.4 (8.7, 133.3)	27.9 (5.1, 76.4)	34 (5.6, 78)	41.6 (6.6, 86.9)	26.3 (5.1, 81.4)	25 (1, 54.4)	18.1 (0, 55)	29.3 (1, 110.6)	29.5 (2.8, 74.6)
	Race													
	White	22.2 (0.7, 72.5)	16.2 (0, 61.7)	22.9 (0, 71.3)	21.9 (0, 55.4)	32.9 (3.8, 73)	25.3 (0, 71.6)	27.3 (0.8, 73.5)	23.2 (2.4, 63.5)	26.3 (0.8, 68.7)	25.4 (0, 58.5)	18.1 (0, 55)	22.5 (2.4, 64.3)	23.5 (0, 66.7)
	Black	66.7 (4.3, 148)	32.5 (6.1, 112.6)	57.7 (16.2, 99.2)	45.2 (14.1, 140.6)	49.9 (1.2, 144.6)	55.1 (11.9, 118.8)	36.8 (0, 118.7)	53.1 (15.9, 121.6)	51.9 (11, 111.7)	57 (4, 126.1)	20.5 (0, 45.9)	40.4 (14.4, 94.4)	51.3 (9.5, 118.7)
	Hispanic	30.4 (2.2, 79.9)	33 (1, 73.8)	30 (3.9, 71.6)	40.2 (5, 82)	16.5 (0, 56.7)	19.6 (0, 46.3)	29 (9.3, 60.6)	32.3 (0, 56.2)	36.2 (9.2, 60.5)	31.9 (0, 63.4)	10.8 (0, 64.1)	1.5 (0, 63.6)	30.4 (0, 67.4)
	Other	36.6 (0, 54.7)	2.8 (0, 52.7)	41.2 (0, 282.1)	40.7 (13.9, 189.1)	48.4 (6.3, 201.1)	34.8 (0, 58.7)	201.9 (0, 659.9)	1.2 (0, 77.4)	230.1 (43.5, 294.7)	56.7 (42.6, 150.5)	43.5 (0, 732.3)	284.1 (0, 3439.4)	34.8 (0, 85.1)
	Total	29 (0.7, 74.9)	21.8 (0, 68.7)	28.6 (1.8, 74.8)	30.1 (1, 68.2)	32.9 (2.7, 75.7)	27.1 (0, 71.6)	29.5 (0.9, 78)	27 (1.1, 67.5)	28.9 (1, 74.4)	28.9 (1, 67.7)	18.1 (0, 55)	22.5 (1, 65.8)	27.5 (0, 72)
Sodium (mg/d)	**Overall by age**	3240 (2554, 3876)		3158 (2567, 3900)		3261 (2615, 3956)		3317 (2727, 4038)		3380 (2753, 4152)		3352 (2797, 4021)		F: 3295 (2649, 3981) M: 3241 (2611, 3950)
	Education													
	<High-school	3122 (2308, 3648)	3012 (2454, 3680)	3062 (2464, 3768)	3127 (2396, 3810)	3040 (2380, 3716)	3291 (2691, 3984)	3219 (2716, 4060)	3357 (2833, 4128)	3540 (2667, 4157)	3307 (2647, 4337)	3256 (2811, 4018)	3398 (2802, 4067)	3213 (2575, 3894)
	High-school	3221 (2587, 3876)	3292 (2661, 4020)	3054 (2544, 3847)	3103 (2567, 3927)	3316 (2754, 4007)	3257 (2492, 3851)	3266 (2692, 4032)	3337 (2742, 3948)	3400 (2896, 4221)	3457 (2784, 4079)	3419 (2885, 4125)	3320 (2780, 3917)	3256 (2658, 3952)
	College	3256 (2401, 4085)	3396 (2871, 4131)	3348 (2606, 4074)	3351 (2636, 4107)	3226 (2574, 3938)	3295 (2621, 4115)	3327 (2528, 4094)	3243 (2769, 3761)	3235 (2669, 4105)	3302 (2955, 3766)	3333 (2900, 3998)	3262 (2697, 4329)	3323 (2648, 4058)
	Race													
	White	3308 (2557, 3804)	3343 (2614, 3988)	3158 (2596, 3899)	3228 (2617, 3959)	3298 (2726, 3986)	3261 (2502, 3917)	3287 (2658, 4091)	3351 (2769, 4041)	3367 (2729, 4121)	3373 (2795, 4152)	3374 (2896, 4045)	3352 (2780, 3954)	3304 (2664, 3978)
	Black	3394 (2731, 3840)	3278 (2715, 3855)	3160 (2594, 3768)	3154 (2251, 3995)	2833 (2317, 3534)	3080 (2615, 3663)	3242 (2613, 3923)	3280 (2641, 3852)	3719 (2946, 4623)	3394 (2638, 4152)	3197 (2790, 3823)	3560 (2831, 4097)	3215 (2588, 3940)
	Hispanic	2830 (2312, 3587)	3136 (2654, 3829)	3009 (2515, 3694)	3045 (2480, 3911)	3112 (2430, 3839)	3217 (2594, 3860)	3084 (2563, 3858)	3232 (2711, 3820)	3373 (2559, 4062)	3188 (2679, 3579)	2827 (2462, 3575)	3143 (2557, 4067)	3102 (2490, 3820)
	Other	3567 (2281, 4613)	3056 (2894, 3839)	3124 (2314, 4014)	3124 (2172, 5153)	3898 (2847, 5991)	3773 (3235, 4229)	3390 (2886, 4160)	3573 (2871, 3954)	4670 (3231, 5532)	3457 (3229, 4224)	3780 (2786, 4183)	4171 (3716, 4919)	3518 (2713, 4354)
	Total	3221 (2482, 3828)	3267 (2659, 3947)	3148 (2571, 3894)	3189 (2567, 3972)	3250 (2653, 3966)	3283 (2583, 3956)	3266 (2654, 4039)	3336 (2771, 4010)	3393 (2742, 4157)	3363 (2772, 4127)	3356 (2841, 4034)	3352 (2780, 4017)	3261 (2636, 3962)

[a] Dietary factors with probable or convincing evidence, based on criteria for assessing causality,[11,13,14,86] for etiologic relationships with cardiometabolic outcomes including coronary heart disease (CHD), stroke, type 2 diabetes, body mass index (BMI), or systolic blood pressure (SBP).[9,10] National Health and Nutrition Examination Survey (NHANES) data were used to inform nationally representative estimates of exposure to dietary factors, accounting for complex survey design and sampling weights as appropriate;[3] analyses are representative of the US population aged ≥25y. Specifically, sodium, macronutrient and energy intake were obtained from the Food and Nutrient Database for Dietary Studies, and intakes for food groups of interest were obtained from the MyPyramid Equivalents Database (MPED), for the 2002 estimate.[90] Servings in MPED were converted to grams per day. We estimated the mean and inter-quartile range (IQR) of dietary intakes for the entire population and relevant sub-groups (e.g., by age/sex/race) using data from the 1999-2000 and 2001-2002 cycles (n=8,104); data from a single 24-hour recall were used.[88] All factors were adjusted for energy using the residual method (2,000 kcal/d)[89] or as percent of energy (macronutrients). Optimal metrics and units for each dietary factor were defined to be consistent with definitions used in epidemiological studies that provided evidence on diet-disease relative risks.[9] Specifically, **fruits** were defined as: total fruits (g/d), excluding fruit juices and salted or pickled fruits; **vegetables**: total vegetables (g/d), including beans/legumes, and excluding salted, pickled, starchy vegetables (e.g., potatoes, corn) vegetables, or vegetable juices; **nuts/seeds**: total nuts and seeds (g/d); **whole grains**: total whole grain foods and grain-based products made with 100% whole grains or their flours (g/d); **red meats**: total red meats (g/d), excluding poultry, fish, eggs, and all processed meats; **processed meats**: total processed meat intake (g/d); **sugar-sweetened beverages (SSBs)**: total SSBs (servings [8 fluid ounces]/d) with ≥50 kcal per 8 oz (237 mL) serving, including carbonated soft drinks, fruit drinks, presweetened iced teas, sports drinks, energy drinks, and excluding 100% fruit and vegetable juices, non-caloric artificially-sweetened drinks, and alcoholic beverages (servings/d); **polyunsaturated fats (PUFA)**: total PUFA intake (%E/d); **saturated fats (SFA):** total SFA intake (%E/d); **carbohydrates (carbs)**: total carbohydrate intake (%E/d); **seafood omega-3 fats**: total dietary eicosapentaenoic (EPA) + docosahexaenoic (DHA) (mg/d) intake, excluding supplements; **sodium**: total dietary sodium intake (mg/d).

[b] Population strata were assigned as follows: age (25-34, 35-44, 45-54, 55-64, 65-74, and ≥75 yrs), sex (male and female), education (<high-school: less than high school degree, high-school: high school degree/equivalent or some college, and College: ≥4-year college degree), and race/ethnicity (White: non-Hispanic White, Black: non-Hispanic Black, Hispanic: Mexican American/other Hispanic, and Other: other race/mixed race).

eTable 11. Cardiometabolic deaths in the US in 2012 by population subgroups.

Disease[a]	Population Strata[b]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Female	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
Coronary heart disease	**Overall by age**	1025		5181		21915		47713		62802		232630		**M: 206537 F: 164729**
	Education													
	<High-school	169	57	734	293	3193	1185	5992	2434	8891	4803	27341	34438	89530
	High-school	513	170	2634	905	10926	3741	22084	8744	24567	13553	57859	74094	219790
	College	75	33	418	122	1864	493	5455	1605	7039	2231	21796	12426	53557
	Race													
	White	466	161	2527	920	11932	3797	26064	9124	33047	15779	93464	103054	300335
	Black	174	71	752	283	2577	1249	5121	2695	4837	3286	7234	10672	38951
	Hispanic	79	20	350	92	1188	349	2232	871	2477	1298	5412	6357	20725
	Other	44	10	211	46	670	153	1191	415	1383	695	3105	3332	11255
	Total	763	262	3840	1341	16367	5548	34608	13105	41744	21058	109215	123415	**371266**
Ischemic stroke	**Overall by age**	65		175		589		1199		2071		12026		**M: 6413 F: 9712**
	Education													
	<High-school	4	5	20	8	69	48	156	110	273	253	1104	2133	4183
	High-school	23	17	65	48	231	155	446	281	590	602	2041	4759	9258
	College	4	11	8	20	39	28	112	60	196	94	878	944	2394
	Race													
	White	18	18	56	48	193	157	505	286	817	684	3408	6598	12788
	Black	8	9	16	18	109	58	159	114	180	175	379	777	2002
	Hispanic	6	3	17	7	35	15	56	34	76	77	204	389	919
	Other	0	3	6	7	16	6	24	21	30	32	95	176	416
	Total	32	33	95	80	353	236	744	455	1103	968	4086	7940	**16125**
Hemorrhagic stroke	**Overall by age**	379		1152		3303		4736		5794		17227		**M: 14907 F: 17684**
	Education													
	<High-school	47	34	160	105	415	270	496	345	551	529	1469	2460	6881
	High-school	147	105	384	321	1072	1085	1622	1416	1665	1864	3606	6420	19707
	College	23	18	85	85	195	199	406	338	638	448	1633	1350	5418
	Race													
	White	109	85	288	260	861	835	1569	1320	2176	2084	5715	8584	23886
	Black	45	33	161	135	487	465	579	483	354	397	424	815	4378
	Hispanic	47	28	140	75	266	179	293	182	198	246	367	552	2573
	Other	17	15	46	47	111	99	162	148	178	161	314	456	1754
	Total	218	161	635	517	1725	1578	2603	2133	2906	2888	6820	10407	**32591**

eTable 11. Cardiometabolic deaths in the US in 2012 by population subgroups (continued)

Disease[a]	Population Strata[b]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Female	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
Other stroke	**Overall by age**	91		403		1764		5138		10315		61867		**M: 31133 F: 48445**
	Education													
	<High-school	11	6	41	44	262	170	662	417	1387	1155	5664	10869	20688
	High-school	31	30	164	105	641	487	1887	1380	3152	2935	10694	24434	45940
	College	5	7	19	21	98	66	417	240	887	548	4409	4737	11454
	Race													
	White	23	25	111	95	566	409	1909	1258	3917	3364	17482	34277	63436
	Black	17	9	78	56	294	234	784	572	1064	866	1784	3479	9237
	Hispanic	6	8	34	15	99	64	233	159	360	287	1145	1775	4185
	Other	1	2	9	5	64	34	139	84	253	204	761	1164	2720
	Total	47	44	232	171	1023	741	3065	2073	5594	4721	21172	40695	**79578**
Stroke, total	**Overall by age**	535		1730		5656		11073		18180		91120		**M: 52453 F: 75841**
	Education													
	<High-school	62	45	221	157	746	488	1314	872	2211	1937	8237	15462	31752
	High-school	201	152	613	474	1944	1727	3955	3077	5407	5401	16341	35613	74905
	College	32	36	112	126	332	293	935	638	1721	1090	6920	7031	19266
	Race													
	White	150	128	455	403	1620	1401	3983	2864	6910	6132	26605	49459	100110
	Black	70	51	255	209	890	757	1522	1169	1598	1438	2587	5071	15617
	Hispanic	59	39	191	97	400	258	582	375	634	610	1716	2716	7677
	Other	18	20	61	59	191	139	325	253	461	397	1170	1796	4890
	Total	297	238	962	768	3101	2555	6412	4661	9603	8577	32078	59042	**128294**
Hypertensive heart disease	**Overall by age**	377		1508		4037		6225		4863		18009		**M: 17469 F: 17550**
	Education													
	<High-school	64	16	195	78	519	209	625	334	570	365	1642	3344	7961
	High-school	184	61	702	314	1815	879	2790	1278	1698	1251	3136	6952	21060
	College	35	14	130	55	320	157	686	301	526	242	1205	1301	4972
	Race													
	White	140	37	523	196	1576	621	2611	1103	1873	1200	4687	9248	23815
	Black	95	47	356	217	890	555	1233	685	769	530	882	1621	7880
	Hispanic	37	6	121	36	216	82	281	135	197	116	386	632	2245
	Other	14	1	47	12	75	22	128	49	113	65	219	334	1079
	Total	286	91	1047	461	2757	1280	4253	1972	2952	1911	6174	11835	**35019**

eTable 11. Cardiometabolic deaths in the US in 2012 by population subgroups (continued)

Disease[a]	Population Strata[b]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Female	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
Rheumatic heart disease	**Overall by age**	39		57		140		313		549		1973		**M: 1007 F: 2064**
	Education													
	<High-school	4	6	5	6	19	15	19	40	27	79	109	283	612
	High-school	12	15	21	16	41	45	76	126	123	235	305	890	1905
	College	0	2	5	4	11	5	23	24	37	42	158	203	514
	Race													
	White	8	10	17	14	41	37	87	130	149	269	539	1240	2541
	Black	2	7	8	8	16	21	9	31	20	39	11	62	234
	Hispanic	4	1	4	2	8	7	16	15	5	33	12	60	167
	Other	2	5	2	2	7	3	7	18	17	17	16	33	129
	Total	16	23	31	26	72	68	119	194	191	358	578	1395	**3071**
Cardiomyopathy and myocarditis	**Overall by age**	505		1075		2245		3329		3908		11656		**M: 13526 F: 9192**
	Education													
	<High-school	75	23	119	61	273	117	384	188	542	282	1530	1557	5151
	High-school	236	99	523	217	1039	490	1444	693	1472	878	3185	3308	13584
	College	41	24	92	45	195	81	367	173	445	204	1285	630	3582
	Race													
	White	191	72	395	168	938	399	1507	653	1845	968	5111	4527	16774
	Black	96	43	228	117	413	225	535	308	456	284	544	576	3825
	Hispanic	45	21	79	29	141	47	143	73	156	86	292	305	1417
	Other	25	12	47	12	50	32	69	41	65	48	155	146	702
	Total	357	148	749	326	1542	703	2254	1075	2522	1386	6102	5554	**22718**
Atrial fibrillation and flutter	**Overall by age**	6		32		166		609		1637		17035		**M: 7157 F: 12328**
	Education													
	<High-school	1	0	3	1	16	9	69	39	169	142	1322	2755	4526
	High-school	3	1	13	10	85	34	248	144	506	504	3012	6969	11529
	College	1	0	3	1	13	4	58	34	184	93	1352	1382	3125
	Race													
	White	4	1	11	5	81	31	295	168	737	629	5242	10306	17510
	Black	1	0	7	4	24	10	58	34	74	77	221	478	988
	Hispanic	0	0	2	2	10	4	20	16	35	33	187	298	607
	Other	0	0	0	1	4	2	10	8	34	18	100	203	380
	Total	5	1	20	12	119	47	383	226	880	757	5750	11285	**19485**

eTable 11. Cardiometabolic deaths in the US in 2012 by population subgroups (continued)

Disease[a]	Population Strata[b]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Female	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
Aortic aneurysm	**Overall by age**	123		285		676		1199		1961		5519		**M: 5714 F: 4049**
	Education													
	<High-school	15	6	33	6	61	21	108	35	223	126	640	677	1951
	High-school	59	11	160	43	361	122	561	222	744	464	1461	1802	6010
	College	18	10	29	10	82	23	198	46	271	89	574	276	1626
	Race													
	White	48	18	116	34	352	106	684	224	1059	568	2433	2443	8085
	Black	24	5	62	17	100	45	117	51	110	79	122	174	906
	Hispanic	17	3	39	3	32	8	49	13	54	25	79	87	409
	Other	7	1	8	6	26	7	42	19	45	21	89	92	363
	Total	96	27	225	60	510	166	892	307	1268	693	2723	2796	**9763**
Peripheral vascular disease	**Overall by age**	7		35		160		581		1105		5011		**M: 3087 F: 3812**
	Education													
	<High-school	0	1	5	4	19	19	98	48	191	101	552	845	1883
	High-school	2	4	14	11	61	52	239	144	401	302	1016	1846	4092
	College	0	0	0	1	5	2	28	12	56	32	339	318	793
	Race													
	White	2	2	10	14	61	49	260	142	508	328	1607	2516	5499
	Black	0	1	4	2	16	19	84	46	111	78	218	357	936
	Hispanic	0	1	5	0	5	4	22	11	33	31	89	139	340
	Other	0	1	0	0	5	1	9	7	9	7	29	56	124
	Total	2	5	19	16	87	73	375	206	661	444	1943	3068	**6899**
Endocarditis	**Overall by age**	53		81		174		277		238		374		**M: 721 F: 476**
	Education													
	<High-school	8	7	15	7	31	11	31	16	23	20	38	42	249
	High-school	24	11	36	14	77	35	115	66	68	78	112	111	747
	College	2	0	6	1	9	4	31	17	29	17	54	14	184
	Race													
	White	22	17	41	15	65	39	106	62	97	88	176	127	855
	Black	2	2	7	2	30	11	48	24	16	20	15	24	201
	Hispanic	6	0	9	4	17	2	18	8	9	4	8	6	91
	Other	4	0	2	1	9	1	6	5	1	3	7	11	50
	Total	34	19	59	22	121	53	178	99	123	115	206	168	**1197**
Other cardiovascular and circulatory diseases	**Overall by age**	388		838		1734		3150		4670		25902		**M: 15135 F: 21547**

eTable 11. Cardiometabolic deaths in the US in 2012 by population subgroups (continued)

Disease[a]	Population Strata[b]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Female	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
	Education													
	<High-school	45	33	79	64	178	141	250	232	404	439	2106	3877	7848
	High-school	140	116	296	264	609	542	1067	998	1336	1610	5023	10161	22162
	College	27	23	60	68	114	117	312	223	453	339	2376	2010	6122
	Race													
	White	122	99	256	230	627	504	1256	1001	1797	1843	8715	14571	31021
	Black	52	52	108	116	191	206	267	340	267	355	389	868	3211
	Hispanic	30	15	58	41	83	78	108	89	136	136	316	541	1631
	Other	8	10	15	14	23	22	41	48	53	83	217	285	819
	Total	212	176	437	401	924	810	1672	1478	2253	2417	9637	16265	**36682**
Cardiovascular disease, total	**Overall by age**	3058		10822		36903		74469		99913		409229		**M: 322806 F: 311588**
	Education													
	<High-school	443	194	1409	677	5055	2215	8890	4238	13251	8294	43517	63280	151463
	High-school	1374	640	5012	2268	16958	7667	32579	15492	36322	24276	91450	141746	375784
	College	231	142	855	433	2945	1179	8093	3073	10761	4379	36059	25591	93741
	Race													
	White	1153	545	4351	1999	17293	6984	36853	15471	48022	27804	148579	197491	506545
	Black	516	279	1787	975	5147	3098	8994	5383	8258	6186	12223	19903	72749
	Hispanic	277	106	858	306	2100	839	3471	1606	3736	2372	8497	11141	35309
	Other	122	60	393	153	1060	382	1828	863	2181	1354	5107	6288	19791
	Total	2068	990	7389	3433	25600	11303	51146	23323	62197	37716	174406	234823	**634394**
Diabetes, type 2	**Overall by age**	598		1724		5410		11659		15330		33193		**M: 35564 F: 32350**
	Education													
	<High-school	81	57	242	135	699	421	1312	901	2115	1687	4260	6207	18117
	High-school	232	171	732	448	2265	1387	4638	2974	5122	4037	7783	10296	40085
	College	31	21	87	48	334	180	1004	523	1334	692	2478	1540	8272
	Race													
	White	190	127	602	378	2055	1151	4726	2704	6131	4136	11342	13037	46579
	Black	96	81	279	182	754	561	1373	1092	1473	1391	1631	2939	11852
	Hispanic	50	31	140	65	401	216	729	492	825	701	1234	1667	6551
	Other	10	13	60	18	178	94	334	209	351	322	600	743	2932
	Total	346	252	1081	643	3388	2022	7162	4497	8780	6550	14807	18386	**67914**
Cardiometabolic disease, total	**Overall by age**	3656		12546		42313		86128		115243		442422		**M: 358370 F: 343938**
	Education													

eTable 11. Cardiometabolic deaths in the US in 2012 by population subgroups (continued)

Disease[a]	Population Strata[b]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Female	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
	<High-school	524	251	1651	812	5754	2636	10202	5139	15366	9981	47777	69487	169580
	High-school	1606	811	5744	2716	19223	9054	37217	18466	41444	28313	99233	152042	415869
	College	262	163	942	481	3279	1359	9097	3596	12095	5071	38537	27131	102013
	Race													
	White	1343	672	4953	2377	19348	8135	41579	18175	54153	31940	159921	210528	553124
	Black	612	360	2066	1157	5901	3659	10367	6475	9731	7577	13854	22842	84601
	Hispanic	327	137	998	371	2501	1055	4200	2098	4561	3073	9731	12808	41860
	Other	132	73	453	171	1238	476	2162	1072	2532	1676	5707	7031	22723
	Total	2414	1242	8470	4076	28988	13325	58308	27820	70977	44266	189213	253209	**702308**

[a] Disease-specific deaths in each stratum were obtained from the National Center for Health Statistics (NCHS) (http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm); uncertainty in the baseline number of deaths is not reported in NCHS. Deaths were excluded if in foreign residents (individuals dying in the US but whose place of residence is outside the US), at age <25 years, with missing age information (0.005%), or, in education-stratified analyses, with missing education information (2.1%). Cardiometabolic diseases (CMD) were defined using the International Classification of Diseases 10th revision (ICD-10). For the present analysis, we obtained data on deaths due to **coronary heart disease (CHD):** I20-I25; **Ischemic stroke**: I63, I65-I67 (except I67.4), I69.3, G45; **Hemorrhagic stroke:** I60-I62, I69.0-I69.2, I67.4; **Other stroke** (unclassified stroke or sequelae of stroke, not specified as haemorrhage or infarction)**:** I64, I69.4, I69.8; **Diabetes**: E10-E14 (except E10.2, E11.2, E12.2, E13.2); and **other cardiovascular diseases (other CVD)** including hypertensive heart disease (I11), rheumatic heart disease (I01, I02.0, I05-I09), cardiomyopathy and myocarditis (I42, I40), atrial fibrillation and flutter (I48), aortic aneurysm (I71), peripheral vascular disease (I73, I70.2), endocarditis (I33), and other cardiovascular and circulatory diseases (I00, I02.9, I27-I28 (except I27.1), I30-I32 (except I31.2, I31.3), I34-I39, I47, I70.8, I72, I77-I80, I82-I84, I86-I98). Diabetes deaths are those coded as proximally due to diabetes, and diabetes is also separately a risk factor for CVD deaths along with other risk factors such as smoking, high blood pressure, high cholesterol, obesity, physical inactivity, etc.

[b] Population strata were defined as follows to match the dietary inputs: age (25-34, 35-44, 45-54, 55-64, 65-74, and ≥75 yrs), sex (male and female), education (<high-school: less than high school degree [or those with 3 years of high school or less], high-school: high school degree/equivalent or some college [or those with at most 3 years of college and at least 4 years of high school], and College: ≥4-year college degree), and race/ethnicity (White: non-Hispanic White, Black: non-Hispanic Black, Hispanic: Mexican American/other Hispanic, and Other: other race/mixed race).

eTable 12. Cardiometabolic deaths in the US in 2002 by population subgroups.

Disease[a]	Population Strata[†]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
Coronary heart disease	**Overall by age**	996		7683		25575		47262		83867		328779		**M: 252609 F: 241553**
	Education													
	<High-school	148	52	1181	397	3353	1176	7403	3421	14899	9103	45623	66386	153142
	High-school	479	164	3701	1194	12017	3816	18785	8140	26901	17452	65494	95218	253361
	College	65	29	572	154	2951	616	5055	1199	7873	2295	20527	15620	56956
	Race													
	White	491	147	3886	1748	18258	5332	24900	7686	19827	30556	66480	146386	325697
	Black	223	108	1953	92	1293	690	8727	5898	33309	173	73160	42708	168334
	Hispanic	6	0	1	0	0	0	29	21	0	2	45	0	104
	Other	21	0	0	3	0	2	0	1	0	0	0	0	27
	Total	741	255	5840	1843	19551	6024	33656	13606	53136	30731	139685	189094	**494162**
Ischemic stroke	**Overall by age**	73		215		592		1033		2696		18850		**M: 8812 F: 14647**
	Education													
	<High-school	13	3	23	19	70	52	162	106	419	376	2144	4292	7679
	High-school	24	23	67	77	199	147	304	278	630	777	2876	6268	11670
	College	2	3	7	13	53	29	86	26	205	113	1056	1294	2887
	Race													
	White	21	16	58	63	182	98	489	303	1252	892	5652	10900	19926
	Black	18	16	21	32	164	117	90	122	102	448	711	1273	3114
	Hispanic	2	0	9	16	0	25	20	3	0	1	0	0	76
	Other	0	0	14	2	3	3	1	5	0	1	3	311	343
	Total	41	32	102	113	349	243	600	433	1354	1342	6366	12484	**23459**
Hemorrhagic stroke	**Overall by age**	403		1740		3670		4303		6268		16986		**M: 14566 F: 18804**
	Education													
	<High-school	49	32	188	161	388	291	480	420	793	812	1778	3094	8486
	High-school	114	135	499	594	1127	1114	1194	1260	1506	1828	2995	5797	18163
	College	28	19	79	85	261	249	385	260	615	354	1191	1131	4657
	Race													
	White	47	112	481	633	746	808	1598	1741	2985	1655	2839	7062	20707
	Black	68	85	334	262	1139	951	533	304	86	1492	3460	3556	12270
	Hispanic	30	2	20	1	25	0	25	32	18	16	0	0	169
	Other	59	0	1	8	1	0	57	13	0	16	14	55	224

eTable 12. Cardiometabolic deaths in the US in 2002 by population subgroups (continued)

Disease[a]	Population Strata[†]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
	Total	204	199	836	904	1911	1759	2213	2090	3089	3179	6313	10673	**33370**
Other stroke	**Overall by age**	92		471		1795		4566		13053		85670		**M: 39074 F: 66573**
	Education													
	<High-school	7	11	60	45	199	157	748	516	2244	1869	9676	19630	35162
	High-school	30	34	133	144	609	480	1398	1107	3160	3509	12653	28560	51817
	College	3	4	19	19	122	74	298	166	894	494	4316	5534	11943
	Race													
	White	40	49	181	43	766	26	878	372	2284	4772	17852	39320	66583
	Black	0	3	50	188	245	751	1768	1548	4494	1503	10500	17998	39048
	Hispanic	0	0	9	0	7	0	0	0	0	0	0	0	16
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	40	52	240	231	1018	777	2646	1920	6778	6275	28352	57318	**105647**
Stroke, total	**Overall by age**	568		2426		6057		9902		22017		121506		**M: 62452 F: 100024**
	Education													
	<High-school	69	46	271	225	657	500	1390	1042	3456	3057	13598	27016	51327
	High-school	168	192	699	815	1935	1741	2896	2645	5296	6114	18524	40625	81650
	College	33	26	105	117	436	352	769	452	1714	961	6563	7959	19487
	Race													
	White	108	177	720	739	1694	932	2965	2416	6521	7319	26343	57282	107216
	Black	86	104	405	482	1548	1819	2391	1974	4682	3443	14671	22827	54432
	Hispanic	32	2	38	17	32	25	45	35	18	17	0	0	261
	Other	59	0	15	10	4	3	58	18	0	17	17	366	567
	Total	285	283	1178	1248	3278	2779	5459	4443	11221	10796	41031	80475	**162476**
Hypertensive heart disease	**Overall by age**	297		1213		2882		3320		3895		14908		**M: 11629 F: 14886**
	Education													
	<High-school	38	14	172	68	304	175	432	256	584	524	1485	3817	7869
	High-school	147	55	528	242	1170	615	1208	694	1007	1007	1974	5081	13728
	College	17	9	96	33	325	98	351	122	310	145	612	934	3052
	Race													
	White	178	6	104	27	4	80	1727	128	1579	472	2048	2658	9011
	Black	37	75	745	337	1934	864	432	1033	509	1335	2332	7870	17503
	Hispanic	0	1	0	0	0	0	0	0	0	0	0	0	1
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0

eTable 12. Cardiometabolic deaths in the US in 2002 by population subgroups (continued)

Disease[a]	Population Strata[†]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
	Total	215	82	849	364	1938	944	2159	1161	2088	1807	4380	10528	**26515**
Rheumatic heart disease	**Overall by age**	36		94		235		432		701		2035		**M: 1058 F: 2475**
	Education													
	<High-school	5	7	5	13	19	29	37	59	60	108	134	430	906
	High-school	12	11	33	27	58	88	82	173	127	280	236	859	1986
	College	1	0	2	6	11	12	27	21	47	41	116	172	456
	Race													
	White	5	6	37	39	75	111	139	192	240	323	499	1405	3071
	Black	0	11	4	4	13	15	11	8	5	101	1	110	283
	Hispanic	11	1	0	2	5	10	5	70	0	9	1	7	121
	Other	2	0	3	5	0	6	1	6	0	23	1	11	58
	Total	18	18	44	50	93	142	156	276	245	456	502	1533	**3533**
Cardiomyopathy and myocarditis	**Overall by age**	676		1618		2638		3199		4958		14321		**M: 15846 F: 11564**
	Education													
	<High-school	106	50	210	91	289	116	468	241	882	472	2205	2504	7634
	High-school	301	104	723	336	1192	484	1177	631	1579	1075	3333	3682	14617
	College	55	23	102	58	270	109	325	110	487	147	1183	622	3491
	Race													
	White	76	324	75	279	891	664	269	126	732	393	6664	6013	16506
	Black	397	110	782	228	987	96	1882	888	2412	1419	403	1222	10826
	Hispanic	13	0	0	2	0	0	0	26	0	2	4	9	56
	Other	3	2	1	2	0	0	0	8	0	0	6	0	22
	Total	489	187	1107	511	1878	760	2151	1048	3144	1814	7077	7244	**27410**
Atrial fibrillation and flutter	**Overall by age**	1		13		59		236		884		8896		**M: 3425 F: 6664**
	Education													
	<High-school	0	0	0	0	9	3	39	16	124	132	926	2011	3260
	High-school	1	0	10	3	25	10	68	55	215	241	1239	3118	4985
	College	0	0	0	0	4	5	27	18	72	35	468	607	1236
	Race													
	White	1	0	1	3	40	6	32	18	355	444	2793	6036	9729
	Black	0	0	9	0	0	13	109	77	85	0	0	67	360
	Hispanic	0	0	0	0	0	0	0	0	0	0	0	0	0
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	1	0	10	3	40	19	141	95	440	444	2793	6103	**10089**

eTable 12. Cardiometabolic deaths in the US in 2002 by population subgroups (continued)

Disease[a]	Population Strata[†]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
Aortic aneurysm	**Overall by age**	110		305		710		1460		3482		8705		**M: 8978 F: 5794**
	Education													
	<High-school	11	6	30	12	66	17	208	78	554	300	1397	1163	3842
	High-school	50	12	140	43	340	119	601	230	1268	663	2277	2324	8067
	College	12	6	43	12	106	27	197	34	427	92	758	338	2052
	Race													
	White	70	20	164	22	206	42	745	306	2254	748	4402	3372	12351
	Black	11	7	65	50	306	99	347	62	115	340	264	667	2333
	Hispanic	1	1	0	3	28	4	0	0	0	25	0	0	62
	Other	0	0	0	1	0	25	0	0	0	0	0	0	26
	Total	82	28	229	76	540	170	1092	368	2369	1113	4666	4039	**14772**
Peripheral vascular disease	**Overall by age**	14		44		181		506		1271		5810		**M: 3246 F: 4580**
	Education													
	<High-school	1	3	2	8	19	18	75	68	236	168	821	1290	2709
	High-school	2	5	10	20	62	54	146	136	327	354	996	1781	3893
	College	0	1	0	3	5	6	33	13	59	36	256	304	716
	Race													
	White	4	0	0	29	69	82	271	78	66	600	2159	3305	6663
	Black	0	1	13	2	25	5	9	148	599	4	29	317	1152
	Hispanic	0	9	0	0	0	0	0	0	0	0	0	0	9
	Other	0	0	0	0	0	0	0	0	2	0	0	0	2
	Total	4	10	13	31	94	87	280	226	667	604	2188	3622	**7826**
Endocarditis	**Overall by age**	44		90		174		168		238		427		**M: 634 F: 507**
	Education													
	<High-school	9	5	14	4	29	11	17	15	30	26	49	65	274
	High-school	18	7	36	21	65	36	53	48	66	63	100	123	636
	College	2	0	4	2	5	8	14	9	30	12	46	25	157
	Race													
	White	24	1	60	28	31	17	29	77	133	105	202	218	925
	Black	0	12	0	2	86	40	61	0	0	0	0	7	208
	Hispanic	7	0	0	0	0	0	1	0	0	0	0	0	8
	Other	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total	31	13	60	30	117	57	91	77	133	105	202	225	**1141**

eTable 12. Cardiometabolic deaths in the US in 2002 by population subgroups (continued)

Disease[a]	Population Strata[†]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
Other cardiovascular and circulatory diseases	**Overall by age**	412		970		1779		2519		4443		21514		**M: 12342 F: 19295**
	Education													
	<High-school	27	31	108	73	177	144	232	253	519	644	2269	4472	8949
	High-school	131	140	300	282	560	538	707	795	1058	1411	3506	7469	16897
	College	23	36	56	79	145	112	193	162	367	214	1285	1360	4032
	Race													
	White	117	79	298	139	681	660	860	989	1857	1523	6776	12558	26537
	Black	45	132	183	308	235	175	349	287	159	858	646	1484	4861
	Hispanic	15	1	19	15	8	13	3	14	4	17	22	20	151
	Other	16	7	4	4	6	1	8	9	25	0	6	2	88
	Total	193	219	504	466	930	849	1220	1299	2045	2398	7450	14064	**31637**
Cardiovascular disease, total	**Overall by age**	3154		14456		40290		69004		125756		526901		**M: 372219 F: 407342**
	Education													
	<High-school	414	214	1993	891	4922	2189	10301	5449	21344	14534	68507	109154	239912
	High-school	1309	690	6180	2983	17424	7501	25723	13547	37844	28660	97679	160280	399820
	College	208	130	980	464	4258	1345	6991	2140	11386	3978	31814	27941	91635
	Race													
	White	1074	511	5594	3053	21949	7926	31937	12016	33564	42483	118366	239233	517706
	Black	799	560	4159	1505	6427	3816	14318	10375	41875	7673	91506	77279	260292
	Hispanic	85	15	58	39	73	52	83	166	22	72	72	36	773
	Other	101	9	23	25	10	37	67	42	27	40	30	379	790
	Total	2059	1095	9834	4622	28459	11831	46405	22599	75488	50268	209974	316927	**779561**
Diabetes, type 2	**Overall by age**	633		2143		5435		9955		16593		37803		**M: 33968 F: 38594**
	Education													
	<High-school	85	52	269	151	618	446	1396	1239	2625	2887	5347	9328	24443
	High-school	245	167	851	549	1966	1403	3145	2468	4125	4288	6936	10609	36752
	College	23	15	113	76	422	248	750	339	1131	554	1966	1367	7004
	Race													
	White	130	206	920	251	2205	561	2476	434	5777	1722	10526	15707	40915
	Black	150	37	397	567	928	1663	3171	3842	2585	6469	4319	6996	31124
	Hispanic	100	10	0	5	43	10	0	25	0	39	209	9	450
	Other	0	0	2	1	22	3	7	0	1	0	0	37	73
	Total	380	253	1319	824	3198	2237	5654	4301	8363	8230	15054	22749	**72562**

eTable 12. Cardiometabolic deaths in the US in 2002 by population subgroups (continued)

Disease[a]	Population Strata[†]	Age												Total
		25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		25+ y
		Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	25+ y
		N	N	N	N	N	N	N	N	N	N	N	N	N
Cardiometabolic disease, total	**Overall by age**	3787		16599		45725		78959		142349		564704		**M: 406187 F: 445936**
	Education													
	<High-school	499	266	2262	1042	5540	2635	11697	6688	23969	17421	73854	118482	264355
	High-school	1554	857	7031	3532	19390	8904	28868	16015	41969	32948	104615	170889	436572
	College	231	145	1093	540	4680	1593	7741	2479	12517	4532	33780	29308	98639
	Race													
	White	1204	717	6514	3304	24154	8487	34413	12450	39341	44205	128892	254940	558621
	Black	949	597	4556	2072	7355	5479	17489	14217	44460	14142	95825	84275	291416
	Hispanic	185	25	58	44	116	62	83	191	22	111	281	45	1223
	Other	101	9	25	26	32	40	74	42	28	40	30	416	863
	Total	2439	1348	11153	5446	31657	14068	52059	26900	83851	58498	225028	339676	**852123**

[a] Disease-specific deaths in each stratum were obtained from the National Center for Health Statistics (NCHS) (http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm); uncertainty in the baseline number of deaths is not reported in NCHS. Deaths were excluded if in foreign residents (individuals dying in the US but whose place of residence is outside the US), at age <25 years, with missing age information (0.006%), or, in education-stratified analyses, with missing education information (6.2%). Cardiometabolic diseases (CMD) were defined using the International Classification of Diseases 10th revision (ICD-10). For the present analysis, we obtained data on deaths due to **coronary heart disease (CHD):** I20-I25; **Ischemic stroke**: I63, I65-I67 (except I67.4), I69.3, G45; **Hemorrhagic stroke:** I60-I62, I69.0-I69.2, I67.4; **Other stroke** (unclassified stroke or sequelae of stroke, not specified as haemorrhage or infarction)**:** I64, I69.4, I69.8; **Diabetes**: E10-E14 (except E10.2, E11.2, E12.2, E13.2); and **other cardiovascular diseases (other CVD)**, including hypertensive heart disease (I11), rheumatic heart disease (I01, I02.0, I05-I09), cardiomyopathy and myocarditis (I42, I40), atrial fibrillation and flutter (I48), aortic aneurysm (I71), peripheral vascular disease (I73, I70.2), endocarditis (I33), and other cardiovascular and circulatory diseases (I00, I02.9, I27-I28 (except I27.1), I30-I32 (except I31.2, I31.3), I34-I39, I47, I70.8, I72, I77-I80, I82-I84, I86-I98). Diabetes deaths are those coded as proximally due to diabetes, and diabetes is also separately a risk factor for CVD deaths along with other risk factors such as smoking, high blood pressure, high cholesterol, obesity, physical inactivity, etc.

[b] Population strata were defined as follows to match the dietary inputs: age (25-34, 35-44, 45-54, 55-64, 65-74, and ≥75 yrs), sex (male and female), education (<high-school: less than high school degree [or those with 3 years of high school or less], high-school: high school degree/equivalent or some college [or those with at most 3 years of college and at least 4 years of high school], and College: ≥4-year college degree), and race/ethnicity (White: non-Hispanic White, Black: non-Hispanic Black, Hispanic: Mexican American/other Hispanic, and Other: other race/mixed race).

eTable 13. Cardiometabolic death rates associated with suboptimal dietary habits in the US and change between 2002 and 2012.

Dietary Factor[a]	Cardiometabolic Disease[b]	Associated deaths per 1 million (median, 95% UIs)[c]		Change in associated deaths between 2002 and 2012[d]	
		2002	2012	Absolute, per 1 million (median, 95% UIs)	Percent (median, 95% UIs)
Fruits (<300 g/d)	CHD	181 (140, 221)	114 (89, 138)	-66 (-82, -52)	-36.9 (-38.3, -35.4)
	Stroke	192 (172, 212)	138 (123, 152)	-54 (-61, -48)	-28.4 (-29.7, -27)
	Ischemic	15 (12, 18)	9 (8, 11)	-6 (-7, -5)	-38.8 (-40.6, -37)
	Hemorrhagic	63 (53, 72)	49 (41, 57)	-14 (-16, -12)	-22 (-23.6, -20.4)
	Other	113 (96, 131)	79 (65, 92)	-35 (-40, -29)	-30.6 (-32.4, -28.6)
	CMD, total	372 (329, 419)	252 (223, 281)	-121 (-138, -105)	-32.5 (-33.6, -31.4)
Vegetables (<400 g/d)	CHD	185 (147, 226)	122 (97, 148)	-63 (-78, -50)	-34.2 (-35.3, -33)
	Stroke	189 (158, 214)	134 (113, 153)	-55 (-62, -46)	-28.9 (-30.2, -27.6)
	Ischemic	26 (19, 32)	17 (12, 20)	-9 (-12, -7)	-36.3 (-37.7, -34.8)
	Hemorrhagic	47 (35, 57)	39 (29, 47)	-8 (-10, -6)	-17.9 (-20.7, -15.6)
	Other	116 (90, 140)	79 (61, 96)	-37 (-43, -29)	-31.6 (-33.1, -30.5)
	CMD, total	373 (325, 423)	256 (222, 289)	-118 (-134, -101)	-31.5 (-32.5, -30.6)
Nuts/seeds (<20.2 g/d)	CHD	468 (401, 543)	261 (222, 304)	-207 (-243, -176)	-44.1 (-46.3, -41.9)
	Diabetes	34 (27, 41)	23 (18, 27)	-11 (-14, -9)	-33.5 (-36.8, -30.3)
	CMD, total	503 (437, 579)	284 (245, 328)	-219 (-255, -187)	-43.4 (-45.5, -41.3)
Whole grains (<125 g/d)	CHD	125 (90, 163)	77 (56, 100)	-48 (-62, -34)	-38 (-39.8, -36.1)
	Stroke	97 (82, 109)	64 (55, 73)	-32 (-37, -27)	-33.5 (-34.5, -32.4)
	Ischemic	13 (9, 17)	8 (6, 10)	-5 (-7, -4)	-40.5 (-41.8, -38.2)
	Hemorrhagic	25 (20, 30)	19 (15, 23)	-6 (-7, -5)	-23 (-24.7, -21.2)
	Other	59 (47, 70)	37 (30, 44)	-21 (-26, -17)	-36.4 (-37.2, -35.7)
	Diabetes	74 (64, 83)	56 (48, 63)	-18 (-21, -15)	-24.3 (-25.5, -22.9)
	CMD, total	296 (258, 335)	198 (173, 222)	-98 (-114, -84)	-33.1 (-34.3, -31.9)
Red meats, unprocessed (>14.3 g/d)	Diabetes	18 (13, 23)	14 (10, 18)	-4 (-6, -3)	-23.6 (-27.5, -19.1)
	CMD, total	18 (13, 23)	14 (10, 18)	-4 (-6, -3)	-23.6 (-27.5, -19.1)
Processed meats (>0 g/d)	CHD	331 (250, 415)	217 (171, 268)	-112 (-145, -83)	-33.8 (-35.8, -31.8)
	Diabetes	69 (59, 81)	219 (168, 270)	-13 (-16, -10)	-18.1 (-20, -16.1)
	CMD, total	401 (324, 486)	277 (226, 330)	-125 (-157, -96)	-31.1 (-33.1, -29)
SSBs (>0 g/d)	Heart disease[e]	348 (305, 394)	194 (171, 220)	-154 (-176, -132)	-44.1 (-45.7, -42.7)
	CHD[e]	344 (302, 391)	191 (168, 216)	-154 (-176, -132)	-44.5 (-46, -43.1)
	Hypertensive HD[e]	3 (2, 4)	3 (2, 4)	0 (0, 0)	-1.1 (-6.7, 4.1)
	Stroke[e]	7 (6, 8)	4 (4, 5)	-3 (-3, -2)	-38.8 (-40.4, -37.4)

eTable 13. Cardiometabolic death rates associated with suboptimal dietary habits in the US and change between 2002 and 2012 (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Associated deaths per 1 million (median, 95% UIs)[c]		Change in associated deaths between 2002 and 2012[d]	
		2002	2012	Absolute, per 1 million (median, 95% UIs)	Percent (median, 95% UIs)
	Ischemic[e]	1 (1, 1)	0 (0, 0)	0 (0, 0)	-42.9 (-45.8, -40.3)
	Hemorrhagic[e]	3 (3, 3)	2 (2, 2)	-1 (-1, -1)	-34.8 (-36.6, -32.8)
	Other[e]	3 (3, 4)	2 (2, 2)	-1 (-2, -1)	-41.5 (-43.7, -39.1)
	Diabetes[e]	70 (58, 83)	48 (40, 57)	-22 (-26, -18)	-31.1 (-33, -28.8)
	CMD, total[e]	425 (379, 475)	248 (222, 274)	-178 (-202, -157)	-41.9 (-43.3, -40.5)
PUFA replacing Carbs[f] (<11% E/d)	CHD	142 (117, 167)	77 (64, 91)	-65 (-77, -53)	-45.8 (-46.7, -45)
	CMD, total	142 (117, 167)	77 (64, 91)	-65 (-77, -53)	-45.8 (-46.7, -45)
PUFA replacing SFA[f] (<11% E/d)	CHD	127 (104, 151)	69 (56, 82)	-58 (-69, -47)	-45.8 (-46.8, -44.8)
	CMD, total	127 (104, 151)	69 (56, 82)	-58 (-69, -47)	-45.8 (-46.8, -44.8)
SFA replacing PUFA[f] (>10% E/d)	CHD	25 (20, 32)	20 (16, 25)	-5 (-7, -3)	-19.7 (-23.7, -15.2)
	CMD, total	25 (20, 32)	20 (16, 25)	-5 (-7, -3)	-19.7 (-23.7, -15.2)
Seafood ω-3 fats (<250 m/d)	CHD	378 (304, 462)	262 (218, 312)	-116 (-150, -83)	-30.9 (-34.1, -26.3)
	CMD, total	378 (304, 462)	262 (218, 312)	-116 (-150, -83)	-30.9 (-34.1, -26.3)
Sodium (>2000 mg/d)	Heart disease[g]	347 (288, 408)	252 (214, 291)	-95 (-116, -75)	-27.3 (-28.8, -25.6)
	CHD[g]	275 (217, 334)	181 (143, 219)	-95 (-116, -74)	-34.4 (-35.4, -33.4)
	Hypertensive HD[g]	31 (27, 35)	36 (32, 40)	5 (4, 6)	16.3 (14.6, 18.1)
	Other CVD[g]	41 (38, 44)	36 (33, 39)	-5 (-6, -4)	-12.2 (-14.5, -9.7)
	Stroke[g]	93 (81, 106)	66 (58, 76)	-27 (-30, -23)	-28.7 (-29.9, -27.5)
	Ischemic[g]	12 (10, 15)	8 (6, 9)	-4 (-5, -4)	-36.5 (-37.4, -35.4)
	Hemorrhagic	23 (19, 27)	19 (16, 23)	-4 (-5, -3)	-17.1 (-19, -15.5)
	Other[g]	57 (46, 70)	39 (32, 48)	-18 (-22, -15)	-31.7 (-33.4, -30.4)
	CMD, total[g]	440 (380, 501)	318 (280, 358)	-121 (-143, -100)	-27.6 (-28.8, -26.2)

[a] Dietary factors with probable or convincing evidence, based on criteria for assessing causality,[11,13,14,86] for etiologic relationships with cardiometabolic outcomes including coronary heart disease (CHD), stroke, type 2 diabetes, body mass index (BMI), or systolic blood pressure (SBP).[9,10]

[b] Disease-specific deaths were obtained from the National Center for Health Statistics (NCHS) (http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm); uncertainty in the baseline number of deaths is not reported in NCHS. Deaths were excluded if in foreign residents (individuals dying in the US but whose place of residence is outside the US), at age<25y, with missing age information (2012: 0.005%; 2002: 0.006%), or, in education-stratified analyses, with missing education information (2012: 2.1%; 2002: 6.2%). For this analysis, we used data on deaths due to diet-related cardiometabolic diseases including **coronary heart disease (CHD):** I20-I25; **Ischemic stroke**: I63, I65-I67 (except I67.4), I69.3, G45; **Hemorrhagic stroke:** I60-I62, I69.0-I69.2, I67.4; **Other stroke** (unclassified stroke or sequelae of stroke, not specified as haemorrhage or infarction)**:** I64, I69.4, I69.8; **Diabetes**: E10-E14 (except E10.2, E11.2, E12.2, E13.2); and **other cardiovascular diseases (other CVD)** including hypertensive heart disease (HD) (I11), rheumatic heart disease (I01, I02.0, I05-I09), cardiomyopathy and myocarditis (I42, I40), atrial fibrillation and flutter (I48), aortic aneurysm (I71), peripheral vascular disease (I73, I70.2), endocarditis (I33), and other cardiovascular and circulatory diseases (I00, I02.9, I27-I28 (except I27.1), I30-I32 (except I31.2, I31.3), I34-I39, I47, I70.8, I72, I77-I80, I82-I84, I86-I98). Diabetes deaths are those coded as proximally due to diabetes, and diabetes is also separately a risk factor for CVD deaths along with other risk factors such as smoking, high blood pressure, high cholesterol, obesity, physical inactivity, etc.

eTable 13. Cardiometabolic death rates associated with suboptimal dietary habits in the US and change between 2002 and 2012 (continued)

[c] We estimated the mortality (absolute, percent, with 95% uncertainty intervals (UIs)) associated with suboptimal suboptimal intakes (reported in parenthesis) of dietary targets reported in this Table among US adults (≥25 years) using a comparative risk assessment framework,[2,91] incorporating the following inputs and their uncertainty on (1) dietary exposure distributions, (2) etiologic relationships of these dietary factors with cardiometabolic mortality, (3) optimal intake distributions, and (4) observed total and disease-specific cardiometabolic deaths (see main Methods and eAppendix 1). Death rates were age-sex standardized to account for changes in population structure (due to population growth and aging) by standardizing the 2002 population to 2012 population.

[d] Abosolute changes correspond to $2012_{estimates}$-$2002_{estimates}$, and percent relative % changes correspond to ($2012_{estimates}$-$2002_{estimates}$)/$2002_{estimates}$ *100.

[e] Available evidence suggests that sugar-sweetened beverages (SSBs) are associated with increased cardiometabolic risk through relationships with body mass index (BMI) and additional BMI-independent relationships with CHD, hypertensive HD, and type 2 diabetes (see eAppendix 1, eTable 5).[5,6] Because of this, in this Table we separate deaths due to hypertensive heart disease (associated with both BMP and BP) from those due to other CVD (associated with BP but not BMI).

[f] Estimated RRs are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.

[g] Available evidence suggests that sodium is associated with increased mortality from CHD, stroke, and other blood pressure (BP)-related cardiovascular diseases through effects on systolic BP.[5,8] For every year above or below age 50, there was 0.105 mm Hg (95% CI: 0.047, 0.164) larger or smaller BP reduction, respectively; we assumed no further increase in effect after age 70 due to limited trial evidence outside this age range. We assumed a log-linear dose-response between SBP and CVD until 115 mm Hg, below which we assumed no further lowering of risk (see eAppendix 1, eTable 5).[8]

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups.

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
Diet[e]	**Heart disease**	**Overall by age**	*N deaths*	1363 (1232, 1501)		6042 (5545, 6502)		20827 (18973, 22251)		36469 (32796, 39613)		43257 (39249, 47028)		110694 (99101, 120286)		**M: 128565 (119700, 136563)** **F: 94578 (86752, 102364)**
			% CHD	54 (48.8, 59.5)		66.5 (61, 71.5)		66.7 (60.7, 71.2)		57.5 (51.7, 62.5)		52.9 (48, 57.5)		34.8 (31.2, 37.8)		**M: 47.6 (44.3, 50.5)** **F: 40.1 (36.8, 43.4)**
		Education														
		<High-school	*N deaths*	239 (212, 261)	81 (71, 90)	910 (832, 974)	391 (352, 426)	3052 (2725, 3318)	1179 (1040, 1283)	5156 (4589, 5630)	2052 (1824, 2282)	6103 (5188, 6871)	3354 (2880, 3747)	13493 (11703, 15266)	17686 (15227, 19864)	55047 (51910, 58175)
			% CHD	62.7 (55.6, 68.5)	54.1 (47.4, 60.2)	76.6 (70, 82)	75.1 (67.6, 81.9)	70.8 (63.2, 77)	68.3 (60.2, 74.3)	68.1 (60.6, 74.3)	61 (54.2, 67.8)	55.3 (47, 62.2)	52.8 (45.3, 58.9)	38.2 (33.2, 43.3)	37 (31.8, 41.5)	46 (43.4, 48.6)
		High-school	*N deaths*	762 (683, 825)	241 (212, 271)	3310 (3029, 3545)	1113 (959, 1253)	10302 (9179, 11202)	3527 (3111, 3911)	18144 (16134, 20025)	7352 (6518, 8150)	15858 (13726, 17906)	8018 (6731, 9155)	26666 (22887, 29962)	34527 (29938, 39009)	133928 (127587, 140342)
			% CHD	64.9 (58.2, 70.4)	49.4 (43.4, 55.5)	75.2 (68.9, 80.6)	62 (53.5, 69.9)	68.6 (61.1, 74.6)	59.4 (52.4, 65.8)	63.4 (56.4, 70)	59.2 (52.5, 65.6)	51.3 (44.4, 57.9)	42.5 (35.7, 48.5)	35.5 (30.5, 39.9)	32.5 (28.2, 36.8)	44.5 (42.4, 46.6)
		College	*N deaths*	99 (85, 110)	36 (30, 41)	498 (448, 541)	123 (103, 142)	1668 (1451, 1858)	426 (358, 490)	3992 (3418, 4514)	1170 (1015, 1321)	3955 (3285, 4554)	1342 (1090, 1599)	9006 (7465, 10519)	4726 (3752, 5753)	27691 (25853, 29894)
			% CHD	49.5 (42.7, 55.1)	33.9 (28.2, 38.9)	67 (60.2, 72.9)	40 (33.6, 46.1)	63.8 (55.5, 71.1)	48.1 (40.5, 55.3)	55.8 (47.8, 63.1)	48.1 (41.7, 54.3)	43.7 (36.3, 50.4)	40.8 (33.2, 48.6)	30.9 (25.6, 36.1)	25.5 (20.2, 31)	37.2 (34.7, 40.1)
		Race														
		White	*N deaths*	619 (539, 688)	212 (182, 244)	2914 (2638, 3122)	1000 (864, 1104)	10805 (9723, 11812)	3370 (2940, 3738)	19073 (16718, 21388)	6381 (5346, 7200)	22433 (19793, 25011)	11140 (9745, 12385)	42373 (35839, 47850)	43935 (37737, 49925)	168954 (159258, 178749)
			% CHD	61.8 (53.7, 68.6)	50.9 (43.5, 58.4)	74.8 (67.7, 80.1)	62.7 (54.2, 69.2)	68.9 (62, 75.4)	60.4 (52.7, 67)	58 (50.9, 65.1)	50.6 (42.4, 57.1)	54.6 (48.1, 60.8)	51.4 (45, 57.1)	34.7 (29.4, 39.2)	29.7 (25.5, 33.7)	41.6 (39.2, 44)
		Black	*N deaths*	259 (232, 282)	102 (87, 114)	1070 (973, 1147)	458 (416, 498)	2759 (2446, 3024)	1437 (1278, 1576)	4384 (3838, 4892)	2276 (1994, 2539)	3969 (3544, 4381)	2645 (2330, 2904)	3847 (3313, 4384)	5320 (4330, 6279)	29040 (27743, 30300)
			% CHD	58 (52, 63.3)	44.6 (38.2, 49.9)	69.9 (63.5, 74.9)	59.8 (54.3, 65)	64.8 (57.5, 71)	61.4 (54.6, 67.3)	58.7 (51.4, 65.5)	54 (47.3, 60.3)	59.6 (53.2, 65.8)	55.7 (49.1, 61.2)	39.9 (34.4, 45.5)	35.9 (29.2, 42.3)	50.8 (48.6, 53)
		Hispanic	*N deaths*	121 (105, 133)	27 (24, 31)	404 (354, 448)	106 (91, 118)	1211 (1094, 1309)	382 (343, 415)	1888 (1681, 2060)	735 (656, 811)	1763 (1536, 1977)	882 (754, 1011)	2786 (2241, 3223)	3013 (2608, 3439)	13640 (12972, 14328)
			% CHD	55.4 (48.4, 60.8)	40.6 (35.1, 46.2)	60.6 (53, 67.2)	50.8 (43.4, 56.7)	71.2 (64.4, 77)	65.8 (59, 71.4)	65.3 (58.2, 71.3)	59.7 (53.3, 65.9)	56.8 (49.5, 63.7)	50.1 (42.8, 57.4)	41.1 (33, 47.5)	35.8 (31, 40.8)	49.4 (46.9, 51.9)
		Other	*N deaths*	64 (56, 71)	11 (9, 13)	214 (185, 241)	44 (37, 50)	604 (499, 668)	143 (124, 160)	1040 (916, 1152)	311 (267, 354)	1030 (856, 1209)	452 (343, 581)	1416 (1111, 1763)	1532 (1206, 1935)	7094 (6574, 7795)
			% CHD	61.7 (53.8, 68.1)	27.9 (22.7, 33.6)	64.6 (55.9, 72.5)	47.2 (39.8, 53.4)	69.5 (57.4, 76.8)	58.8 (50.8, 65.9)	69.2 (60.9, 76.6)	51 (43.7, 58.1)	59.9 (49.8, 70.3)	47.2 (35.9, 60.7)	36 (28.2, 44.8)	34.1 (26.9, 43.1)	47.6 (44.1, 52.3)
		Total	*N deaths*	1016 (891, 1137)	346 (297, 392)	4462 (4015, 4859)	1569 (1355, 1774)	15479 (13733, 16694)	5347 (4748, 5893)	26089 (22734, 29082)	10378 (9147, 11465)	28105 (24672, 31375)	15209 (13442, 16997)	50228 (42523, 56970)	60461 (52146, 67999)	223960 (211689, 234444)
			% CHD	57.3 (50.3, 64.2)	46.1 (39.5, 52.1)	69.4 (62.5, 75.6)	58.9 (50.9, 66.6)	68.8 (61, 74.2)	61.1 (54.3, 67.4)	58.3 (50.8, 65)	55.6 (49, 61.4)	53.4 (46.9, 59.7)	52.2 (46.1, 58.3)	35.3 (29.9, 40)	34.4 (29.7, 38.7)	**44.2 (41.8, 46.3)**
Diet[e]	**Coronary heart disease**	**Overall by age**	*N deaths*	897 (841, 945)		4482 (4221, 4702)		17249 (15926, 18241)		31826 (28834, 34320)		38320 (34820, 41515)		99186 (88809, 107963)		**M: 115001 (107407, 121680)** **F: 82599 (75787, 89018))**
			% CHD	87.5 (82, 92.2)		86.5 (81.5, 90.8)		78.7 (72.7, 83.2)		66.7 (60.4, 71.9)		61 (55.4, 66.1)		42.6 (38.2, 46.4)		**M: 55.7 (52, 58.9)** **F: 50.1 (46, 54)**
		Education														
		<High-school	*N deaths*	154 (145, 161)	52 (48, 54)	669 (626, 700)	271 (252, 288)	2612 (2380, 2789)	974 (880, 1037)	4546 (4071, 4910)	1746 (1559, 1917)	5635 (4844, 6278)	3035 (2642, 3352)	12305 (10624, 13883)	15869 (13646, 17796)	49426 (46735, 52095)
			% CHD	91.3 (85.9, 95.4)	90.8 (84.7, 94.8)	91.1 (85.3, 95.3)	92.6 (85.9, 98.4)	81.8 (74.5, 87.3)	82.2 (74.3, 87.5)	75.9 (67.9, 81.9)	71.8 (64.1, 78.7)	63.4 (54.5, 70.6)	63.2 (55, 69.8)	45 (38.9, 50.8)	46.1 (39.6, 51.7)	55.2 (52.2, 58.2)
		High-school	*N deaths*	475 (446, 496)	153 (142, 161)	2372 (2222, 2489)	801 (728, 858)	8723 (7908, 9343)	2838 (2547, 3079)	15820 (14131, 17290)	6153 (5469, 6752)	14536 (12703, 16260)	7179 (6068, 8109)	24479 (21032, 27474)	30728 (26551, 34683)	118928 (113377, 124404)
			% CHD	92.7 (87, 96.6)	89.9 (83.7, 95)	90 (84.4, 94.5)	88.5 (80.4, 94.8)	79.8 (72.4, 85.5)	75.9 (68.1, 82.3)	71.6 (64, 78.3)	70.4 (62.5, 77.2)	59.2 (51.7, 66.2)	53 (44.8, 59.8)	42.3 (36.4, 47.5)	41.5 (35.8, 46.8)	54.1 (51.6, 56.6)
		College	*N deaths*	60 (53, 65)	25 (22, 27)	349 (320, 372)	91 (81, 100)	1402 (1233, 1536)	325 (277, 369)	3498 (3001, 3921)	962 (832, 1078)	3594 (2990, 4113)	1170 (953, 1384)	8216 (6792, 9618)	4041 (3153, 4976)	24456 (22786, 26403)
			% CHD	79.6 (70.7, 86.1)	76.5 (67.9, 83)	83.4 (76.6, 88.9)	74.9 (66.4, 82)	75.2 (66.2, 82.4)	66 (56.2, 74.8)	64.1 (55, 71.9)	59.9 (51.8, 67.1)	51.1 (42.5, 58.4)	52.4 (42.7, 62)	37.7 (31.2, 44.1)	32.5 (25.4, 40)	45.7 (42.5, 49.3)
		Race														
		White	*N deaths*	421 (382, 447)	141 (129, 153)	2217 (2051, 2325)	775 (700, 829)	9356 (8495, 10091)	2802 (2484, 3051)	17235 (15198, 19130)	5699 (4838, 6340)	20181 (17786, 22439)	9697 (8532, 10689)	38791 (32730, 43748)	39870 (34239, 45245)	151871 (143533, 160447)
			% CHD	90.3 (81.9, 95.9)	87.9 (80.3, 95.2)	87.7 (81.2, 92)	84.2 (76.1, 90.1)	78.4 (71.2, 84.6)	73.8 (65.4, 80.4)	66.1 (58.3, 73.4)	62.5 (53, 69.5)	61.1 (53.8, 67.9)	61.5 (54.1, 67.7)	41.5 (35, 46.8)	38.7 (33.2, 43.9)	50.6 (47.8, 53.4)
		Black	*N deaths*	156 (147, 163)	63 (58, 66)	681 (638, 709)	250 (233, 262)	2086 (1879, 2230)	1011 (917, 1084)	3629 (3202, 3993)	1873 (1667, 2058)	3324 (2993, 3641)	2204 (1948, 2401)	3399 (2920, 3861)	4744 (3835, 5568)	24279 (23253, 25271)
			% CHD	89.9 (84.3, 93.7)	88.5 (81.8, 92.9)	90.6 (84.8, 94.3)	88.3 (82.2, 92.6)	81 (72.9, 86.6)	80.9 (73.4, 86.8)	70.9 (62.5, 78)	69.5 (61.9, 76.4)	68.7 (61.9, 75.3)	67.1 (59.3, 73.1)	47 (40.4, 53.4)	44.5 (35.9, 52.2)	62.3 (59.7, 64.9)
		Hispanic	*N deaths*	70 (65, 73)	17 (16, 18)	295 (269, 314)	76 (69, 81)	982 (899, 1044)	286 (262, 304)	1648 (1479, 1785)	626 (561, 680)	1605 (1413, 1784)	797 (690, 903)	2543 (2044, 2946)	2714 (2344, 3092)	12103 (11531, 12693)
			% CHD	88.9 (82.1, 93)	86.4 (80.1, 91.4)	84.3 (76.8, 89.8)	82.9 (74.9, 88.3)	82.6 (75.7, 87.9)	81.9 (75, 87.1)	73.8 (66.3, 80)	71.9 (64.4, 78.1)	64.8 (57, 72)	61.4 (53.2, 69.5)	47 (37.8, 54.4)	42.7 (36.9, 48.6)	58.4 (55.6, 61.2)
		Other	*N deaths*	38 (34, 41)	8 (7, 9)	169 (149, 184)	35 (31, 38)	518 (432, 566)	110 (95, 122)	906 (803, 994)	259 (221, 292)	897 (740, 1050)	402 (310, 506)	1268 (975, 1595)	1346 (1051, 1710)	6197 (5735, 6823)
			% CHD	86.2 (77.9, 92.1)	76.7 (67.3, 85.3)	80.1 (70.7, 87.4)	75.2 (66.6, 81.8)	77.3 (64.5, 84.5)	72 (62.3, 79.5)	76.1 (67.4, 83.4)	62.3 (53.2, 70.4)	64.8 (53.5, 75.9)	57.8 (44.6, 72.8)	40.8 (31.4, 51.4)	40.4 (31.5, 51.3)	55.1 (51, 60.6)
		Total	*N deaths*	672 (619, 716)	227 (208, 241)	3337 (3090, 3535)	1151 (1043, 1244)	13020 (11702, 13876)	4243 (3833, 4584)	23044 (20183, 25473)	8772 (7795, 9616)	25233 (22185, 28085)	13143 (11613, 14560)	45802 (38696, 51985)	53355 (45891, 59984)	**197981 (187580, 207070)**
			% CHD	88.1 (81.1, 93.8)	86.7 (79.2, 92)	86.9 (80.5, 92.1)	85.8 (77.8, 92.7)	79.5 (71.5, 84.8)	76.5 (69.1, 82.6)	66.6 (58.3, 73.6)	66.9 (59.5, 73.4)	60.4 (53.1, 67.3)	62.4 (55.1, 69.1)	41.9 (35.4, 47.6)	43.2 (37.2, 48.6)	**53.3 (50.5, 55.8)**
Diet[e]	**Hypertensive Heart Disease[f]**	**Overall by age**	*N deaths*	61 (23, 97)		280 (171, 385)		1089 (846, 1324)		1706 (1389, 2017)		1453 (1180, 1730)		3365 (2717, 4053)		**M: 4282 (3721, 4815)** **F: 3695 (3050, 4309)**
			% HHD	16.1 (6, 25.8)		18.6 (11.4, 25.6)		27 (20.9, 32.8)		27.4 (22.3, 32.4)		29.9 (24.3, 35.6)		18.7 (15.1, 22.5)		**M: 24.5 (21.3, 27.6)** **F: 21.1 (17.4, 24.6)**
		Education														
		<High-school	*N deaths*	12 (4, 20)	1 (0, 3)	71 (51, 92)	28 (21, 36)	78 (26, 129)	31 (11, 53)	190 (137, 239)	98 (72, 127)	61 (15, 107)	37 (9, 65)	333 (240, 429)	542 (381, 691)	1482 (1270, 1694)
			% HHD	18 (6.1, 31.4)	6 (0, 16)	36.4 (26.1, 47.1)	36.4 (26.3, 45.8)	15 (4.9, 24.8)	14.7 (5.2, 25.3)	30.4 (21.9, 38.2)	29.4 (21.5, 38.1)	10.7 (2.6, 18.8)	10 (2.4, 17.7)	20.3 (14.6, 26.1)	16.2 (11.4, 20.7)	18.6 (16, 21.3)
		High-school	*N deaths*	53 (31, 78)	3 (0, 9)	303 (230, 377)	15 (0, 41)	375 (219, 520)	174 (97, 243)	912 (686, 1131)	421 (312, 529)	263 (155, 377)	181 (100, 256)	534 (381, 691)	1126 (791, 1450)	4377 (3882, 4869)
			% HHD	28.8 (17, 42.3)	5.5 (0, 15.5)	43.2 (32.7, 53.7)	4.8 (0, 12.9)	20.7 (12.1, 28.7)	19.8 (11.1, 27.6)	32.7 (24.6, 40.5)	32.9 (24.4, 41.4)	15.5 (9.1, 22.2)	14.5 (8, 20.5)	17 (12.1, 22)	16.2 (11.4, 20.9)	20.8 (18.4, 23.1)
		College	*N deaths*	12 (8, 15)	0 (0, 1)	60 (44, 73)	1 (0, 3)	88 (63, 111)	40 (27, 51)	204 (147, 257)	90 (63, 115)	112 (74, 149)	44 (29, 59)	190 (125, 261)	248 (167, 333)	1092 (971, 1218)
			% HHD	33.1 (23.2, 42.9)	2.4 (0, 6.8)	45.9 (34.1, 56.1)	2.1 (0, 5)	27.5 (19.8, 34.8)	25.4 (17, 32.7)	29.8 (21.4, 37.5)	29.8 (21, 38.1)	21.2 (14.1, 28.3)	18.1 (11.9, 24.5)	15.8 (10.4, 21.7)	19.1 (12.8, 25.6)	22 (19.5, 24.5)
		Race														
		White	*N deaths*	25 (6, 41)	2 (0, 5)	213 (161, 261)	9 (0, 24)	393 (260, 509)	150 (102, 196)	525 (204, 809)	111 (18, 207)	650 (471, 815)	341 (250, 420)	842 (551, 1153)	992 (638, 1351)	4246 (3643, 4874)
			% HHD	17.5 (4.3, 29.3)	4.7 (0, 12.8)	40.8 (30.9, 50)	4.6 (0, 12.2)	24.9 (16.5, 32.3)	24.2 (16.4, 31.6)	20.1 (7.8, 31)	10.1 (1.7, 18.8)	34.7 (25.1, 43.5)	28.4 (20.8, 35)	18 (11.8, 24.6)	10.7 (6.9, 14.6)	17.8 (15.3, 20.5)
		Black	*N deaths*	22 (11, 33)	3 (0, 8)	145 (107, 182)	90 (68, 112)	279 (204, 349)	188 (135, 237)	329 (186, 451)	122 (68, 177)	301 (217, 379)	170 (124, 210)	210 (148, 275)	255 (189, 339)	2116 (1898, 2332)
			% HHD	23.2 (11.9, 34.6)	6.4 (0, 17.7)	40.7 (30.1, 51.1)	41.7 (31.2, 51.4)	31.4 (22.9, 39.2)	33.9 (24.3, 42.7)	26.7 (15.1, 36.6)	17.8 (9.9, 25.8)	39.1 (28.2, 49.3)	32 (23.3, 39.7)	23.8 (16.8, 31.2)	15.7 (11.7, 20.9)	26.9 (24.1, 29.6)
		Hispanic	*N deaths*	11 (7, 15)	0 (0, 1)	18 (5, 31)	1 (0, 3)	77 (59, 96)	31 (23, 38)	85 (57, 114)	31 (21, 41)	38 (14, 58)	10 (1, 19)	89 (61, 123)	120 (83, 159)	511 (443, 580)
			% HHD	30.4 (20.2, 40.7)	5.2 (0, 13.9)	15 (3.9, 25.8)	3.5 (0, 8.9)	35.8 (27.4, 44.6)	37.4 (28.2, 46.1)	30.1 (20.4, 40.4)	22.9 (15.2, 30)	19.1 (7.2, 29.5)	8.3 (1, 16.2)	23 (15.7, 31.9)	19 (13.1, 25.2)	22.7 (19.7, 25.9)
		Other	*N deaths*	7 (5, 9)	0 (0, 0)	13 (7, 20)	0 (0, 1)	33 (24, 41)	10 (7, 13)	57 (40, 72)	17 (13, 22)	71 (36, 109)	10 (6, 16)	63 (41, 87)	81 (51, 116)	365 (308, 425)
			% HHD	50.6 (37.7, 61.5)	3 (0, 9.7)	28.4 (14.5, 42.6)	2 (0, 5.7)	44.2 (32.6, 54.4)	46.1 (33.1, 57.7)	44.5 (31.2, 56.4)	35.2 (25.7, 44.6)	62.7 (31.5, 96.1)	15.8 (8.6, 23.9)	28.7 (18.7, 39.6)	24.2 (15.3, 34.8)	33.9 (28.6, 39.4)
		Total	*N deaths*	56 (19, 92)	4 (0, 11)	260 (154, 360)	18 (0, 45)	751 (535, 960)	342 (243, 436)	1143 (852, 1426)	562 (422, 699)	893 (648, 1137)	563 (421, 703)	1175 (831, 1544)	2196 (1585, 2788)	**7958 (7158, 8792)**
			% HHD	19.7 (6.8, 32.2)	4.1 (0, 11.6)	24.9 (14.7, 34.4)	4 (0, 9.8)	27.2 (19.4, 34.8)	26.7 (19, 34.1)	26.9 (20, 33.5)	28.5 (21.4, 35.4)	30.2 (22, 38.5)	29.5 (22, 36.8)	19 (13.5, 25)	18.6 (13.4, 23.6)	**22.7 (20.4, 25.1)**
Diet[e]	**Other CVD[f]**	**Overall by age**	*N deaths*	36 (18, 55)		117 (84, 154)		485 (414, 565)		909 (805, 1015)		1553 (1367, 1716)		4357 (3814, 4966)		**M: 3662 (3319, 4068)**

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
			% other CVD	3.2 (1.6, 4.9)		4.9 (3.5, 6.4)		9.2 (7.8, 10.7)		9.6 (8.5, 10.7)		11 (9.7, 12.2)		6.5 (5.7, 7.4)		**F: 3797 (3303, 4303)) M: 7.9 (7.2, 8.8) F: 7.1 (6.2, 8)**
		Education														
		<High-school	*N deaths*	6 (3, 10)	0 (0, 0)	32 (26, 39)	19 (15, 23)	23 (12, 35)	13 (6, 19)	101 (85, 119)	62 (51, 74)	52 (32, 75)	33 (18, 49)	434 (358, 506)	536 (439, 646)	1313 (1174, 1448)
			% other CVD	4.2 (2, 6.4)	0 (0, 0)	12.3 (9.9, 14.9)	12.4 (9.9, 15.1)	3.9 (2, 5.8)	3.8 (1.9, 5.8)	10.5 (8.9, 12.4)	10.3 (8.5, 12.4)	3.3 (2, 4.8)	2.8 (1.5, 4.2)	6.9 (5.7, 8)	5.3 (4.4, 6.4)	5.9 (5.3, 6.5)
		High-school	*N deaths*	38 (28, 51)	0 (0, 0)	172 (139, 204)	0 (0, 0)	149 (108, 189)	82 (59, 110)	450 (379, 522)	284 (236, 337)	244 (189, 305)	194 (146, 246)	817 (676, 978)	1368 (1128, 1641)	3800 (3501, 4131)
			% other CVD	8.1 (5.8, 10.7)	0 (0, 0)	16.2 (13.1, 19.2)	0 (0, 0)	6.5 (4.8, 8.3)	6.2 (4.5, 8.3)	12 (10.1, 13.9)	11.8 (9.9, 14.1)	5.3 (4.1, 6.6)	4.8 (3.6, 6)	5.8 (4.8, 6.9)	5.5 (4.5, 6.5)	6.3 (5.8, 6.9)
		College	*N deaths*	11 (8, 14)	0 (0, 0)	35 (28, 43)	0 (0, 0)	42 (33, 51)	21 (17, 27)	111 (94, 131)	58 (48, 69)	109 (88, 131)	52 (42, 64)	334 (264, 409)	319 (253, 396)	1095 (994, 1212)
			% other CVD	12.2 (9.5, 15.2)	0 (0, 0)	18.2 (14.6, 21.9)	0 (0, 0)	9.8 (7.8, 11.9)	9.1 (7.1, 11.3)	10.9 (9.2, 12.8)	11 (9.2, 13.1)	7.4 (6, 8.9)	6.4 (5.2, 7.8)	5.4 (4.3, 6.7)	6.6 (5.2, 8.2)	6.9 (6.2, 7.6)
		Race														
		White	*N deaths*	16 (7, 26)	0 (0, 0)	126 (104, 151)	0 (0, 0)	181 (145, 224)	95 (74, 115)	277 (189, 368)	72 (38, 111)	823 (693, 966)	485 (410, 569)	1449 (1119, 1804)	1234 (999, 1522)	4791 (4320, 5250)
			% other CVD	4.1 (1.8, 6.5)	0 (0, 0)	14.9 (12.3, 17.9)	0 (0, 0)	8.4 (6.7, 10.4)	8.1 (6.3, 9.9)	6.6 (4.5, 8.8)	3 (1.6, 4.6)	13.3 (11.2, 15.6)	10.3 (8.7, 12.1)	6.1 (4.7, 7.6)	3.5 (2.8, 4.3)	5.8 (5.2, 6.4)
		Black	*N deaths*	12 (8, 16)	0 (0, 0)	62 (50, 76)	41 (32, 50)	84 (67, 102)	62 (51, 75)	100 (75, 127)	45 (32, 59)	160 (129, 190)	108 (90, 127)	123 (99, 150)	125 (104, 152)	924 (860, 996)
			% other CVD	6.7 (4.5, 9.2)	0 (0, 0)	14.7 (11.8, 18)	15.3 (11.9, 18.8)	10.6 (8.5, 12.9)	11.6 (9.4, 13.9)	9 (6.7, 11.4)	5.4 (3.8, 7)	15.2 (12.2, 18)	11.6 (9.6, 13.6)	8.1 (6.5, 9.9)	4.9 (4.1, 6)	9 (8.3, 9.7)
		Hispanic	*N deaths*	10 (8, 12)	0 (0, 0)	8 (4, 12)	0 (0, 0)	38 (31, 45)	20 (16, 25)	41 (31, 49)	17 (14, 21)	28 (19, 37)	9 (5, 14)	81 (65, 97)	95 (77, 115)	347 (317, 376)
			% other CVD	9.7 (7.6, 12.2)	0 (0, 0)	3.8 (1.9, 6.1)	0 (0, 0)	12.8 (10.6, 15.3)	13.6 (10.9, 16.8)	10.8 (8.4, 13.1)	7.6 (6.1, 9.3)	6.4 (4.3, 8.6)	2.6 (1.3, 4)	8.2 (6.6, 9.9)	6.6 (5.3, 8)	7.4 (6.8, 8.1)
		Other	*N deaths*	9 (7, 11)	0 (0, 0)	7 (4, 10)	0 (0, 0)	22 (18, 26)	12 (10, 15)	32 (27, 39)	19 (16, 23)	46 (33, 60)	10 (7, 13)	65 (52, 81)	71 (55, 90)	295 (268, 323)
			% other CVD	20.1 (16, 24.5)	0 (0, 0)	9.6 (5.9, 13.9)	0 (0, 0)	17.7 (14.4, 21)	18.2 (14.7, 22.1)	17.5 (14.5, 20.9)	13.2 (10.9, 15.5)	20.4 (14.7, 27)	5.1 (3.5, 6.7)	10.6 (8.4, 13.2)	8.6 (6.7, 10.9)	11.5 (10.4, 12.6)
		Total	*N deaths*	36 (18, 55)	0 (0, 0)	117 (84, 154)	0 (0, 0)	309 (247, 374)	175 (139, 211)	552 (465, 636)	356 (293, 419)	885 (740, 1028)	666 (568, 772)	1769 (1458, 2113)	2588 (2116, 3093)	**7449 (6858, 8109)**
			% other CVD	5 (2.5, 7.7)	0 (0, 0)	7.6 (5.5, 10)	0 (0, 0)	9.2 (7.3, 11.1)	9.1 (7.3, 11)	9.4 (7.9, 10.8)	9.9 (8.2, 11.7)	11.2 (9.4, 13)	10.8 (9.2, 12.5)	6.6 (5.4, 7.8)	6.4 (5.2, 7.6)	**7.5 (6.9, 8.1)**
Diet[e]	**Stroke, total**	**Overall by age**	*N deaths*	454 (416, 480)		1453 (1332, 1543)		4404 (4044, 4692)		7933 (7286, 8498)		11682 (10739, 12532)		38833 (34761, 42142)		**M: 29274 (27333, 31071) F: 37234 (33727, 40060)**
			% TSTK	84.8 (77.8, 89.8)		84 (77, 89.2)		77.9 (71.5, 83)		71.6 (65.8, 76.7)		64.3 (59.1, 68.9)		42.6 (38.1, 46.2)		**M: 55.8 (52.1, 59.2) F: 49.1 (44.5, 52.8)**
		Education														
		<High-school	*N deaths*	55 (48, 58)	39 (33, 42)	196 (178, 207)	139 (125, 147)	606 (536, 654)	389 (340, 420)	1003 (892, 1077)	639 (564, 695)	1435 (1259, 1610)	1176 (1006, 1306)	3766 (3250, 4212)	6800 (5916, 7624)	16651 (15612, 17553)
			% TSTK	88.2 (77.1, 94.1)	86.5 (74.1, 92.6)	88.8 (80.6, 93.8)	88.8 (79.7, 93.6)	81.2 (71.9, 87.7)	79.6 (69.7, 86)	76.3 (67.9, 81.9)	73.3 (64.7, 79.7)	64.9 (56.9, 72.8)	60.7 (51.9, 67.4)	45.7 (39.5, 51.1)	44 (38.3, 49.3)	52.4 (49.2, 55.3)
		High-school	*N deaths*	178 (159, 188)	130 (114, 138)	553 (507, 577)	399 (338, 430)	1537 (1345, 1667)	1352 (1174, 1465)	3006 (2659, 3244)	2279 (2005, 2462)	3419 (2934, 3818)	3167 (2698, 3564)	7039 (6097, 7971)	14436 (12430, 16209)	38761 (36644, 40808)
			% TSTK	88.4 (78.9, 93.4)	85.2 (74.9, 91.1)	90.2 (82.7, 94.1)	84.2 (71.3, 90.8)	79.1 (69.2, 85.8)	78.3 (68, 84.8)	76 (67.2, 82)	74.1 (65.2, 80)	63.2 (54.3, 70.6)	58.6 (50, 66)	43.1 (37.3, 48.8)	40.5 (34.9, 45.5)	51.7 (48.9, 54.5)
		College	*N deaths*	28 (25, 29)	27 (24, 30)	96 (85, 102)	96 (82, 107)	242 (208, 267)	212 (182, 234)	642 (559, 701)	427 (368, 472)	991 (842, 1120)	594 (502, 676)	2787 (2371, 3186)	2868 (2473, 3281)	9199 (8621, 9751)
			% TSTK	86.3 (77, 91.7)	76.3 (66.9, 82.9)	85.6 (76.1, 91.1)	76.3 (64.8, 84.9)	72.9 (62.6, 80.4)	72.4 (62.1, 79.8)	68.7 (59.8, 74.9)	66.9 (57.7, 73.9)	57.6 (49, 65.1)	54.5 (46.1, 62)	40.3 (34.3, 46)	40.8 (35.2, 46.7)	47.7 (44.7, 50.6)
		Race														
		White	*N deaths*	130 (114, 138)	107 (92, 115)	402 (367, 423)	329 (288, 356)	1279 (1126, 1391)	1083 (940, 1182)	2829 (2474, 3096)	1879 (1597, 2114)	4609 (4107, 5040)	3797 (3305, 4217)	11379 (9873, 12804)	19876 (16977, 22563)	48850 (45774, 51704)
			% TSTK	86.5 (76, 92)	83.6 (72.2, 89.9)	88.4 (80.6, 93)	81.7 (71.5, 88.2)	78.9 (69.5, 85.8)	77.3 (67.1, 84.3)	71 (62.1, 77.7)	65.6 (55.8, 73.8)	66.7 (59.4, 72.9)	61.9 (53.9, 68.8)	42.8 (37.1, 48.1)	40.2 (34.3, 45.6)	48.8 (45.7, 51.6)
		Black	*N deaths*	63 (58, 66)	44 (39, 47)	231 (211, 241)	189 (171, 198)	736 (657, 789)	625 (555, 672)	1150 (1012, 1247)	831 (714, 921)	1147 (1026, 1243)	966 (857, 1059)	1245 (1081, 1378)	2173 (1877, 2434)	9764 (9376, 10120)
			% TSTK	90.2 (82.3, 94.5)	85.9 (76.1, 91.7)	90.6 (82.7, 94.6)	90.2 (81.8, 94.7)	82.7 (73.8, 88.6)	82.6 (73.4, 88.7)	75.5 (66.5, 82)	71.1 (61.1, 78.8)	71.8 (64.2, 77.8)	67.1 (59.6, 73.7)	48.1 (41.8, 53.3)	42.8 (37, 48)	62.5 (60, 64.8)
		Hispanic	*N deaths*	51 (44, 54)	33 (29, 36)	161 (139, 173)	79 (66, 86)	326 (289, 351)	212 (185, 228)	427 (377, 468)	261 (229, 289)	407 (358, 452)	341 (286, 388)	778 (679, 889)	1148 (984, 1302)	4379 (4158, 4574)
			% TSTK	86.5 (74.8, 92.2)	84.8 (73.7, 91)	84.1 (73, 90.4)	81.2 (68.3, 88.8)	81.4 (72.3, 87.9)	82.2 (71.6, 88.5)	73.4 (64.8, 80.4)	69.7 (61.1, 77)	64.1 (56.5, 71.3)	56 (46.9, 63.6)	45.3 (39.5, 51.8)	42.3 (36.2, 48)	57 (54.2, 59.6)
		Other	*N deaths*	16 (15, 17)	15 (12, 17)	50 (43, 55)	45 (36, 51)	153 (137, 165)	110 (95, 120)	248 (221, 273)	166 (142, 187)	336 (297, 375)	240 (200, 278)	562 (480, 647)	611 (473, 763)	2669 (2500, 2837)
			% TSTK	91.2 (82.1, 96.1)	76.5 (62.5, 85.7)	81.9 (71.2, 89.5)	76.8 (61.4, 85.6)	80.2 (71.6, 86.5)	79.4 (68.4, 86.5)	76.3 (68.1, 83.9)	65.7 (55.9, 74)	72.9 (64.4, 81.4)	60.4 (50.4, 69.9)	48.1 (41, 55.3)	34 (26.3, 42.5)	54.6 (51.1, 58)
		Total	*N deaths*	257 (225, 274)	198 (172, 213)	828 (725, 883)	630 (547, 682)	2416 (2119, 2622)	1998 (1720, 2163)	4670 (4078, 5092)	3292 (2917, 3610)	6323 (5514, 6925)	5405 (4712, 5933)	13887 (12075, 15638)	24906 (21378, 27690)	**66547 (62799, 69915)**
			% TSTK	86.4 (75.8, 92.4)	83.2 (72.5, 89.7)	86.1 (75.4, 91.8)	82 (71.2, 88.8)	77.9 (68.3, 84.6)	78.2 (67.3, 84.6)	72.8 (63.6, 79.4)	70.6 (62.6, 77.5)	65.8 (57.4, 72.1)	63 (54.9, 69.2)	43.3 (37.6, 48.8)	42.2 (36.2, 46.9)	**51.9 (48.9, 54.5)**
Diet[e]	**Ischemic Stroke**	**Overall by age**	*N deaths*	49 (43, 54)		130 (114, 143)		406 (354, 448)		761 (650, 846)		1181 (1018, 1325)		4501 (3728, 5122)		**M: 3078 (2705, 3401) F: 4079 (3441, 4616)**
			% ISTK	75.5 (66.4, 82.3)		74.2 (64.9, 81.4)		69 (60.1, 76)		63.5 (54.2, 70.5)		57 (49.2, 64)		37.4 (31, 42.6)		**M: 48 (42.2, 53) F: 42 (35.4, 47.5)**
		Education														
		<High-school	*N deaths*	3 (3, 4)	4 (3, 4)	16 (14, 18)	6 (5, 7)	50 (40, 56)	33 (26, 38)	108 (89, 122)	72 (57, 82)	156 (115, 187)	133 (99, 160)	436 (348, 520)	828 (639, 997)	1872 (1674, 2053)
			% ISTK	79 (64.4, 88)	76.3 (60.2, 86)	80.5 (68.8, 87.5)	80.6 (68.6, 88.3)	71.9 (58.2, 80.9)	69.5 (54.8, 80)	68.9 (57, 77.9)	65.1 (51.5, 74.7)	57.1 (42.1, 68.4)	52.5 (39.3, 63.1)	39.5 (31.5, 47.1)	38.8 (30, 46.7)	44.7 (40, 49.1)
		High-school	*N deaths*	19 (16, 20)	13 (10, 15)	54 (47, 59)	35 (29, 40)	163 (129, 186)	106 (84, 121)	303 (247, 343)	183 (150, 210)	320 (245, 378)	303 (223, 365)	768 (576, 937)	1709 (1328, 2070)	4066 (3661, 4439)
			% ISTK	80.6 (67.6, 88.9)	75.6 (61.5, 85.6)	83.3 (72.5, 90)	73.8 (59.8, 83.2)	70.5 (55.6, 80.5)	68.5 (54.5, 78.1)	67.9 (55.4, 76.9)	65 (53.4, 74.8)	54.2 (41.4, 64)	50.4 (37, 60.7)	37.6 (28.2, 45.9)	35.9 (27.9, 43.5)	43.9 (39.5, 47.9)
		College	*N deaths*	3 (3, 3)	8 (6, 9)	6 (5, 7)	13 (10, 16)	25 (20, 29)	17 (14, 20)	69 (55, 80)	35 (28, 41)	99 (76, 119)	44 (34, 54)	315 (240, 376)	339 (258, 418)	983 (874, 1090)
			% ISTK	78.1 (65.9, 85.8)	69.8 (52.4, 79.6)	77.1 (66.7, 84.9)	66.8 (51.2, 77.6)	63.9 (51.6, 74.4)	61.5 (49, 71.3)	61.2 (49, 71.2)	58.5 (45.9, 68.6)	50.5 (39, 60.6)	47.2 (35.7, 57)	35.9 (27.3, 42.8)	35.9 (27.3, 44.3)	41.1 (36.5, 45.5)
		Race														
		White	*N deaths*	14 (11, 15)	13 (10, 15)	45 (39, 49)	34 (28, 39)	137 (110, 156)	107 (86, 122)	315 (248, 364)	161 (119, 193)	485 (387, 564)	375 (297, 437)	1281 (987, 1556)	2311 (1711, 2828)	5379 (4776, 5947)
			% ISTK	77.7 (62.1, 85.8)	73.6 (58.2, 83)	81 (69.4, 87.9)	71.6 (57.4, 81)	71 (57.1, 81)	67.8 (54.8, 77.9)	62.3 (49, 72.1)	56.1 (41.5, 67.6)	59.4 (47.4, 69)	54.9 (43.4, 64)	37.6 (29, 45.6)	35 (25.9, 42.9)	42.1 (37.4, 46.5)
		Black	*N deaths*	7 (6, 7)	7 (6, 8)	13 (11, 14)	15 (13, 16)	81 (68, 91)	43 (36, 48)	108 (85, 122)	71 (55, 82)	117 (95, 134)	105 (85, 120)	159 (126, 191)	294 (226, 358)	1049 (963, 1128)
			% ISTK	82.8 (68.8, 90.9)	77.7 (62.9, 87)	83.3 (71.5, 90.2)	83.8 (72.4, 90.6)	74.7 (62.1, 83.3)	74.3 (61.9, 83.3)	67.6 (53.7, 76.9)	61.9 (48.7, 72.2)	65.1 (52.6, 74.5)	59.9 (48.3, 68.8)	41.9 (33.2, 50.3)	37.9 (29.1, 46.1)	52.4 (48.1, 56.4)
		Hispanic	*N deaths*	5 (4, 5)	2 (2, 3)	13 (10, 14)	5 (4, 6)	25 (21, 28)	11 (9, 12)	36 (29, 41)	21 (16, 24)	42 (32, 50)	37 (27, 45)	79 (62, 96)	141 (109, 171)	426 (388, 462)
			% ISTK	78 (65.5, 86.1)	74 (58.1, 84.3)	73.7 (60.2, 82.6)	70 (53.6, 80.7)	72.7 (60.8, 81.1)	73.1 (61.7, 82.1)	64.2 (52.4, 73)	60.6 (48, 71.2)	55.3 (42.2, 66)	47.8 (34.7, 58.2)	38.7 (30.2, 47.3)	36.2 (28.1, 43.9)	46.3 (42.2, 50.3)
		Other	*N deaths*	0 (0, 0)	2 (2, 2)	4 (3, 5)	5 (3, 5)	11 (10, 13)	4 (4, 5)	16 (14, 19)	12 (10, 14)	20 (15, 23)	16 (12, 20)	38 (29, 46)	53 (37, 71)	188 (170, 206)
			% ISTK	83.7 (73.8, 89.7)	66.4 (50.4, 77.9)	71.2 (58, 82.1)	64.6 (49.1, 76.8)	71 (60, 80.1)	71.1 (60.2, 79.9)	68.4 (56.7, 78.7)	57.1 (45.8, 67.7)	65.9 (51.4, 78.3)	51 (38.5, 62.6)	39.7 (30.9, 48.4)	29.8 (20.8, 40.4)	45.1 (40.8, 49.4)
		Total	*N deaths*	25 (21, 28)	24 (19, 28)	73 (61, 81)	57 (44, 65)	247 (200, 279)	162 (131, 183)	479 (388, 549)	283 (229, 323)	645 (517, 745)	540 (437, 633)	1544 (1193, 1847)	2956 (2286, 3518)	**7170 (6412, 7779)**
			% ISTK	77.6 (64.8, 86.3)	73.8 (58.7, 84.2)	76.5 (64.3, 85.5)	71.8 (55.5, 81.8)	70.1 (56.7, 79.1)	68.6 (55.6, 77.4)	64.4 (52.2, 73.8)	62.2 (50.2, 71)	58.4 (46.9, 67.5)	55.7 (45.1, 65.4)	37.8 (29.2, 45.2)	37.2 (28.8, 44.3)	**44.5 (39.8, 48.2)**
Diet[e]	**Hemorrhagic Stroke**	**Overall by age**	*N deaths*	329 (290, 350)		985 (863, 1061)		2625 (2325, 2847)		3497 (3006, 3871)		3890 (3284, 4339)		7956 (6598, 9215)		**M: 9556 (8566, 10335) F: 10319 (9057, 11414)**
			% HSTK	86.7 (76.4, 92.4)		85.5 (75, 92.1)		79.5 (70.4, 86.2)		73.8 (63.5, 81.7)		67.1 (56.7, 74.9)		46.2 (38.3, 53.5)		**M: 64.1 (57.5, 69.3) F: 58.4 (51.2, 64.5)**
		Education														

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		<High-school	*N deaths*	42 (35, 45)	30 (24, 32)	144 (126, 153)	94 (81, 100)	347 (272, 381)	222 (178, 244)	391 (324, 435)	261 (212, 296)	385 (285, 446)	342 (255, 405)	733 (561, 884)	1201 (915, 1440)	4316 (3997, 4603)
			% HSTK	89 (74.4, 95.7)	88.4 (71.8, 95.2)	90 (78.7, 95.9)	89.9 (76.8, 95.5)	83.5 (65.5, 91.8)	82.2 (65.8, 90.5)	78.9 (65.2, 87.8)	75.7 (61.4, 85.7)	69.8 (51.7, 81)	64.7 (48.3, 76.6)	49.9 (38.2, 60.2)	48.8 (37.2, 58.5)	62.7 (58.1, 66.9)
		High-school	*N deaths*	132 (113, 140)	91 (75, 99)	351 (306, 371)	275 (215, 302)	872 (692, 970)	867 (701, 961)	1274 (1034, 1415)	1074 (862, 1202)	1121 (845, 1308)	1150 (835, 1366)	1691 (1256, 2059)	2821 (2121, 3408)	12073 (11236, 12884)
			% HSTK	90 (77, 95.5)	86.9 (71.5, 93.9)	91.5 (79.8, 96.5)	85.8 (67.1, 94)	81.4 (64.6, 90.5)	79.9 (64.6, 88.6)	78.5 (63.8, 87.2)	75.8 (60.9, 84.9)	67.3 (50.8, 78.6)	61.7 (44.8, 73.3)	46.9 (34.8, 57.1)	43.9 (33, 53.1)	61.3 (57, 65.4)
		College	*N deaths*	20 (17, 22)	15 (12, 16)	73 (63, 79)	67 (52, 76)	146 (113, 167)	148 (117, 168)	289 (232, 328)	232 (182, 266)	384 (291, 462)	251 (186, 307)	703 (520, 876)	596 (439, 745)	2989 (2714, 3222)
			% HSTK	87.8 (75.1, 94.5)	80.6 (64.8, 90.7)	86.5 (73.7, 93.2)	79 (60.9, 89.6)	75 (58.1, 85.5)	74.2 (58.8, 84.3)	71.2 (57.2, 80.9)	68.7 (53.8, 78.7)	60.2 (45.6, 72.4)	56.1 (41.6, 68.4)	43 (31.9, 53.7)	44.2 (32.5, 55.2)	55.2 (50.1, 59.5)
		Race														
		White	*N deaths*	96 (81, 103)	73 (60, 80)	259 (224, 276)	218 (178, 240)	698 (561, 778)	663 (541, 742)	1164 (892, 1327)	897 (678, 1065)	1526 (1213, 1720)	1339 (1002, 1572)	2622 (1981, 3174)	3780 (2712, 4646)	13695 (12543, 14674)
			% HSTK	88.3 (74, 94.5)	86.1 (71, 93.7)	90 (77.9, 95.7)	83.9 (68.5, 92.3)	81.1 (65.2, 90.4)	79.4 (64.8, 88.8)	74.2 (56.8, 84.6)	67.9 (51.4, 80.7)	70.1 (55.7, 79.1)	64.2 (48.1, 75.5)	45.9 (34.7, 55.5)	44 (31.6, 54.1)	57.3 (52.5, 61.4)
		Black	*N deaths*	41 (36, 44)	29 (25, 31)	148 (128, 155)	123 (105, 130)	413 (339, 449)	392 (323, 427)	452 (364, 508)	354 (266, 406)	267 (217, 299)	281 (225, 322)	226 (170, 265)	385 (282, 469)	3190 (2996, 3354)
			% HSTK	91.9 (80.5, 97)	88.3 (74.4, 95.3)	91.6 (79.6, 96.4)	91.5 (77.9, 96.6)	84.9 (69.6, 92.3)	84.3 (69.4, 91.8)	78.1 (62.9, 87.7)	73.3 (55.1, 84.1)	75.3 (61.2, 84.6)	70.7 (56.6, 81)	53.2 (40.1, 62.4)	47.2 (34.6, 57.6)	72.9 (68.4, 76.6)
		Hispanic	*N deaths*	41 (35, 44)	24 (20, 26)	120 (99, 130)	62 (50, 68)	220 (187, 242)	149 (123, 162)	221 (177, 251)	130 (103, 149)	134 (103, 156)	145 (103, 177)	178 (137, 217)	257 (191, 312)	1731 (1621, 1827)
			% HSTK	87.7 (73.8, 94.3)	86.4 (72.1, 93.9)	85.5 (70.4, 93)	82.5 (66.6, 91.2)	82.9 (70.3, 91.1)	83.3 (68.5, 90.8)	75.3 (60.3, 85.6)	71.7 (56.6, 82)	67.6 (51.9, 78.6)	58.9 (41.8, 72)	48.6 (37.2, 59)	46.6 (34.5, 56.5)	67.3 (63, 71)
		Other	*N deaths*	16 (14, 16)	12 (9, 13)	38 (32, 42)	37 (28, 42)	91 (76, 100)	79 (64, 89)	126 (102, 143)	99 (76, 117)	133 (105, 153)	101 (75, 123)	158 (117, 192)	162 (109, 221)	1094 (1014, 1165)
			% HSTK	91.3 (81.6, 96.3)	78.8 (60.7, 89.8)	83.7 (69.6, 92.3)	78.8 (60.4, 88.9)	81.9 (68.8, 90.2)	80.2 (65.1, 89.4)	77.7 (62.9, 88.2)	67.1 (51.7, 79.1)	74.6 (59.1, 86)	62.8 (46.3, 76.5)	50.4 (37.4, 61.2)	35.6 (23.9, 48.4)	62.4 (57.8, 66.4)
		Total	*N deaths*	192 (160, 206)	138 (113, 151)	557 (459, 599)	434 (352, 478)	1380 (1123, 1533)	1265 (1002, 1396)	1962 (1525, 2218)	1559 (1227, 1772)	2007 (1575, 2326)	1891 (1470, 2187)	3204 (2403, 3842)	4795 (3605, 5843)	**19863 (18301, 21265)**
			% HSTK	87.9 (73.3, 94.7)	85.7 (70.1, 93.6)	87.8 (72.3, 94.4)	84 (68, 92.5)	80 (65.1, 88.8)	80.1 (63.5, 88.5)	75.4 (58.6, 85.2)	73.1 (57.5, 83.1)	69.1 (54.2, 80)	65.5 (50.9, 75.7)	47 (35.2, 56.3)	46.1 (34.6, 56.1)	**60.9 (56.2, 65.2)**
Diet[e]	**Other Stroke**	**Overall by age**	*N deaths*	77 (69, 82)		341 (300, 364)		1379 (1222, 1497)		3696 (3252, 4044)		6666 (5877, 7308)		26325 (22868, 29415)		**M: 16570 (14882, 18245) F: 22653 (19470, 25498)**
			% OSTK	85 (76.4, 90.5)		84.5 (74.5, 90.4)		78.2 (69.3, 84.9)		71.9 (63.3, 78.7)		64.6 (57, 70.8)		42.6 (37, 47.5)		**M: 53.2 (47.8, 58.6) F: 46.8 (40.2, 52.6)**
		Education														
		<High-school	*N deaths*	10 (8, 10)	5 (4, 6)	37 (33, 39)	39 (34, 42)	214 (182, 236)	136 (113, 151)	507 (429, 562)	307 (256, 345)	902 (729, 1037)	704 (552, 820)	2606 (2125, 2986)	4781 (3929, 5514)	10425 (9492, 11247)
			% OSTK	88.8 (74, 94.9)	87.3 (72, 93.8)	89.2 (79.8, 94.9)	88.7 (76.6, 94.8)	81.7 (69.5, 89.9)	80.1 (66.2, 88.7)	76.6 (64.8, 84.8)	73.7 (61.5, 82.6)	65 (52.5, 74.8)	61 (47.8, 71)	46 (37.5, 52.7)	44 (36.1, 50.7)	50.4 (45.9, 54.4)
		High-school	*N deaths*	28 (24, 29)	26 (22, 28)	149 (133, 157)	89 (74, 97)	513 (421, 565)	383 (319, 424)	1435 (1209, 1598)	1027 (856, 1147)	1999 (1577, 2305)	1739 (1378, 2037)	4602 (3784, 5395)	9927 (8110, 11480)	22409 (20456, 24181)
			% OSTK	88.9 (78.4, 94.6)	86.1 (72.5, 92.9)	90.6 (81.4, 95.6)	84.9 (70.5, 92.3)	80 (65.6, 88.1)	78.6 (65.5, 87)	76 (64.1, 84.7)	74.4 (62.1, 83.1)	63.4 (50, 73.1)	59.3 (47, 69.4)	43 (35.4, 50.5)	40.6 (33.2, 47)	48.8 (44.5, 52.6)
		College	*N deaths*	4 (4, 5)	5 (4, 6)	16 (14, 18)	16 (13, 18)	72 (58, 81)	48 (39, 55)	286 (234, 325)	161 (129, 185)	513 (402, 601)	299 (237, 356)	1792 (1406, 2126)	1937 (1573, 2286)	5209 (4707, 5694)
			% OSTK	86.9 (75.8, 93.7)	76.8 (63.9, 84.9)	86 (72.8, 92.9)	77.3 (62.8, 87)	73.8 (58.9, 83)	72.5 (59.5, 82.8)	68.7 (56.1, 77.9)	67.1 (53.6, 77.1)	57.8 (45.4, 67.8)	54.6 (43.2, 65)	40.6 (31.9, 48.2)	40.9 (33.2, 48.3)	45.5 (41.1, 49.7)
		Race														
		White	*N deaths*	20 (17, 21)	21 (17, 23)	99 (86, 104)	78 (64, 86)	448 (364, 499)	318 (259, 354)	1359 (1126, 1533)	829 (637, 972)	2626 (2195, 2955)	2100 (1696, 2398)	7489 (6151, 8776)	13861 (11169, 16123)	29738 (27023, 32250)
			% OSTK	87.1 (73.9, 93.3)	83.7 (69.6, 91.6)	89 (77.4, 94.1)	82.3 (67.8, 90.7)	79.1 (64.3, 88.2)	77.6 (63.3, 86.5)	71.2 (59, 80.3)	65.9 (50.6, 77.3)	67.1 (56, 75.4)	62.4 (50.4, 71.3)	42.8 (35.2, 50.2)	40.4 (32.6, 47)	46.9 (42.6, 50.8)
		Black	*N deaths*	15 (13, 16)	8 (7, 8)	71 (63, 75)	51 (45, 54)	244 (207, 265)	194 (163, 211)	598 (489, 661)	410 (332, 464)	766 (655, 847)	582 (497, 660)	861 (725, 988)	1495 (1216, 1726)	5469 (5126, 5780)
			% OSTK	90.6 (79.1, 95.6)	86.5 (74.2, 93.2)	90.9 (81.1, 95.8)	90.8 (79.5, 95.9)	83 (70.5, 90.3)	82.9 (69.6, 90.3)	76.2 (62.3, 84.4)	71.7 (58.1, 81.1)	72 (61.5, 79.6)	67.3 (57.3, 76.2)	48.2 (40.6, 55.4)	43 (34.9, 49.6)	59.2 (55.5, 62.6)
		Hispanic	*N deaths*	5 (4, 6)	7 (6, 7)	29 (24, 31)	12 (10, 14)	81 (67, 89)	53 (45, 58)	172 (144, 192)	112 (89, 127)	233 (188, 267)	161 (125, 193)	520 (428, 626)	753 (607, 889)	2188 (2012, 2361)
			% OSTK	86.5 (74.6, 92.9)	85 (70.5, 92.5)	84.6 (70, 92)	81.4 (66.8, 90.2)	81.7 (67.7, 89.4)	82.5 (70.7, 90.2)	74 (61.9, 82.4)	70.3 (55.9, 79.8)	64.7 (52.2, 74.2)	56 (43.6, 67.1)	45.4 (37.4, 54.6)	42.4 (34.2, 50.1)	52.3 (48.1, 56.4)
		Other	*N deaths*	1 (1, 1)	2 (1, 2)	7 (6, 8)	4 (3, 4)	52 (43, 57)	27 (22, 30)	107 (89, 119)	56 (43, 66)	185 (149, 214)	123 (93, 152)	365 (287, 441)	395 (272, 525)	1374 (1233, 1524)
			% OSTK	91.4 (80.2, 96.2)	76.7 (61.2, 87)	82.3 (69.5, 90.8)	76.6 (59.2, 87.1)	80.5 (67.6, 88.8)	79.6 (65.4, 88.9)	76.7 (64.3, 85.8)	66.1 (51.3, 78.2)	73.2 (59, 84.6)	60.2 (45.7, 74.4)	48 (37.7, 58)	33.9 (23.4, 45.1)	50.5 (45.3, 56)
		Total	*N deaths*	41 (35, 44)	37 (31, 40)	200 (172, 216)	142 (117, 156)	804 (675, 895)	581 (482, 642)	2237 (1825, 2510)	1466 (1205, 1659)	3688 (3002, 4176)	2981 (2406, 3382)	9122 (7417, 10788)	17182 (13871, 19810)	**39289 (35902, 42399)**
			% OSTK	86.9 (74, 93.3)	83.6 (70.5, 91.6)	86.3 (74, 93.2)	82.8 (68.4, 91.1)	78.6 (66, 87.4)	78.5 (65, 86.7)	73 (59.6, 81.9)	70.7 (58.1, 80)	65.9 (53.7, 74.6)	63.1 (51, 71.6)	43.1 (35, 51)	42.2 (34.1, 48.7)	**49.4 (45.1, 53.3)**
Diet[e]	**Diabetes**	**Overall by age**	*N deaths*	516 (465, 561)		1457 (1316, 1589)		3992 (3509, 4342)		7012 (6094, 7866)		8033 (6998, 9047)		10368 (9058, 11537)		**M: 18753 (17247, 20096) F: 13956 (12598, 15137)**
			% DM	86.3 (77.8, 93.8)		84.5 (76.4, 92.2)		73.8 (64.9, 80.3)		60.1 (52.3, 67.5)		52.4 (45.6, 59)		31.2 (27.3, 34.8)		**M: 52.7 (48.5, 56.5) F: 43.1 (38.9, 46.8)**
		Education														
		<High-school	*N deaths*	73 (65, 78)	50 (43, 55)	217 (185, 235)	121 (101, 138)	564 (494, 619)	315 (264, 362)	917 (759, 1040)	543 (447, 627)	1257 (1022, 1446)	888 (703, 1041)	1623 (1327, 1930)	2000 (1624, 2347)	8974 (8396, 9514)
			% DM	90.7 (79.7, 96.7)	87.6 (75.7, 96.1)	89.6 (76.4, 97.1)	89.9 (74.7, 102.3)	80.6 (70.6, 88.6)	74.7 (62.8, 86)	69.9 (57.9, 79.2)	60.3 (49.6, 69.6)	59.4 (48.3, 68.4)	52.6 (41.7, 61.7)	38.1 (31.2, 45.3)	32.2 (26.2, 37.8)	49.5 (46.3, 52.5)
		High-school	*N deaths*	217 (194, 233)	150 (127, 168)	652 (570, 703)	386 (329, 447)	1754 (1509, 1941)	1013 (853, 1149)	3013 (2504, 3444)	1767 (1431, 2107)	2906 (2346, 3427)	1935 (1558, 2246)	2465 (2029, 2882)	3033 (2461, 3589)	20316 (19187, 21434)
			% DM	93.5 (83.5, 100.4)	87.7 (74.2, 98.2)	89.1 (77.9, 96)	86.1 (73.4, 99.7)	77.4 (66.6, 85.7)	73 (61.5, 82.9)	65 (54, 74.3)	59.4 (48.1, 70.9)	56.7 (45.8, 66.9)	47.9 (38.6, 55.6)	31.7 (26.1, 37)	29.5 (23.9, 34.9)	50.7 (47.9, 53.5)
		College	*N deaths*	24 (21, 27)	15 (12, 17)	68 (57, 76)	32 (26, 37)	237 (195, 290)	104 (86, 121)	558 (453, 659)	239 (189, 287)	622 (500, 736)	300 (230, 370)	758 (600, 917)	350 (267, 438)	3408 (3156, 3706)
			% DM	77.7 (67.1, 85.9)	69.8 (58, 78.7)	77.6 (66, 87)	66.3 (54.8, 76.9)	70.9 (58.3, 86.7)	57.9 (47.7, 67.2)	55.5 (45.1, 65.6)	45.8 (36.1, 54.8)	46.7 (37.5, 55.1)	43.4 (33.2, 53.5)	30.6 (24.2, 37)	22.8 (17.3, 28.5)	41.2 (38.1, 44.8)
		Race														
		White	*N deaths*	174 (150, 193)	108 (89, 129)	509 (451, 555)	301 (257, 343)	1562 (1303, 1758)	780 (654, 876)	2936 (2395, 3355)	1492 (1193, 1802)	3296 (2666, 3842)	2060 (1663, 2438)	3742 (3096, 4391)	3656 (2993, 4311)	21474 (20058, 22729)
			% DM	91.6 (78.7, 101.5)	85.2 (70.2, 101.3)	84.5 (74.9, 92.2)	79.6 (67.9, 90.7)	76 (63.4, 85.6)	67.8 (56.9, 76.1)	62.1 (50.7, 71)	55.2 (44.1, 66.7)	53.8 (43.5, 62.7)	49.8 (40.2, 58.9)	33 (27.3, 38.7)	28 (23, 33.1)	46.1 (43.1, 48.8)
		Black	*N deaths*	84 (74, 90)	70 (61, 76)	245 (217, 263)	153 (133, 166)	583 (497, 643)	418 (353, 474)	936 (787, 1060)	697 (578, 796)	958 (771, 1118)	782 (643, 895)	589 (477, 691)	1128 (908, 1345)	6885 (6502, 7271)
			% DM	88 (77.4, 94.3)	86.5 (75.5, 94.1)	87.8 (77.7, 94.2)	84.3 (73.3, 91.4)	77.3 (65.9, 85.3)	74.5 (62.9, 84.5)	68.1 (57.3, 77.2)	63.8 (52.9, 72.9)	65.1 (52.3, 75.9)	56.2 (46.2, 64.4)	36.1 (29.2, 42.3)	38.4 (30.9, 45.8)	58.1 (54.9, 61.3)
		Hispanic	*N deaths*	43 (39, 46)	25 (22, 28)	118 (103, 128)	50 (42, 55)	309 (264, 342)	148 (127, 165)	469 (389, 526)	277 (225, 323)	458 (374, 526)	336 (266, 473)	417 (333, 505)	453 (368, 540)	3259 (3054, 3497)
			% DM	86.8 (78.2, 92.9)	81.8 (70.1, 90.6)	84.1 (73.8, 91.2)	76.5 (65.1, 84.2)	77.1 (65.9, 85.4)	68.7 (58.9, 76.5)	64.3 (53.3, 72.2)	56.3 (45.7, 65.6)	55.6 (45.4, 63.8)	47.9 (37.9, 67.5)	33.8 (27, 40.9)	27.2 (22.1, 32.4)	49.7 (46.6, 53.4)
		Other	*N deaths*	8 (7, 9)	10 (8, 11)	48 (41, 53)	12 (10, 14)	117 (96, 134)	52 (42, 60)	209 (169, 245)	91 (70, 109)	189 (144, 231)	159 (115, 224)	178 (125, 245)	189 (138, 436)	1315 (1202, 1699)
			% DM	83 (72.2, 90.6)	75.9 (63.5, 87.9)	79.2 (68, 88)	67.2 (55.7, 76.7)	65.8 (54, 75.3)	55.2 (44.8, 64)	62.5 (50.5, 73.5)	43.6 (33.5, 52)	54 (41, 65.8)	49.4 (35.6, 69.7)	29.6 (20.9, 40.8)	25.5 (18.6, 58.7)	44.8 (41, 58)
		Total	*N deaths*	307 (265, 336)	209 (177, 238)	929 (805, 1021)	530 (440, 630)	2582 (2186, 2867)	1409 (1188, 1587)	4513 (3679, 5176)	2484 (2010, 2930)	4752 (3866, 5570)	3313 (2706, 3868)	4860 (3946, 5685)	5500 (4485, 6367)	**32732 (30803, 34568)**
			% DM	88.7 (76.5, 97.2)	82.8 (70.3, 94.3)	86 (74.4, 94.5)	82.5 (68.4, 97.9)	76.2 (64.5, 84.6)	69.7 (58.8, 78.5)	63 (51.4, 72.3)	55.2 (44.7, 65.2)	54.1 (44, 63.4)	50.6 (41.3, 59.1)	32.8 (26.6, 38.4)	29.9 (24.4, 34.6)	**48.2 (45.4, 50.9)**
Diet[e]	**Cardiometabolic disease**	**Overall by age**	*N deaths*	2345 (2217, 2484)		8825 (8311, 9276)		28694 (26809, 30215)		50596 (47043, 54001)		62150 (58093, 65963)		158089 (146221, 168631)		**M: 174155 (165539, 182309) F: 143621 (135230, 151934)**
			% CMD	64.2 (60.6, 67.9)		70.3 (66.2, 73.9)		67.8 (63.4, 71.4)		58.7 (54.6, 62.7)		53.9 (50.4, 57.2)		35.7 (33.1, 38.1)		**M: 48.6 (46.2, 50.9) F: 41.8 (39.3, 44.2)**
		Education														
		<High-school	*N deaths*	367 (341, 389)	170 (157, 182)	1298 (1220, 1368)	637 (591, 672)	4133 (3822, 4415)	1832 (1695, 1949)	6936 (6371, 7444)	3165 (2912, 3401)	8620 (7750, 9373)	5287 (4791, 5728)	18676 (16803, 20472)	26155 (23485, 28431)	79393 (76141, 82608)
			% CMD	70 (65, 74.2)	67.8 (62.7, 72.3)	78.6 (73.9, 82.8)	78.5 (72.8, 82.8)	71.8 (66.4, 76.7)	69.5 (64.3, 74)	68 (62.5, 73)	61.6 (56.7, 66.2)	56.1 (50.4, 61)	53 (48, 57.4)	39.1 (35.2, 42.8)	37.6 (33.8, 40.9)	46.8 (44.9, 48.7)
		High-school	*N deaths*	1158 (1079, 1218)	527 (482, 568)	4448 (4183, 4684)	1873 (1715, 2020)	13351 (12301, 14258)	5768 (5348, 6156)	23818 (21738, 25597)	11192 (10287, 12084)	21781 (19751, 23919)	12917 (11661, 14073)	35824 (31882, 39320)	51426 (46591, 56041)	190250 (183636, 196963)
			% CMD	72.1 (67.2, 75.9)	65 (59.4, 70)	77.4 (72.8, 81.5)	69 (63.1, 74.4)	69.5 (64, 74.2)	63.7 (59.1, 68)	64 (58.4, 68.8)	60.6 (55.7, 65.4)	52.6 (47.7, 57.7)	45.6 (41.2, 49.7)	36.1 (32.1, 39.6)	33.8 (30.6, 36.9)	45.7 (44.2, 47.4)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		College	*N deaths*	152 (138, 163)	80 (73, 86)	654 (604, 693)	252 (226, 276)	2120 (1892, 2317)	735 (666, 799)	5125 (4583, 5639)	1814 (1648, 1975)	5510 (4849, 6066)	2204 (1929, 2473)	12454 (10886, 14058)	7953 (6917, 9054)	39886 (37993, 42006)
			% CMD	57.9 (52.6, 62.4)	49 (44.7, 53)	69.4 (64.1, 73.6)	52.3 (47, 57.4)	64.7 (57.7, 70.7)	54.1 (49, 58.8)	56.3 (50.4, 62)	50.5 (45.8, 54.9)	45.6 (40.1, 50.2)	43.5 (38, 48.8)	32.3 (28.2, 36.5)	29.3 (25.5, 33.4)	39.1 (37.2, 41.2)
		Race														
		White	*N deaths*	923 (849, 990)	429 (389, 468)	3771 (3507, 3976)	1594 (1472, 1712)	13440 (12363, 14464)	5131 (4704, 5515)	24461 (22076, 26853)	9588 (8481, 10475)	29907 (27169, 32534)	16709 (15354, 17994)	56966 (50627, 62665)	66801 (60383, 73145)	236505 (226292, 246067)
			% CMD	68.7 (63.2, 73.7)	63.9 (57.9, 69.6)	76.1 (70.8, 80.3)	67.1 (61.9, 72)	69.5 (63.9, 74.8)	63.1 (57.8, 67.8)	58.8 (53.1, 64.6)	52.8 (46.7, 57.6)	55.2 (50.2, 60.1)	52.3 (48.1, 56.3)	35.6 (31.7, 39.2)	31.7 (28.7, 34.7)	42.8 (40.9, 44.5)
		Black	*N deaths*	410 (383, 433)	223 (205, 239)	1529 (1436, 1604)	801 (751, 844)	4000 (3699, 4269)	2442 (2279, 2592)	6358 (5837, 6840)	3738 (3425, 4014)	5949 (5499, 6379)	4299 (3966, 4586)	5604 (5087, 6170)	8483 (7401, 9462)	44946 (43651, 46330)
			% CMD	66.9 (62.7, 70.7)	61.9 (57, 66.4)	74 (69.5, 77.6)	69.2 (64.9, 73)	67.8 (62.7, 72.3)	66.7 (62.3, 70.8)	61.3 (56.3, 66)	57.7 (52.9, 62)	61.1 (56.5, 65.6)	56.7 (52.3, 60.5)	40.4 (36.7, 44.5)	37.1 (32.4, 41.4)	53.1 (51.6, 54.8)
		Hispanic	*N deaths*	217 (201, 230)	87 (80, 94)	674 (622, 718)	232 (211, 248)	1807 (1683, 1914)	725 (683, 765)	2728 (2531, 2916)	1245 (1152, 1342)	2578 (2331, 2794)	1533 (1369, 1697)	3923 (3408, 4417)	4579 (4122, 5014)	20923 (20185, 21675)
			% CMD	66.4 (61.6, 70.4)	63.7 (58.8, 68.3)	67.5 (62.3, 71.9)	62.4 (56.9, 66.8)	72.3 (67.3, 76.5)	68.7 (64.8, 72.5)	65 (60.3, 69.4)	59.3 (54.9, 64)	56.5 (51.1, 61.3)	49.9 (44.5, 55.2)	40.3 (35, 45.4)	35.7 (32.2, 39.1)	50 (48.2, 51.8)
		Other	*N deaths*	89 (82, 96)	38 (34, 42)	307 (279, 332)	100 (89, 109)	859 (764, 926)	302 (277, 324)	1472 (1344, 1592)	561 (510, 612)	1535 (1359, 1722)	834 (725, 1010)	2138 (1834, 2537)	2328 (1963, 2858)	10940 (10390, 11681)
			% CMD	67.6 (62.2, 72.6)	51.8 (46.2, 57.7)	67.8 (61.7, 73.3)	58.5 (52.1, 63.8)	69.4 (61.7, 74.8)	63.4 (58.1, 68.1)	68.1 (62.1, 73.6)	52.3 (47.6, 57.1)	60.6 (53.7, 68)	49.7 (43.3, 60.2)	37.5 (32.1, 44.5)	33.1 (27.9, 40.6)	48.1 (45.7, 51.4)
		Total	*N deaths*	1587 (1461, 1708)	763 (699, 820)	6131 (5672, 6528)	2688 (2447, 2907)	20125 (18299, 21509)	8565 (7913, 9146)	34711 (31467, 37717)	15896 (14533, 17051)	38623 (35176, 41871)	23500 (21645, 25363)	68170 (60739, 75379)	89757 (80808, 98140)	**236505 (226292, 246067)**
			% CMD	65.8 (60.5, 70.8)	61.4 (56.3, 66)	72.4 (67, 77.1)	65.9 (60, 71.3)	69.4 (63.1, 74.2)	64.3 (59.4, 68.6)	59.5 (54, 64.7)	57.1 (52.2, 61.3)	54.4 (49.6, 59)	53.1 (48.9, 57.3)	36 (32.1, 39.8)	35.4 (31.9, 38.8)	**42.8 (40.9, 44.5)**
Fruits	**Coronary heart disease**	**Overall by age**	*N deaths*	172 (92, 241)		865 (485, 1225)		2632 (1427, 3803)		4752 (2589, 6807)		5002 (2832, 7163)		10415 (6426, 14398)		**M: 14778 (10844, 18908) F: 9008 (5984, 12067)**
(<300 g/d)			*% CHD*	16.8 (8.9, 23.5)		16.7 (9.4, 23.6)		12 (6.5, 17.4)		10 (5.4, 14.3)		8 (4.5, 11.4)		4.5 (2.8, 6.2)		**M: 7.2 (5.3, 9.2) F: 5.5 (3.6, 7.3)**
		Education														
		<High-school	*N deaths*	28 (11, 44)	11 (4, 16)	135 (53, 202)	47 (19, 73)	463 (191, 695)	167 (63, 258)	665 (283, 1083)	263 (100, 412)	864 (389, 1335)	419 (161, 678)	1607 (738, 2432)	1821 (870, 2718)	6528 (4957, 7925)
			% CHD	16.7 (6.7, 26.2)	18.6 (7.8, 28.7)	18.4 (7.2, 27.5)	16.1 (6.5, 24.9)	14.5 (6, 21.8)	14.1 (5.3, 21.8)	11.1 (4.7, 18.1)	10.8 (4.1, 16.9)	9.7 (4.4, 15)	8.7 (3.4, 14.1)	5.9 (2.7, 8.9)	5.3 (2.5, 7.9)	7.3 (5.5, 8.9)
		High-school	*N deaths*	90 (38, 138)	29 (11, 44)	475 (219, 722)	152 (65, 239)	1368 (563, 2222)	478 (202, 730)	2453 (960, 3862)	878 (387, 1413)	2241 (886, 3624)	970 (382, 1551)	2616 (1278, 3966)	2990 (1446, 4580)	14765 (11648, 17912)
			% CHD	17.5 (7.4, 27)	16.8 (6.4, 25.6)	18 (8.3, 27.4)	16.8 (7.1, 26.4)	12.5 (5.2, 20.3)	12.8 (5.4, 19.5)	11.1 (4.3, 17.5)	10 (4.4, 16.2)	9.1 (3.6, 14.8)	7.2 (2.8, 11.4)	4.5 (2.2, 6.9)	4 (2, 6.2)	6.7 (5.3, 8.1)
		College	*N deaths*	13 (5, 19)	4 (1, 7)	60 (26, 94)	16 (7, 26)	178 (77, 293)	53 (21, 86)	436 (186, 697)	114 (47, 197)	450 (167, 748)	119 (45, 205)	806 (402, 1295)	509 (240, 818)	2796 (2090, 3486)
			% CHD	16.7 (7.2, 25.5)	13.4 (4.3, 21.1)	14.3 (6.1, 22.5)	13.1 (5.5, 21.4)	9.6 (4.1, 15.7)	10.8 (4.3, 17.4)	8 (3.4, 12.8)	7.1 (2.9, 12.3)	6.4 (2.4, 10.6)	5.3 (2, 9.2)	3.7 (1.8, 5.9)	4.1 (1.9, 6.6)	5.2 (3.9, 6.5)
		Race														
		White	*N deaths*	80 (37, 123)	25 (11, 39)	426 (174, 657)	143 (56, 225)	1399 (553, 2274)	470 (206, 762)	2628 (1092, 4018)	826 (305, 1333)	2604 (1079, 4282)	1091 (483, 1771)	4008 (1922, 6209)	4619 (2259, 6973)	18310 (14334, 22545)
			% CHD	17.2 (7.9, 26.4)	15.6 (7, 24.4)	16.9 (6.9, 26)	15.6 (6.1, 24.4)	11.7 (4.6, 19.1)	12.4 (5.4, 20.1)	10.1 (4.2, 15.4)	9 (3.3, 14.6)	7.9 (3.3, 13)	6.9 (3.1, 11.2)	4.3 (2.1, 6.6)	4.5 (2.2, 6.8)	6.1 (4.8, 7.5)
		Black	*N deaths*	33 (14, 52)	12 (5, 19)	140 (60, 213)	50 (21, 76)	359 (146, 566)	154 (63, 241)	552 (239, 855)	275 (111, 435)	445 (183, 714)	305 (126, 472)	443 (225, 659)	518 (243, 821)	3287 (2657, 3914)
			% CHD	18.8 (8, 29.8)	17.5 (7.1, 27)	18.6 (8, 28.3)	17.5 (7.3, 26.7)	13.9 (5.7, 22)	12.4 (5, 19.3)	10.8 (4.7, 16.7)	10.2 (4.1, 16.1)	9.2 (3.8, 14.8)	9.3 (3.8, 14.4)	6.1 (3.1, 9.1)	4.9 (2.3, 7.7)	8.4 (6.8, 10)
		Hispanic	*N deaths*	12 (5, 19)	3 (1, 5)	58 (27, 90)	13 (5, 21)	145 (62, 235)	45 (16, 71)	233 (95, 366)	83 (34, 134)	229 (83, 359)	88 (37, 144)	276 (134, 422)	322 (149, 510)	1516 (1174, 1816)
			% CHD	15.6 (6.6, 23.6)	16.4 (7.2, 25.5)	16.5 (7.6, 25.6)	14.6 (5.9, 22.3)	12.2 (5.2, 19.8)	13 (4.7, 20.3)	10.4 (4.2, 16.4)	9.5 (4, 15.3)	9.3 (3.4, 14.5)	6.8 (2.9, 11.1)	5.1 (2.5, 7.8)	5.1 (2.3, 8)	7.3 (5.7, 8.8)
		Other	*N deaths*	8 (3, 12)	1 (1, 2)	32 (13, 50)	6 (2, 10)	80 (30, 128)	15 (6, 27)	111 (42, 189)	30 (12, 54)	103 (35, 190)	55 (20, 99)	166 (79, 273)	73 (21, 161)	691 (517, 884)
			% CHD	17.7 (7.8, 26.9)	13.8 (5.7, 21.7)	15 (6.3, 23.7)	13 (5, 21.6)	11.9 (4.5, 19.2)	10 (3.9, 17.8)	9.3 (3.5, 15.8)	7.2 (2.8, 13.1)	7.5 (2.5, 13.7)	7.9 (2.9, 14.2)	5.4 (2.5, 8.8)	2.2 (0.6, 4.8)	6.1 (4.6, 7.9)
		Total	*N deaths*	130 (55, 194)	42 (18, 65)	663 (287, 1002)	212 (95, 318)	1961 (791, 3008)	680 (281, 1044)	3505 (1470, 5422)	1225 (514, 1902)	3458 (1573, 5646)	1538 (577, 2393)	5089 (2287, 7740)	5339 (2559, 8091)	**23865 (18658, 28884)**
			% CHD	17 (7.2, 25.5)	15.9 (6.8, 24.6)	17.3 (7.5, 26.1)	15.8 (7.1, 23.7)	12 (4.8, 18.4)	12.3 (5.1, 18.8)	10.1 (4.2, 15.7)	9.4 (3.9, 14.5)	8.3 (3.8, 13.5)	7.3 (2.7, 11.4)	4.7 (2.1, 7.1)	4.3 (2.1, 6.6)	**6.4 (5, 7.8)**
Fruits	**Stroke, total**	**Overall by age**	*N deaths*	307 (231, 355)		992 (764, 1158)		2573 (2019, 3009)		4207 (3278, 5100)		5500 (4385, 6574)		15152 (12332, 17910)		**M: 13239 (11260, 15000) F: 15532 (12788, 17990)**
(<300 g/d)			*% TSTK*	57.3 (43.3, 66.4)		57.3 (44.2, 67)		45.5 (35.7, 53.2)		38 (29.6, 46.1)		30.3 (24.1, 36.2)		16.6 (13.5, 19.7)		**M: 25.2 (21.5, 28.6) F: 20.5 (16.9, 23.7)**
		Education														
		<High-school	*N deaths*	38 (23, 46)	28 (18, 34)	136 (90, 164)	93 (65, 112)	398 (291, 484)	253 (179, 303)	536 (382, 665)	346 (245, 429)	784 (566, 997)	625 (444, 790)	1730 (1301, 2162)	2916 (2127, 3586)	7844 (6870, 8700)
			% TSTK	60.8 (37.4, 74.1)	62.7 (41, 75.4)	61.6 (40.9, 74.1)	59.1 (41.4, 71.3)	53.4 (39, 64.9)	51.9 (36.7, 62.1)	40.8 (29, 50.6)	39.7 (28.1, 49.2)	35.5 (25.6, 45.1)	32.3 (22.9, 40.8)	21 (15.8, 26.2)	18.9 (13.8, 23.2)	24.7 (21.6, 27.4)
		High-school	*N deaths*	119 (80, 145)	89 (61, 107)	374 (256, 447)	281 (186, 337)	913 (641, 1124)	830 (570, 1043)	1649 (1177, 2065)	1235 (831, 1552)	1879 (1325, 2376)	1545 (1071, 2034)	2863 (2062, 3634)	5357 (3953, 6754)	17071 (15284, 18899)
			% TSTK	59.2 (40, 72.1)	58.8 (40.4, 70.7)	61 (41.7, 73)	59.4 (39.2, 71.1)	47 (33, 57.8)	48.1 (33, 60.4)	41.7 (29.8, 52.2)	40.1 (27, 50.4)	34.8 (24.5, 43.9)	28.6 (19.8, 37.7)	17.5 (12.6, 22.2)	15 (11.1, 19)	22.8 (20.4, 25.2)
		College	*N deaths*	19 (12, 23)	16 (11, 19)	60 (38, 75)	60 (37, 75)	130 (84, 168)	127 (81, 166)	303 (206, 386)	204 (132, 273)	446 (293, 588)	256 (163, 348)	1021 (711, 1348)	1083 (772, 1445)	3731 (3248, 4254)
			% TSTK	58 (37.2, 70.6)	43.7 (30.8, 53.4)	54 (34.1, 67)	47.6 (29.7, 59.7)	39.2 (25.4, 50.6)	43.5 (27.8, 56.6)	32.4 (22.1, 41.3)	31.9 (20.6, 42.7)	25.9 (17, 34.1)	23.5 (14.9, 31.9)	14.7 (10.3, 19.5)	15.4 (11, 20.6)	19.4 (16.9, 22.1)
		Race														
		White	*N deaths*	90 (58, 108)	72 (49, 87)	266 (186, 316)	220 (153, 270)	739 (491, 924)	661 (452, 823)	1540 (1094, 1921)	1056 (723, 1362)	2158 (1557, 2763)	1693 (1174, 2182)	4487 (3233, 5656)	7982 (6042, 10015)	20941 (18491, 23490)
			% TSTK	60.1 (38.9, 71.8)	56.1 (38.3, 67.7)	58.5 (40.8, 69.5)	54.5 (37.9, 66.9)	45.6 (30.3, 57)	47.2 (32.2, 58.8)	38.7 (27.5, 48.2)	36.9 (25.2, 47.6)	31.2 (22.5, 40)	27.6 (19.1, 35.6)	16.9 (12.2, 21.3)	16.1 (12.2, 20.2)	20.9 (18.5, 23.5)
		Black	*N deaths*	44 (32, 53)	30 (21, 36)	164 (114, 193)	127 (84, 153)	447 (307, 550)	367 (240, 454)	621 (432, 772)	462 (326, 573)	546 (384, 685)	489 (345, 614)	553 (413, 679)	853 (617, 1082)	4677 (4230, 5104)
			% TSTK	63.5 (45.5, 75.3)	58.1 (40.8, 70.3)	64.3 (44.8, 75.6)	61 (40, 73.3)	50.3 (34.4, 61.8)	48.5 (31.7, 59.9)	40.8 (28.4, 50.7)	39.5 (27.8, 49.1)	34.1 (24, 42.8)	34 (24, 42.7)	21.4 (15.9, 26.2)	16.8 (12.2, 21.3)	29.9 (27.1, 32.7)
		Hispanic	*N deaths*	33 (22, 41)	23 (16, 29)	112 (74, 137)	54 (34, 66)	191 (124, 240)	129 (84, 161)	241 (163, 303)	143 (98, 179)	222 (160, 285)	174 (121, 223)	336 (240, 436)	516 (381, 668)	2170 (1937, 2389)
			% TSTK	56.3 (36.7, 69.5)	60 (40.5, 73.5)	58.6 (38.5, 71.6)	55.7 (35.5, 68.5)	47.8 (31.1, 60)	50 (32.7, 62.5)	41.4 (28.1, 52.1)	38.2 (26.2, 47.8)	35 (25.2, 44.9)	28.5 (19.9, 36.6)	19.6 (14, 25.4)	19 (14, 24.6)	28.3 (25.2, 31.1)
		Other	*N deaths*	12 (7, 14)	10 (6, 13)	34 (21, 43)	30 (17, 39)	90 (61, 114)	60 (34, 81)	124 (84, 166)	80 (49, 111)	150 (96, 201)	130 (84, 174)	265 (184, 356)	172 (85, 308)	1162 (1009, 1330)
			% TSTK	65.9 (39.1, 80)	51.6 (31, 65.2)	55.1 (34.1, 69.9)	51.4 (29.3, 66.4)	47.3 (32, 59.8)	43.3 (24.5, 58)	38.2 (26, 51.2)	31.7 (19.4, 44)	32.6 (20.8, 43.6)	32.7 (21.1, 43.8)	22.7 (15.7, 30.4)	9.6 (4.7, 17.2)	23.8 (20.6, 27.2)
		Total	*N deaths*	174 (109, 210)	134 (91, 162)	568 (374, 684)	432 (285, 528)	1365 (949, 1739)	1211 (797, 1504)	2481 (1687, 3169)	1750 (1211, 2223)	3056 (2129, 3894)	2456 (1741, 3149)	5650 (4150, 7065)	9551 (7036, 11955)	**28741 (25609, 31682)**
			% TSTK	58.7 (36.9, 70.7)	56.4 (38.4, 68)	59 (38.9, 71.1)	56.3 (37.1, 68.7)	44 (30.6, 56.1)	47.4 (31.2, 58.8)	38.7 (26.3, 49.4)	37.5 (26, 47.7)	31.8 (22.2, 40.6)	28.6 (20.3, 36.7)	17.6 (12.9, 22)	16.2 (11.9, 20.2)	**22.4 (20, 24.7)**
Fruits	**Ischemic Stroke**	**Overall by age**	*N deaths*	21 (15, 26)		56 (41, 70)		143 (101, 182)		241 (174, 308)		333 (236, 434)		1128 (828, 1440)		**M: 865 (692, 1034) F: 1057 (786, 1353)**
(<300 g/d)			*% ISTK*	32 (23.5, 40.2)		31.8 (23.3, 40)		24.3 (17.1, 30.9)		20.1 (14.5, 25.7)		16.1 (11.4, 20.9)		9.4 (6.9, 12)		**M: 13.5 (10.8, 16.1) F: 10.9 (8.1, 13.9)**
		Education														
		<High-school	*N deaths*	1 (1, 2)	2 (1, 2)	7 (4, 10)	3 (2, 3)	20 (12, 27)	14 (8, 18)	35 (21, 49)	24 (14, 33)	56 (33, 78)	45 (26, 66)	136 (85, 185)	235 (151, 313)	577 (473, 679)
			% ISTK	32 (17.9, 44.5)	36.1 (21.8, 47.7)	34.7 (21.7, 48.2)	31.5 (18.9, 43.2)	29.2 (17.6, 38.8)	28.4 (17.6, 38.4)	22.7 (13.5, 31.5)	21.4 (12.3, 29.9)	20.5 (12.2, 28.4)	17.8 (10.4, 25.9)	12.3 (7.7, 16.8)	11 (7.1, 14.7)	13.8 (11.3, 16.2)
		High-school	*N deaths*	8 (5, 10)	6 (4, 8)	23 (14, 31)	16 (10, 22)	60 (35, 82)	40 (23, 54)	101 (61, 138)	58 (35, 83)	111 (64, 155)	91 (49, 129)	196 (122, 263)	412 (264, 562)	1121 (928, 1309)
			% ISTK	34.1 (20.3, 44.9)	33.3 (21.4, 45.7)	35.6 (22.1, 47.2)	33.7 (21, 45.2)	25.9 (15, 35.6)	25.5 (14.8, 34.6)	22.7 (13.6, 31)	20.8 (12.3, 29.7)	18.9 (10.8, 26.3)	15.1 (8.2, 21.5)	9.6 (6, 12.9)	8.7 (5.5, 11.8)	12.1 (10, 14.1)
		College	*N deaths*	1 (1, 2)	3 (2, 4)	2 (1, 3)	5 (3, 7)	8 (4, 12)	6 (4, 9)	18 (10, 27)	9 (5, 14)	26 (15, 39)	11 (6, 16)	69 (41, 102)	82 (48, 124)	241 (195, 297)
			% ISTK	32.7 (19, 43.8)	27.3 (15.5, 37.5)	28.6 (16.7, 39)	26.1 (14.5, 36.7)	20.3 (11.2, 29.6)	22.5 (13.6, 31.5)	16.4 (9.1, 23.8)	15.4 (8.3, 23.7)	13.2 (7.5, 19.7)	11.4 (5.9, 17.2)	7.9 (4.7, 11.6)	8.6 (5.1, 13.1)	10.1 (8.1, 12.4)
		Race														

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		White	*N deaths*	6 (4, 8)	6 (3, 8)	18 (11, 25)	15 (9, 20)	47 (26, 66)	40 (23, 54)	104 (60, 146)	54 (31, 78)	136 (81, 192)	98 (55, 140)	316 (195, 438)	617 (388, 830)	1455 (1187, 1740)
			% ISTK	33.5 (20.6, 45.2)	31 (18.9, 41.9)	33 (20.4, 44.2)	30.3 (18.3, 41.5)	24.1 (13.2, 33.9)	25.2 (14.6, 34.1)	20.6 (11.9, 28.8)	18.9 (10.8, 27.3)	16.6 (10, 23.5)	14.3 (8.1, 20.4)	9.3 (5.7, 12.8)	9.3 (5.9, 12.6)	11.4 (9.3, 13.6)
		Black	*N deaths*	3 (2, 4)	3 (2, 4)	6 (3, 8)	6 (4, 8)	30 (18, 42)	15 (9, 20)	35 (21, 48)	24 (14, 34)	35 (19, 49)	33 (19, 46)	49 (31, 67)	78 (47, 113)	317 (272, 366)
			% ISTK	36.9 (21.7, 50)	34.8 (21.7, 45.4)	35.9 (21.6, 47.7)	34.3 (21.3, 45.6)	27.8 (16.4, 38.9)	25.4 (15.5, 34.7)	22 (13.4, 30.4)	21.1 (12.3, 29.8)	19.3 (10.7, 27.5)	19.1 (11, 26.5)	12.8 (8.2, 17.8)	10 (6.1, 14.6)	15.8 (13.6, 18.3)
		Hispanic	*N deaths*	2 (1, 3)	1 (1, 1)	6 (3, 7)	2 (1, 3)	9 (5, 12)	4 (2, 5)	12 (7, 17)	7 (4, 9)	15 (9, 21)	11 (7, 16)	22 (13, 31)	42 (26, 60)	132 (110, 155)
			% ISTK	30.7 (17.8, 42.1)	32.6 (19.5, 44.1)	33.1 (19.7, 43.1)	29.8 (18, 39.8)	24.5 (13.4, 35.5)	25.9 (15, 35.6)	21.5 (12.8, 30.4)	19.9 (11.6, 27.8)	19.6 (11.3, 27.1)	14.6 (8.5, 20.6)	10.7 (6.6, 15.4)	10.7 (6.7, 15.5)	14.3 (12, 16.8)
		Other	*N deaths*	0 (0, 0)	1 (0, 1)	2 (1, 2)	2 (1, 3)	4 (2, 6)	1 (1, 2)	5 (2, 7)	3 (2, 5)	5 (3, 7)	5 (3, 8)	11 (6, 16)	8 (3, 17)	47 (38, 59)
			% ISTK	0 (0, 0)	28.4 (16.5, 38.9)	29.5 (17.6, 41)	26.7 (15.2, 39.4)	24.3 (13.9, 34.8)	21.1 (10.9, 31.6)	19.3 (10.3, 29.5)	15.2 (7.7, 24.5)	15.9 (8.4, 24.2)	16.8 (9, 25.7)	11.4 (6.6, 16.8)	4.7 (1.6, 9.4)	11.3 (9.2, 14.1)
		Total	*N deaths*	11 (6, 14)	10 (6, 14)	31 (19, 42)	25 (15, 34)	84 (49, 117)	60 (36, 80)	154 (89, 215)	88 (54, 123)	190 (112, 268)	144 (86, 198)	398 (261, 534)	731 (468, 1010)	**1920 (1602, 2267)**
			% ISTK	33.1 (20, 44.6)	31.5 (17.6, 43)	33.1 (20.5, 44.4)	30.7 (18.4, 42.8)	23.7 (13.9, 33.2)	25.3 (15.4, 34.1)	20.8 (12, 28.9)	19.3 (11.8, 27)	17.2 (10.2, 24.3)	14.9 (8.9, 20.4)	9.8 (6.4, 13.1)	9.2 (5.9, 12.7)	**11.9 (9.9, 14.1)**
Fruits	**Hemorrhagic Stroke**	**Overall by age**	*N deaths*	234 (161, 280)		701 (485, 859)		1621 (1107, 2028)		2018 (1341, 2582)		2070 (1351, 2650)		3730 (2606, 4847)		**M: 5053 (3990, 6022)** **F: 5262 (4052, 6371)**
(<300 g/d)			*% HSTK*	61.6 (42.5, 73.9)		60.8 (42.1, 74.6)		49.1 (33.5, 61.4)		42.6 (28.3, 54.5)		35.7 (23.3, 45.7)		21.7 (15.1, 28.1)		**M: 33.9 (26.8, 40.4)** **F: 29.8 (22.9, 36)**
		Education														
		<High-school	*N deaths*	30 (16, 38)	23 (13, 28)	104 (58, 130)	65 (37, 82)	240 (138, 310)	151 (85, 197)	234 (123, 320)	156 (85, 209)	239 (126, 334)	206 (105, 287)	404 (223, 557)	623 (353, 860)	2452 (2059, 2776)
			% HSTK	63.4 (33.7, 80.1)	66.9 (39.5, 83)	65.2 (36.1, 81)	61.7 (35.3, 78.5)	57.9 (33.2, 74.7)	56 (31.6, 72.9)	47.1 (24.8, 64.4)	45.3 (24.5, 60.7)	43.4 (22.9, 60.5)	39 (19.8, 54.3)	27.5 (15.2, 37.9)	25.3 (14.3, 34.9)	35.6 (29.9, 40.3)
		High-school	*N deaths*	93 (54, 117)	66 (38, 83)	252 (139, 313)	204 (109, 257)	555 (304, 742)	558 (309, 744)	765 (409, 1021)	633 (312, 846)	677 (367, 945)	604 (296, 926)	792 (416, 1127)	1259 (699, 1790)	6386 (5387, 7315)
			% HSTK	63.5 (36.7, 79.4)	63 (36.2, 79.1)	65.7 (36.2, 81.5)	63.4 (33.8, 80)	51.8 (28.3, 69.2)	51.4 (28.5, 68.5)	47.2 (25.2, 62.9)	44.7 (22.1, 59.7)	40.7 (22.1, 56.8)	32.4 (15.9, 49.7)	22 (11.5, 31.3)	19.6 (10.9, 27.9)	32.4 (27.3, 37.1)
		College	*N deaths*	14 (8, 18)	10 (5, 13)	48 (27, 63)	45 (23, 60)	83 (41, 121)	93 (49, 127)	149 (74, 216)	118 (57, 175)	191 (91, 290)	117 (51, 181)	297 (164, 461)	268 (142, 414)	1435 (1177, 1684)
			% HSTK	62.6 (34.5, 79.5)	54.1 (28.5, 71.7)	56.5 (31.2, 73.8)	53.1 (27, 70)	42.7 (21.3, 61.8)	46.6 (24.5, 64)	36.7 (18.2, 53.3)	35 (16.9, 51.8)	30 (14.3, 45.5)	26.1 (11.3, 40.4)	18.2 (10.1, 28.2)	19.8 (10.5, 30.6)	26.5 (21.7, 31.1)
		Race														
		White	*N deaths*	71 (40, 87)	52 (31, 66)	182 (107, 230)	154 (89, 199)	433 (214, 587)	430 (253, 573)	702 (367, 949)	544 (266, 762)	807 (396, 1126)	664 (315, 965)	1214 (693, 1740)	1836 (1067, 2607)	7051 (5889, 8195)
			% HSTK	64.9 (37.1, 80.1)	61.6 (36.6, 78)	63.1 (37.2, 79.8)	59.3 (34.3, 76.4)	50.3 (24.8, 68.1)	51.5 (30.3, 68.7)	44.8 (23.4, 60.5)	41.2 (20.2, 57.7)	37.1 (18.2, 51.7)	31.9 (15.1, 46.3)	21.3 (12.1, 30.4)	21.4 (12.4, 30.4)	29.5 (24.7, 34.3)
		Black	*N deaths*	31 (18, 38)	21 (13, 27)	109 (63, 133)	87 (45, 110)	272 (140, 355)	241 (116, 313)	268 (137, 368)	211 (104, 290)	148 (76, 201)	161 (82, 220)	121 (70, 166)	188 (96, 272)	1834 (1575, 2060)
			% HSTK	69.1 (40.7, 85.3)	64.5 (39.7, 81.2)	67.6 (38.9, 82.6)	64.6 (33.5, 81.1)	55.9 (28.8, 72.9)	51.9 (25, 67.3)	46.2 (23.6, 63.6)	43.8 (21.5, 60)	41.9 (21.5, 56.9)	40.6 (20.6, 55.4)	28.6 (16.5, 39.1)	23.1 (11.8, 33.3)	41.9 (36, 47)
		Hispanic	*N deaths*	28 (17, 36)	18 (10, 22)	86 (48, 110)	44 (24, 56)	137 (73, 184)	94 (51, 124)	133 (66, 180)	76 (41, 105)	81 (39, 113)	81 (38, 120)	90 (48, 131)	136 (74, 196)	991 (856, 1121)
			% HSTK	59.6 (36.6, 75.8)	63.4 (35.7, 80.1)	61.7 (34.1, 78.5)	58.3 (32.4, 74.3)	51.4 (27.3, 69)	52.4 (28.6, 69.1)	45.3 (22.4, 61.6)	41.7 (22.3, 57.7)	41 (19.6, 57.3)	32.8 (15.5, 48.7)	24.4 (13.1, 35.7)	24.6 (13.4, 35.4)	38.5 (33.3, 43.5)
		Other	*N deaths*	11 (6, 14)	8 (4, 11)	27 (14, 36)	26 (13, 35)	56 (29, 76)	44 (21, 65)	67 (34, 99)	51 (25, 79)	64 (30, 93)	58 (26, 88)	80 (41, 118)	51 (16, 110)	545 (453, 636)
			% HSTK	66.1 (37.1, 81.2)	56.4 (28.9, 74.3)	58.6 (31.5, 77.3)	55.1 (27.5, 73.8)	50.9 (26.4, 68.8)	44.6 (20.9, 65.6)	41.7 (20.8, 61.3)	34.2 (16.8, 53.5)	35.8 (16.7, 52.5)	36 (16.3, 54.4)	25.6 (13, 37.6)	11.2 (3.5, 24.1)	31.1 (25.8, 36.3)
		Total	*N deaths*	138 (75, 171)	99 (56, 125)	400 (223, 506)	312 (163, 400)	831 (462, 1130)	802 (422, 1068)	1137 (568, 1587)	898 (471, 1236)	1102 (556, 1557)	969 (475, 1364)	1525 (841, 2179)	2232 (1256, 3158)	**10317 (8661, 11823)**
			% HSTK	63.1 (34.2, 78.5)	61.7 (34.6, 77.8)	63 (35.2, 79.8)	60.4 (31.5, 77.4)	48.2 (26.8, 65.5)	50.8 (26.7, 67.7)	43.7 (21.8, 61)	42.1 (22.1, 58)	37.9 (19.1, 53.6)	33.5 (16.4, 47.2)	22.4 (12.3, 32)	21.4 (12.1, 30.3)	**31.7 (26.6, 36.3)**
Fruits	**Other Stroke**	**Overall by age**	*N deaths*	234 (161, 280)		701 (485, 859)		1621 (1107, 2028)		2018 (1341, 2582)		2070 (1351, 2650)		3730 (2606, 4847)		**M: 7274 (5689, 8834)** **F: 9214 (6857, 11429)**
(<300 g/d)			*% OSTK*	61.6 (42.5, 73.9)		60.8 (42.1, 74.6)		49.1 (33.5, 61.4)		42.6 (28.3, 54.5)		35.7 (23.3, 45.7)		21.7 (15.1, 28.1)		**M: 23.4 (18.3, 28.4)** **F: 19 (14.2, 23.6)**
		Education														
		<High-school	*N deaths*	7 (4, 9)	4 (2, 5)	26 (15, 32)	26 (15, 34)	142 (89, 181)	90 (53, 114)	271 (161, 368)	168 (96, 227)	490 (301, 669)	376 (205, 514)	1200 (783, 1564)	2052 (1327, 2675)	4817 (3999, 5617)
			% OSTK	60.8 (37.1, 77.9)	63.9 (36.6, 79.1)	62.4 (37.4, 78.3)	59.2 (33.9, 76.6)	54.1 (34, 69)	52.7 (31.3, 67.1)	40.9 (24.3, 55.6)	40.3 (23, 54.5)	35.3 (21.7, 48.2)	32.5 (17.7, 44.5)	21.2 (13.8, 27.6)	18.9 (12.2, 24.6)	23.3 (19.3, 27.2)
		High-school	*N deaths*	19 (12, 24)	18 (11, 23)	102 (63, 124)	64 (37, 78)	304 (182, 403)	238 (127, 309)	790 (463, 1072)	558 (319, 761)	1093 (644, 1521)	847 (482, 1185)	1871 (1180, 2550)	3699 (2400, 4857)	9565 (7941, 11144)
			% OSTK	61 (38.2, 75.9)	59.9 (36, 75.2)	62.3 (38.4, 75.7)	60.6 (35.4, 74.7)	47.4 (28.4, 62.9)	48.9 (26.1, 63.5)	41.9 (24.5, 56.8)	40.4 (23.1, 55.1)	34.7 (20.4, 48.3)	28.9 (16.4, 40.4)	17.5 (11, 23.8)	15.1 (9.8, 19.9)	20.8 (17.3, 24.3)
		College	*N deaths*	3 (2, 4)	3 (2, 4)	10 (6, 13)	10 (6, 14)	39 (22, 56)	29 (16, 40)	135 (73, 189)	76 (39, 113)	226 (116, 328)	129 (68, 196)	655 (374, 941)	735 (456, 1055)	2047 (1653, 2505)
			% OSTK	59.3 (36.9, 73.5)	44.5 (28.5, 57.5)	54.4 (31.8, 70.3)	48 (27.7, 64.5)	39.9 (22, 56.7)	44.5 (24.3, 60.2)	32.3 (17.5, 45.3)	31.8 (16.2, 47)	25.4 (13.1, 37)	23.6 (12.4, 35.7)	14.9 (8.5, 21.3)	15.5 (9.6, 22.3)	17.9 (14.4, 21.9)
		Race														
		White	*N deaths*	14 (8, 17)	14 (8, 18)	66 (41, 82)	52 (31, 68)	259 (147, 351)	194 (113, 257)	735 (445, 999)	460 (278, 655)	1238 (736, 1703)	939 (506, 1336)	2953 (1850, 4036)	5536 (3802, 7349)	12460 (10135, 14639)
			% OSTK	59.8 (36.2, 76.1)	56.9 (32.5, 72.8)	59.1 (36.9, 74.1)	55 (32.2, 71.5)	45.8 (26, 62)	47.5 (27.7, 62.8)	38.5 (23.3, 52.3)	36.6 (22.1, 52.1)	31.6 (18.8, 43.5)	27.9 (15, 39.7)	16.9 (10.6, 23.1)	16.2 (11.1, 21.4)	19.6 (16, 23.1)
		Black	*N deaths*	11 (6, 14)	5 (3, 7)	50 (32, 62)	35 (20, 43)	149 (87, 196)	114 (66, 149)	320 (182, 435)	232 (130, 310)	360 (220, 490)	296 (178, 401)	384 (252, 503)	588 (376, 785)	2536 (2163, 2884)
			% OSTK	64.3 (38, 81.2)	58.9 (36.4, 74)	64.7 (41.4, 79.3)	62.2 (36.3, 77.2)	50.7 (29.5, 66.6)	48.7 (28.3, 63.9)	40.8 (23.2, 55.5)	40.6 (22.7, 54.1)	33.9 (20.7, 46)	34.2 (20.6, 46.4)	21.5 (14.1, 28.2)	16.9 (10.8, 22.6)	27.4 (23.4, 31.2)
		Hispanic	*N deaths*	3 (2, 4)	5 (3, 6)	20 (12, 25)	8 (5, 11)	48 (26, 65)	32 (19, 43)	97 (56, 130)	61 (32, 84)	127 (75, 176)	82 (42, 116)	226 (140, 315)	339 (215, 474)	1048 (880, 1227)
			% OSTK	56.4 (32.9, 71.8)	60 (34.7, 76.5)	59.5 (36, 74.7)	55.3 (32.3, 70.9)	48 (26.5, 65.3)	50.2 (29.4, 67.2)	41.8 (24.2, 55.9)	38.5 (20.2, 52.8)	35.3 (20.7, 48.8)	28.6 (14.5, 40.4)	19.8 (12.2, 27.5)	19.1 (12.1, 26.7)	25 (21, 29.3)
		Other	*N deaths*	1 (0, 1)	1 (1, 1)	5 (3, 7)	3 (1, 3)	31 (17, 41)	15 (6, 21)	53 (28, 79)	26 (12, 42)	83 (39, 124)	67 (33, 102)	174 (102, 254)	110 (38, 225)	568 (445, 711)
			% OSTK	65.3 (34.9, 81.3)	50.8 (28.9, 67.5)	55.7 (33.7, 72.5)	50.9 (27.8, 69.7)	47.8 (27.3, 64.7)	42.9 (18.6, 62.2)	38.4 (20, 57.1)	31.4 (14.9, 49.6)	32.7 (15.4, 49.1)	33 (16.4, 50.1)	22.8 (13.4, 33.4)	9.5 (3.3, 19.3)	20.9 (16.4, 26.2)
		Total	*N deaths*	27 (18, 35)	25 (15, 32)	138 (81, 174)	98 (58, 124)	457 (259, 610)	354 (193, 465)	1202 (674, 1625)	774 (457, 1065)	1782 (1027, 2438)	1363 (792, 1916)	3710 (2423, 5010)	6607 (4339, 8718)	**16470 (13671, 19119)**
			% OSTK	58.5 (38.3, 73.9)	56.9 (35.1, 72)	59.3 (34.9, 74.9)	57.5 (33.9, 72.3)	44.7 (25.3, 59.7)	47.8 (26.1, 62.7)	39.2 (22, 53)	37.3 (22, 51.4)	31.9 (18.4, 43.6)	28.9 (16.8, 40.6)	17.5 (11.4, 23.7)	16.2 (10.7, 21.4)	**20.7 (17.2, 24)**
Fruits	**Cardiometabolic disease**	**Overall by age**	*N deaths*	477 (369, 562)		1847 (1401, 2248)		5161 (3882, 6489)		8906 (6617, 11238)		10542 (8049, 12941)		25567 (20901, 30471)		**M: 28013 (23696, 32512)** **F: 24449 (20443, 28647)**
(<300 g/d)			*% CMD*	13.1 (10.1, 15.4)		14.7 (11.2, 17.9)		12.2 (9.2, 15.3)		10.3 (7.7, 13)		9.1 (7, 11.2)		5.8 (4.7, 6.9)		**M: 7.8 (6.6, 9.1)** **F: 7.1 (5.9, 8.3)**
		Education														
		<High-school	*N deaths*	65 (45, 84)	39 (27, 47)	267 (182, 346)	139 (100, 172)	856 (568, 1121)	415 (301, 515)	1198 (794, 1625)	605 (420, 787)	1650 (1097, 2183)	1038 (731, 1357)	3347 (2385, 4234)	4758 (3436, 5844)	14392 (12329, 16023)
			% CMD	12.5 (8.5, 16)	15.5 (10.6, 18.7)	16.2 (11, 21)	17.1 (12.4, 21.2)	14.9 (9.9, 19.5)	15.7 (11.4, 19.6)	11.7 (7.8, 15.9)	11.8 (8.2, 15.3)	10.7 (7.1, 14.2)	10.4 (7.3, 13.6)	7 (5, 8.9)	6.8 (4.9, 8.4)	8.5 (7.3, 9.4)
		High-school	*N deaths*	208 (147, 262)	117 (86, 142)	840 (558, 1120)	430 (306, 537)	2286 (1390, 3184)	1295 (910, 1636)	4077 (2661, 5523)	2090 (1446, 2741)	4116 (2643, 5554)	2500 (1783, 3240)	5465 (3916, 7026)	8330 (6407, 10446)	31720 (28291, 35578)
			% CMD	12.9 (9.1, 16.3)	14.4 (10.6, 17.5)	14.6 (9.7, 19.5)	15.8 (11.2, 19.8)	11.9 (7.2, 16.6)	14.3 (10.1, 18.1)	11 (7.1, 14.8)	11.3 (7.8, 14.8)	9.9 (6.4, 13.4)	8.8 (6.3, 11.4)	5.5 (3.9, 7.1)	5.5 (4.2, 6.9)	7.6 (6.8, 8.6)
		College	*N deaths*	31 (21, 39)	20 (15, 25)	120 (81, 155)	76 (51, 95)	305 (197, 432)	181 (124, 229)	740 (477, 1009)	320 (216, 430)	894 (571, 1233)	374 (253, 502)	1832 (1315, 2427)	1606 (1203, 2078)	6528 (5722, 7429)
			% CMD	11.8 (8.1, 15)	12.3 (9.2, 15)	12.8 (8.6, 16.4)	15.8 (10.6, 19.8)	9.3 (6, 13.2)	13.3 (9.1, 16.9)	8.1 (5.2, 11.1)	8.9 (6, 12)	7.4 (4.7, 10.2)	7.4 (5, 9.9)	4.8 (3.4, 6.3)	5.9 (4.4, 7.7)	6.4 (5.6, 7.3)
		Race														
		White	*N deaths*	169 (118, 217)	96 (71, 118)	686 (428, 934)	362 (253, 453)	2122 (1252, 3081)	1125 (790, 1449)	4158 (2534, 5578)	1886 (1236, 2501)	4783 (3155, 6648)	2791 (1949, 3609)	8491 (6248, 11037)	12631 (9608, 15485)	39250 (34735, 44448)
			% CMD	12.6 (8.8, 16.2)	14.3 (10.5, 17.6)	13.8 (8.6, 18.9)	15.2 (10.6, 19)	11 (6.5, 15.9)	13.8 (9.7, 17.8)	10 (6.1, 13.4)	10.4 (6.8, 13.8)	8.8 (5.8, 12.3)	8.7 (6.1, 11.3)	5.3 (3.9, 6.9)	6 (4.6, 7.4)	7.1 (6.3, 8)
		Black	*N deaths*	77 (54, 97)	42 (31, 51)	301 (211, 387)	177 (123, 214)	804 (559, 1030)	522 (363, 647)	1168 (810, 1505)	736 (533, 937)	987 (672, 1294)	788 (582, 1007)	998 (728, 1260)	1367 (1005, 1723)	7953 (7166, 8720)
			% CMD	12.6 (8.8, 15.9)	11.6 (8.6, 14.2)	14.6 (10.2, 18.7)	15.3 (10.6, 18.5)	13.6 (9.5, 17.5)	14.3 (9.9, 17.7)	11.3 (7.8, 14.5)	11.4 (8.2, 14.5)	10.1 (6.9, 13.3)	10.4 (7.7, 13.3)	7.2 (5.3, 9.1)	6 (4.4, 7.5)	9.4 (8.5, 10.3)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		Hispanic	*N deaths*	45 (32, 56)	27 (19, 32)	169 (119, 209)	67 (49, 81)	335 (226, 441)	175 (121, 219)	473 (316, 614)	225 (162, 289)	456 (293, 601)	261 (186, 337)	615 (437, 792)	841 (628, 1073)	3688 (3288, 4055)
			% CMD	13.9 (9.8, 17.2)	19.5 (13.7, 23.5)	16.9 (11.9, 21)	18.1 (13.1, 21.8)	13.4 (9, 17.6)	16.5 (11.5, 20.7)	11.3 (7.5, 14.6)	10.7 (7.7, 13.8)	10 (6.4, 13.2)	8.5 (6.1, 11)	6.3 (4.5, 8.1)	6.6 (4.9, 8.4)	8.8 (7.9, 9.7)
		Other	*N deaths*	19 (14, 25)	12 (8, 15)	65 (43, 86)	36 (22, 47)	169 (115, 226)	76 (49, 99)	237 (155, 328)	111 (73, 151)	254 (164, 356)	186 (131, 242)	433 (310, 569)	253 (145, 399)	1857 (1605, 2116)
			% CMD	14.7 (10.4, 18.6)	16 (10.4, 19.9)	14.3 (9.4, 19.1)	21.3 (12.9, 27.4)	13.7 (9.3, 18.2)	15.9 (10.4, 20.7)	11 (7.2, 15.2)	10.3 (6.8, 14)	10 (6.5, 14.1)	11.1 (7.8, 14.4)	7.6 (5.4, 10)	3.6 (2.1, 5.7)	8.2 (7.1, 9.3)
		Total	*N deaths*	303 (204, 376)	175 (124, 211)	1212 (797, 1578)	640 (458, 798)	3321 (2093, 4477)	1877 (1310, 2423)	5974 (3765, 8094)	2964 (2068, 3783)	6533 (4254, 8850)	3958 (2738, 5138)	10778 (7790, 13528)	14846 (11185, 18748)	**52547 (46557, 58706)**
			% CMD	12.6 (8.5, 15.6)	14.1 (10, 17)	14.3 (9.4, 18.6)	15.7 (11.2, 19.6)	11.5 (7.2, 15.4)	14.1 (9.8, 18.2)	10.2 (6.5, 13.9)	10.7 (7.4, 13.6)	9.2 (6, 12.5)	8.9 (6.2, 11.6)	5.7 (4.1, 7.1)	5.9 (4.4, 7.4)	**7.5 (6.6, 8.4)**
Vegetables	**Coronary heart disease**	**Overall by age**	*N deaths*	162 (90, 232)		755 (434, 1064)		2618 (1428, 3710)		4825 (2801, 6736)		5115 (3015, 7351)		12137 (7852, 16115)		**M: 15444 (11093, 19530)** **F: 10072 (6626, 13350)**
(<400 g/d)			*% CHD*	15.8 (8.8, 22.7)		14.6 (8.4, 20.5)		11.9 (6.5, 16.9)		10.1 (5.9, 14.1)		8.1 (4.8, 11.7)		5.2 (3.4, 6.9)		**M: 7.5 (5.4, 9.5)** **F: 6.1 (4, 8.1)**
		Education														
		<High-school	*N deaths*	30 (13, 46)	9 (4, 14)	104 (49, 160)	47 (22, 70)	446 (177, 672)	149 (59, 226)	716 (325, 1094)	241 (98, 385)	878 (389, 1325)	406 (170, 622)	1361 (740, 2023)	1892 (1037, 2847)	6301 (5032, 7540)
			% CHD	17.6 (7.6, 27.2)	15.7 (7.4, 24.5)	14.2 (6.7, 21.8)	16 (7.4, 24)	14 (5.6, 21)	12.6 (5, 19)	11.9 (5.4, 18.3)	9.9 (4, 15.8)	9.9 (4.4, 14.9)	8.5 (3.5, 13)	5 (2.7, 7.4)	5.5 (3, 8.3)	7 (5.6, 8.4)
		High-school	*N deaths*	86 (38, 130)	28 (13, 41)	435 (196, 660)	139 (59, 206)	1442 (630, 2235)	444 (198, 673)	2490 (1035, 3791)	840 (325, 1315)	2111 (947, 3315)	1053 (459, 1639)	3163 (1744, 4807)	3750 (1970, 5517)	16022 (12854, 19184)
			% CHD	16.8 (7.3, 25.4)	16.4 (7.9, 24.1)	16.5 (7.4, 25)	15.4 (6.5, 22.8)	13.2 (5.8, 20.5)	11.9 (5.3, 18)	11.3 (4.7, 17.2)	9.6 (3.7, 15)	8.6 (3.9, 13.5)	7.8 (3.4, 12.1)	5.5 (3, 8.3)	5.1 (2.7, 7.4)	7.3 (5.8, 8.7)
		College	*N deaths*	11 (5, 16)	5 (2, 7)	48 (19, 77)	16 (7, 25)	172 (77, 289)	35 (14, 63)	503 (199, 801)	121 (46, 197)	509 (209, 797)	144 (67, 231)	1137 (553, 1710)	609 (314, 959)	3310 (2543, 4148)
			% CHD	14.2 (6.4, 21.6)	14.1 (6.3, 21.5)	11.6 (4.6, 18.4)	13 (5.8, 20.1)	9.2 (4.1, 15.5)	7 (2.8, 12.7)	9.2 (3.7, 14.7)	7.5 (2.9, 12.3)	7.2 (3, 11.3)	6.5 (3, 10.4)	5.2 (2.5, 7.8)	4.9 (2.5, 7.7)	6.2 (4.7, 7.7)
		Race														
		White	*N deaths*	75 (32, 113)	25 (11, 38)	389 (171, 576)	134 (64, 206)	1544 (705, 2433)	391 (158, 619)	2772 (1332, 4244)	827 (374, 1288)	2721 (1172, 4239)	1212 (480, 1886)	4949 (2646, 7276)	5516 (2913, 8116)	20568 (15820, 24688)
			% CHD	16 (6.9, 24.3)	15.8 (6.8, 23.3)	15.4 (6.8, 22.8)	14.5 (7, 22.4)	12.9 (5.9, 20.4)	10.3 (4.2, 16.3)	10.6 (5.1, 16.3)	9.1 (4.1, 14.1)	8.2 (3.5, 12.8)	7.7 (3, 12)	5.3 (2.8, 7.8)	5.4 (2.8, 7.9)	6.8 (5.3, 8.2)
		Black	*N deaths*	34 (15, 51)	13 (6, 19)	124 (58, 191)	50 (25, 76)	365 (151, 556)	172 (76, 257)	609 (292, 930)	288 (117, 438)	491 (215, 725)	259 (118, 402)	385 (212, 584)	604 (304, 897)	3379 (2742, 4005)
			% CHD	19.3 (8.5, 29.2)	17.8 (8.9, 26.3)	16.5 (7.7, 25.4)	17.7 (8.8, 26.8)	14.2 (5.9, 21.6)	13.8 (6.1, 20.6)	11.9 (5.7, 18.2)	10.7 (4.3, 16.2)	10.2 (4.4, 15)	7.9 (3.6, 12.2)	5.3 (2.9, 8.1)	5.7 (2.8, 8.4)	8.7 (7, 10.3)
		Hispanic	*N deaths*	11 (5, 18)	3 (1, 4)	47 (19, 72)	12 (5, 19)	143 (66, 218)	40 (18, 62)	206 (86, 321)	80 (34, 124)	192 (92, 301)	92 (37, 147)	241 (110, 404)	256 (131, 401)	1342 (1073, 1645)
			% CHD	14.5 (6.9, 22.9)	14.3 (6.6, 22.4)	13.3 (5.4, 20.6)	13.5 (6, 21)	12 (5.6, 18.4)	11.4 (5, 17.7)	9.2 (3.9, 14.4)	9.2 (3.9, 14.2)	7.8 (3.7, 12.1)	7.1 (2.9, 11.3)	4.4 (2, 7.5)	4 (2.1, 6.3)	6.5 (5.2, 7.9)
		Other	*N deaths*	6 (3, 10)	1 (0, 2)	20 (9, 35)	5 (2, 8)	58 (24, 99)	14 (6, 23)	114 (44, 189)	27 (11, 47)	106 (45, 172)	47 (20, 84)	125 (54, 209)	96 (23, 205)	633 (485, 808)
			% CHD	14.6 (6.4, 22.1)	11.5 (5, 19.5)	9.7 (4.1, 16.7)	11.2 (4.7, 18.3)	8.7 (3.6, 14.7)	9.1 (3.9, 15)	9.6 (3.7, 15.9)	6.4 (2.6, 11.3)	7.6 (3.2, 12.4)	6.8 (2.9, 12.1)	4 (1.8, 6.7)	2.9 (0.7, 6.2)	5.6 (4.3, 7.2)
		Total	*N deaths*	123 (53, 190)	41 (16, 61)	557 (241, 851)	192 (84, 295)	2022 (908, 3076)	586 (272, 903)	3655 (1691, 5525)	1188 (531, 1860)	3448 (1492, 5431)	1625 (676, 2495)	5702 (2822, 8513)	6448 (3112, 9653)	**25443 (20252, 30895)**
			% CHD	16.1 (6.9, 24.9)	15.6 (6.3, 23.4)	14.5 (6.3, 22.2)	14.3 (6.3, 22)	12.4 (5.5, 18.8)	10.6 (4.9, 16.3)	10.6 (4.9, 16)	9.1 (4.1, 14.2)	8.3 (3.6, 13)	7.7 (3.2, 11.8)	5.2 (2.6, 7.8)	5.2 (2.5, 7.8)	**6.9 (5.5, 8.3)**
Vegetables	**Stroke, total**	**Overall by age**	*N deaths*	251 (157, 322)		762 (501, 972)		2036 (1362, 2632)		3568 (2465, 4500)		4837 (3539, 6108)		16622 (12645, 20235)		**M: 12439 (10057, 14594)** **F: 15659 (11844, 18836)**
(<400 g/d)			*% TSTK*	46.9 (29.4, 60.1)		44.1 (28.9, 56.2)		36 (24.1, 46.5)		32.2 (22.3, 40.6)		26.6 (19.5, 33.6)		18.2 (13.9, 22.2)		**M: 23.7 (19.2, 27.8)** **F: 20.6 (15.6, 24.8)**
		Education														
		<High-school	*N deaths*	32 (15, 43)	21 (10, 29)	98 (43, 135)	75 (39, 101)	316 (176, 416)	193 (101, 262)	487 (297, 646)	283 (168, 389)	697 (448, 932)	538 (335, 720)	1448 (943, 1936)	2989 (2048, 3868)	7160 (5949, 8290)
			% TSTK	51.3 (23.8, 69.8)	47.7 (21.7, 65)	44.2 (19.5, 60.9)	47.9 (25, 64.3)	42.3 (23.6, 55.7)	39.5 (20.7, 53.7)	37.1 (22.6, 49.2)	32.5 (19.2, 44.6)	31.5 (20.3, 42.2)	27.8 (17.3, 37.2)	17.6 (11.5, 23.5)	19.3 (13.2, 25)	22.5 (18.7, 26.1)
		High-school	*N deaths*	100 (45, 134)	73 (34, 99)	301 (144, 393)	218 (103, 287)	804 (462, 1070)	647 (325, 882)	1399 (835, 1881)	975 (531, 1318)	1483 (845, 2067)	1424 (834, 1927)	3121 (2065, 4080)	6447 (4320, 8236)	16857 (14252, 19316)
			% TSTK	50 (22.2, 66.5)	48.3 (22.1, 64.8)	49 (23.5, 64.2)	46 (21.8, 60.5)	41.4 (23.7, 55.1)	37.5 (18.8, 51.1)	35.4 (21.1, 47.6)	31.7 (17.2, 42.8)	27.4 (15.6, 38.2)	26.4 (15.4, 35.7)	19.1 (12.6, 25)	18.1 (12.1, 23.1)	22.5 (19, 25.8)
		College	*N deaths*	14 (6, 19)	16 (9, 20)	42 (19, 60)	52 (26, 73)	102 (48, 149)	70 (32, 108)	282 (162, 382)	167 (90, 236)	411 (236, 586)	241 (137, 336)	1254 (837, 1641)	1210 (787, 1616)	3850 (3232, 4462)
			% TSTK	42.6 (19.7, 58.8)	43.6 (25.2, 56.7)	37.3 (16.8, 53.6)	41 (20.8, 57.6)	30.6 (14.5, 44.9)	24 (11.1, 36.7)	30.2 (17.3, 40.9)	26.2 (14.1, 37)	23.9 (13.7, 34.1)	22.1 (12.6, 30.8)	18.1 (12.1, 23.7)	17.2 (11.2, 23)	20 (16.8, 23.2)
		Race														
		White	*N deaths*	71 (33, 96)	62 (30, 80)	211 (106, 278)	180 (95, 241)	660 (375, 894)	477 (227, 677)	1369 (854, 1806)	858 (484, 1190)	1930 (1183, 2549)	1572 (959, 2163)	4999 (3336, 6607)	9320 (6288, 12013)	21617 (18010, 25064)
			% TSTK	47.5 (22.3, 63.9)	48.3 (23.7, 62.4)	46.3 (23.2, 61.1)	44.6 (23.5, 59.9)	40.7 (23.1, 55.2)	34.1 (16.2, 48.3)	34.4 (21.4, 45.3)	30 (16.9, 41.6)	27.9 (17.1, 36.9)	25.6 (15.6, 35.3)	18.8 (12.5, 24.8)	18.8 (12.7, 24.3)	21.6 (18, 25)
		Black	*N deaths*	39 (21, 49)	26 (14, 34)	124 (58, 165)	105 (55, 138)	383 (207, 505)	321 (161, 435)	579 (352, 775)	395 (230, 530)	524 (319, 682)	384 (235, 515)	496 (337, 652)	994 (696, 1269)	4347 (3778, 4851)
			% TSTK	55.3 (29.9, 70.5)	51.4 (27.2, 66.8)	48.5 (22.9, 64.6)	50.3 (26.3, 65.8)	43 (23.3, 56.7)	42.4 (21.3, 57.4)	38 (23.1, 50.9)	33.8 (19.7, 45.4)	32.8 (19.9, 42.7)	26.7 (16.4, 35.8)	19.2 (13, 25.2)	19.6 (13.7, 25)	27.8 (24.2, 31.1)
		Hispanic	*N deaths*	26 (10, 36)	17 (8, 24)	79 (36, 108)	41 (18, 57)	153 (73, 209)	95 (41, 133)	176 (94, 245)	112 (62, 158)	169 (109, 226)	144 (83, 204)	282 (182, 403)	404 (273, 542)	1690 (1438, 1928)
			% TSTK	44.4 (17.6, 61.5)	44.7 (19.3, 60.9)	41.2 (18.8, 56.8)	42.1 (18.8, 58.3)	38.3 (18.2, 52.1)	36.7 (15.7, 51.7)	30.2 (16.2, 42)	30 (16.7, 42.1)	26.6 (17.1, 35.7)	23.7 (13.6, 33.4)	16.4 (10.6, 23.5)	14.9 (10.1, 19.9)	22 (18.7, 25.1)
		Other	*N deaths*	8 (2, 12)	7 (3, 11)	20 (7, 31)	22 (9, 32)	56 (26, 85)	42 (19, 63)	103 (57, 151)	54 (27, 84)	119 (63, 172)	94 (51, 141)	173 (104, 255)	196 (87, 337)	898 (728, 1084)
			% TSTK	44.5 (13.3, 66)	36.1 (15.8, 52.7)	33.4 (10.9, 50.7)	36.7 (15, 54.3)	29.3 (13.8, 44.8)	30.2 (13.8, 45.4)	31.6 (17.5, 46.5)	21.4 (10.7, 33.2)	25.8 (13.7, 37.4)	23.8 (12.8, 35.4)	14.8 (8.9, 21.8)	10.9 (4.9, 18.8)	18.4 (14.9, 22.2)
		Total	*N deaths*	142 (69, 194)	112 (54, 146)	429 (201, 577)	340 (172, 454)	1178 (643, 1608)	873 (389, 1238)	2199 (1363, 2961)	1377 (773, 1915)	2669 (1634, 3604)	2202 (1319, 3001)	5876 (3930, 7681)	10785 (7108, 13825)	**28039 (23525, 31941)**
			% TSTK	47.8 (23.1, 65.2)	47.1 (22.7, 61.5)	44.6 (20.9, 60)	44.3 (22.4, 59.2)	38 (20.7, 51.8)	34.2 (15.2, 48.5)	34.3 (21.3, 46.2)	29.6 (16.6, 41.1)	27.8 (17, 37.5)	25.7 (15.4, 35)	18.3 (12.3, 23.9)	18.3 (12, 23.4)	**21.9 (18.3, 24.9)**
Vegetables	**Ischemic Stroke**	**Overall by age**	*N deaths*	31 (20, 39)		77 (49, 100)		217 (130, 284)		394 (229, 528)		553 (324, 756)		2204 (1376, 2915)		**M: 1480 (1053, 1879)** **F: 1989 (1233, 2669)**
(<400 g/d)			*% ISTK*	47.1 (30.8, 59.9)		44 (28, 57.4)		36.8 (22, 48.2)		32.8 (19.1, 44.1)		26.7 (15.6, 36.5)		18.3 (11.4, 24.2)		**M: 23.1 (16.4, 29.3)** **F: 20.5 (12.7, 27.5)**
		Education														
		<High-school	*N deaths*	2 (1, 3)	2 (1, 3)	9 (4, 12)	4 (2, 5)	30 (15, 42)	19 (9, 27)	59 (30, 83)	36 (14, 53)	87 (37, 129)	70 (32, 105)	194 (94, 291)	416 (226, 606)	922 (697, 1148)
			% ISTK	51.4 (25.4, 68.2)	47.3 (17.8, 66.2)	44.5 (19.7, 61.8)	47.9 (24.5, 65.6)	42.8 (21.9, 60.8)	39.3 (18.5, 57)	37.7 (19.4, 53.3)	32.9 (13.1, 48.2)	32 (13.5, 47.4)	27.8 (12.6, 41.6)	17.5 (8.5, 26.4)	19.5 (10.6, 28.4)	22 (16.7, 27.4)
		High-school	*N deaths*	11 (6, 16)	8 (4, 11)	32 (14, 43)	22 (11, 29)	96 (45, 137)	59 (25, 85)	159 (67, 232)	89 (39, 131)	165 (73, 250)	154 (58, 234)	390 (199, 570)	870 (441, 1281)	2044 (1550, 2510)
			% ISTK	49.4 (25.6, 68)	48.1 (22.1, 67.2)	48.8 (21.6, 66.1)	45.8 (23.3, 61.4)	41.7 (19.7, 59.4)	37.9 (16.3, 54.6)	35.7 (15.1, 51.9)	31.8 (13.7, 46.8)	27.9 (12.3, 42.4)	25.6 (9.7, 38.9)	19.1 (9.7, 27.9)	18.3 (9.3, 26.9)	22.1 (16.7, 27.1)
		College	*N deaths*	2 (1, 2)	5 (2, 7)	3 (1, 4)	8 (4, 12)	12 (5, 18)	7 (3, 11)	34 (14, 51)	16 (7, 24)	47 (19, 73)	20 (8, 32)	160 (87, 231)	162 (81, 249)	474 (358, 596)
			% ISTK	43.6 (20.7, 59.8)	44.6 (21.7, 61.1)	37.2 (17.1, 54.8)	40.9 (19.1, 58.8)	30.5 (12.8, 47.4)	23.6 (9, 39.1)	30.7 (12.8, 45.3)	26.1 (11.5, 39.8)	23.8 (9.9, 37)	21.8 (9, 34.3)	18.3 (9.9, 26.3)	17.2 (8.6, 26.4)	19.8 (14.9, 24.9)
		Race														
		White	*N deaths*	9 (4, 12)	9 (4, 12)	26 (13, 35)	21 (10, 30)	80 (40, 116)	54 (25, 82)	173 (79, 249)	85 (37, 129)	223 (92, 338)	173 (77, 269)	637 (340, 939)	1220 (608, 1798)	2724 (2055, 3351)
			% ISTK	48.7 (23.3, 65)	47.4 (22.2, 65)	45.9 (23, 63.2)	44.7 (21.5, 61.6)	41.7 (20.7, 60.1)	34.6 (15.7, 52.4)	34.3 (15.5, 49.4)	29.6 (12.9, 45.2)	27.3 (11.3, 41.4)	25.3 (11.3, 39.4)	18.7 (10, 27.5)	18.5 (9.2, 27.2)	21.3 (16.1, 26.2)
		Black	*N deaths*	4 (2, 6)	5 (2, 6)	8 (3, 11)	9 (5, 13)	47 (23, 66)	25 (11, 34)	62 (30, 86)	39 (17, 57)	60 (26, 84)	47 (22, 70)	71 (34, 105)	152 (75, 222)	526 (416, 622)
			% ISTK	55.6 (27.8, 74.2)	51.9 (25.3, 69.5)	49.3 (20.5, 67.5)	52 (25.4, 69.7)	43.5 (21.4, 60.7)	42.6 (19.3, 59.4)	38.8 (19, 53.9)	34 (15, 49.9)	33.3 (14.5, 46.8)	27.1 (12.8, 39.9)	18.8 (9.1, 27.8)	19.6 (9.7, 28.6)	26.3 (20.8, 31.1)
		Hispanic	*N deaths*	3 (1, 4)	1 (1, 2)	7 (3, 10)	3 (1, 4)	13 (6, 19)	6 (3, 8)	17 (7, 25)	10 (5, 15)	20 (9, 30)	19 (8, 29)	33 (14, 53)	58 (27, 88)	188 (148, 231)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
			% ISTK	43.7 (19.7, 61.8)	44.7 (20.1, 62.2)	41.7 (19.3, 57.8)	42.2 (18.8, 59.3)	38.3 (18.1, 54)	37.2 (16.8, 53.2)	30.9 (12.4, 44.7)	30.1 (13.5, 44.9)	26.4 (11.7, 40.1)	24.1 (10.7, 37.3)	16 (7.1, 25.8)	14.8 (7, 22.7)	20.5 (16.1, 25.1)
		Other	*N deaths*	0 (0, 0)	1 (0, 2)	2 (1, 3)	3 (1, 4)	5 (2, 8)	2 (1, 3)	8 (3, 12)	5 (2, 7)	8 (3, 12)	8 (3, 13)	14 (6, 23)	19 (5, 39)	72 (55, 95)
			% ISTK	0 (0, 0)	36.8 (15.9, 55.3)	33.1 (13.8, 55.2)	36.2 (16.1, 54.8)	29.8 (12.1, 47.8)	30.9 (13, 47.4)	32.4 (13, 50.3)	21.7 (8, 35.3)	25.5 (8.7, 39.8)	24 (9.5, 40)	14.5 (6.6, 23.9)	10.6 (2.9, 22.1)	17.4 (13.2, 22.8)
		Total	*N deaths*	16 (8, 21)	15 (8, 22)	42 (21, 59)	35 (17, 50)	138 (64, 192)	81 (35, 116)	257 (112, 369)	137 (68, 201)	304 (120, 450)	251 (101, 378)	745 (383, 1096)	1467 (719, 2124)	**3466 (2567, 4208)**
			% ISTK	48.5 (23.6, 64.3)	47 (24.2, 65.5)	44.3 (22.3, 62.6)	44.4 (21.1, 62.2)	39 (18.1, 54.4)	34.3 (14.7, 49)	34.6 (15, 49.6)	30.1 (14.8, 44.2)	27.5 (10.8, 40.8)	25.9 (10.5, 39)	18.2 (9.4, 26.8)	18.5 (9.1, 26.8)	**21.5 (15.9, 26.1)**
Vegetables	**Hemorrhagic Stroke**	**Overall by age**	*N deaths*	178 (89, 245)		507 (261, 703)		1178 (547, 1683)		1515 (711, 2177)		1547 (674, 2261)		3128 (1695, 4494)		**M: 3967 (2643, 5121) F: 4087 (2564, 5430)**
(<400 g/d)			*% HSTK*	46.8 (23.4, 64.7)		44 (22.7, 61.1)		35.7 (16.6, 51)		32 (15, 46)		26.7 (11.6, 39)		18.2 (9.8, 26.1)		**M: 26.6 (17.7, 34.4) F: 23.1 (14.5, 30.7)**
		Education														
		<High-school	*N deaths*	24 (8, 35)	16 (4, 24)	71 (19, 106)	51 (16, 74)	182 (43, 259)	109 (23, 163)	183 (41, 289)	113 (28, 176)	180 (36, 278)	148 (42, 232)	256 (83, 426)	484 (183, 765)	1775 (1339, 2185)
			% HSTK	51.6 (16.9, 74.6)	48.2 (12.7, 70)	44.6 (11.7, 65.9)	48.8 (15.5, 70.1)	43.7 (10.4, 62.4)	40.2 (8.5, 60.4)	36.9 (8.2, 58.2)	32.9 (8, 50.9)	32.6 (6.5, 50.4)	28 (7.9, 43.9)	17.4 (5.6, 29)	19.7 (7.4, 31.1)	25.8 (19.5, 31.8)
		High-school	*N deaths*	74 (19, 105)	51 (11, 74)	192 (46, 269)	149 (39, 214)	450 (137, 669)	414 (124, 626)	576 (116, 885)	455 (105, 705)	465 (102, 759)	495 (109, 789)	703 (251, 1124)	1144 (413, 1800)	5065 (3903, 6193)
			% HSTK	50.6 (13.2, 71.5)	48.5 (10.2, 70.7)	50 (12.1, 70)	46.4 (12.1, 66.8)	41.9 (12.8, 62.4)	38.1 (11.5, 57.7)	35.5 (7.2, 54.6)	32.2 (7.4, 49.8)	27.9 (6.1, 45.6)	26.5 (5.9, 42.3)	19.5 (7, 31.2)	17.8 (6.4, 28)	25.7 (19.8, 31.4)
		College	*N deaths*	10 (2, 15)	8 (2, 12)	32 (9, 50)	35 (9, 54)	59 (12, 102)	48 (12, 83)	126 (31, 198)	90 (21, 144)	151 (40, 259)	99 (25, 168)	297 (100, 480)	234 (83, 382)	1170 (858, 1462)
			% HSTK	42.6 (10.6, 64.4)	43.4 (10.5, 65.5)	37.5 (10.8, 58.7)	41.7 (10.2, 63.7)	30.4 (6.1, 52.4)	24.2 (6, 41.7)	30.9 (7.5, 48.7)	26.6 (6.2, 42.7)	23.7 (6.3, 40.5)	22 (5.7, 37.5)	18.2 (6.1, 29.4)	17.3 (6.1, 28.3)	21.6 (15.8, 27)
		Race														
		White	*N deaths*	52 (14, 75)	42 (12, 60)	134 (39, 198)	117 (35, 175)	353 (92, 532)	283 (40, 455)	540 (122, 833)	398 (91, 645)	613 (164, 950)	528 (135, 895)	1059 (442, 1682)	1593 (590, 2546)	5659 (4166, 6970)
			% HSTK	47.6 (12.5, 68.8)	49.4 (13.7, 70.2)	46.7 (13.5, 68.7)	44.9 (13.4, 67.4)	41 (10.7, 61.8)	33.9 (4.8, 54.5)	34.4 (7.8, 53.1)	30.2 (6.9, 48.9)	28.2 (7.6, 43.6)	25.3 (6.5, 43)	18.5 (7.7, 29.4)	18.6 (6.9, 29.7)	23.7 (17.4, 29.2)
		Black	*N deaths*	25 (9, 35)	17 (5, 25)	79 (17, 114)	68 (19, 97)	215 (61, 315)	202 (49, 303)	223 (56, 331)	166 (37, 257)	117 (35, 180)	105 (25, 179)	81 (26, 129)	159 (54, 254)	1425 (1126, 1692)
			% HSTK	56 (19.9, 77.8)	51.5 (14.3, 74.6)	49.1 (10.5, 70.8)	50.7 (13.8, 71.9)	44.1 (12.6, 64.8)	43.5 (10.5, 65.2)	38.5 (9.7, 57.1)	34.3 (7.6, 53.3)	33 (9.8, 50.9)	26.4 (6.3, 45.1)	19.2 (6.2, 30.4)	19.5 (6.7, 31.2)	32.5 (25.7, 38.7)
		Hispanic	*N deaths*	21 (5, 31)	13 (3, 18)	58 (18, 86)	32 (9, 47)	105 (22, 155)	67 (14, 101)	89 (18, 144)	55 (11, 87)	53 (15, 86)	58 (6, 101)	60 (20, 100)	81 (25, 136)	678 (535, 817)
			% HSTK	45 (10.7, 66.5)	45.4 (9.8, 66.1)	41.6 (13, 61.7)	42.4 (11.9, 62.5)	39.4 (8.4, 58.2)	37.3 (8, 56.4)	30.4 (6.1, 49.1)	30 (6.2, 48)	26.7 (7.5, 43.2)	23.7 (2.6, 41.1)	16.3 (5.6, 27.2)	14.7 (4.6, 24.6)	26.3 (20.8, 31.7)
		Other	*N deaths*	8 (2, 11)	5 (1, 9)	15 (2, 26)	17 (5, 28)	33 (4, 57)	30 (9, 50)	52 (13, 89)	31 (7, 58)	45 (8, 78)	38 (7, 69)	47 (13, 82)	50 (8, 106)	372 (277, 471)
			% HSTK	44.4 (11.1, 66.9)	36.1 (9.1, 57.9)	33.2 (4.4, 57.4)	37.1 (10.6, 59)	29.6 (3.7, 51.2)	30.2 (8.8, 50.9)	32.2 (8, 55.1)	21.2 (4.5, 39.5)	25.5 (4.3, 43.6)	23.5 (4.2, 42.6)	14.8 (4.3, 26.1)	10.9 (1.8, 23.2)	21.2 (15.8, 26.8)
		Total	*N deaths*	104 (33, 154)	78 (19, 108)	288 (72, 420)	231 (71, 339)	657 (159, 1014)	542 (111, 862)	905 (216, 1397)	626 (133, 1046)	824 (176, 1278)	742 (141, 1196)	1254 (482, 1976)	1929 (667, 2981)	**8041 (5987, 9897)**
			% HSTK	47.9 (15.3, 70.6)	48.1 (11.7, 67.2)	45.4 (11.4, 66.1)	44.6 (13.8, 65.5)	38.1 (9.2, 58.8)	34.3 (7, 54.6)	34.8 (8.3, 53.7)	29.4 (6.2, 49)	28.4 (6.1, 44)	25.7 (4.9, 41.4)	18.4 (7.1, 29)	18.5 (6.4, 28.6)	**24.7 (18.4, 30.4)**
Vegetables	**Other Stroke**	**Overall by age**	*N deaths*	43 (26, 56)		179 (99, 237)		646 (377, 880)		1673 (964, 2279)		2762 (1710, 3729)		11300 (7573, 14487)		**M: 7020 (4899, 8957) F: 9664 (6269, 12362)**
(<400 g/d)			*% OSTK*	47.7 (28.7, 61.4)		44.3 (24.7, 58.9)		36.6 (21.4, 49.9)		32.6 (18.8, 44.4)		26.8 (16.6, 36.2)		18.3 (12.2, 23.4)		**M: 22.5 (15.7, 28.8) F: 19.9 (12.9, 25.5)**
		Education														
		<High-school	*N deaths*	6 (2, 8)	3 (1, 4)	18 (7, 26)	21 (8, 30)	112 (52, 161)	68 (22, 101)	247 (111, 356)	136 (57, 209)	436 (236, 626)	323 (159, 464)	1002 (557, 1415)	2099 (1225, 2930)	4455 (3419, 5429)
			% OSTK	52.3 (15.9, 73.3)	47.5 (19.2, 66.6)	43.9 (17.2, 64.1)	47.4 (18.4, 68.1)	42.9 (19.9, 61.3)	40.1 (13.2, 59.3)	37.3 (16.7, 53.7)	32.7 (13.6, 50.1)	31.4 (17, 45.1)	27.9 (13.8, 40.2)	17.7 (9.8, 25)	19.3 (11.3, 27)	21.5 (16.5, 26.2)
		High-school	*N deaths*	16 (5, 21)	15 (6, 20)	81 (37, 112)	48 (21, 69)	269 (107, 394)	185 (75, 268)	668 (279, 974)	440 (159, 655)	878 (345, 1337)	790 (324, 1180)	2036 (1142, 2874)	4448 (2580, 5976)	9784 (7515, 11835)
			% OSTK	50.4 (17.6, 69.3)	49.5 (19.7, 67.5)	49.4 (22.3, 68.2)	46.2 (19.9, 65.7)	42 (16.8, 61.4)	37.9 (15.5, 55)	35.4 (14.8, 51.6)	31.9 (11.5, 47.5)	27.9 (11, 42.4)	26.9 (11, 40.2)	19 (10.7, 26.9)	18.2 (10.6, 24.5)	21.3 (16.4, 25.8)
		College	*N deaths*	2 (1, 3)	3 (2, 4)	7 (2, 11)	9 (4, 12)	30 (11, 47)	16 (5, 27)	128 (47, 186)	63 (23, 101)	214 (84, 332)	122 (42, 191)	795 (442, 1139)	812 (439, 1191)	2196 (1650, 2712)
			% OSTK	43.3 (18.6, 63)	43.7 (22.1, 59.2)	37.1 (10.7, 58.3)	41.6 (17, 59.1)	30.9 (11.6, 48.4)	23.8 (7.8, 41.2)	30.8 (11.4, 44.7)	26.1 (9.8, 42.1)	24.1 (9.5, 37.4)	22.2 (7.7, 34.8)	18 (10, 25.8)	17.1 (9.3, 25.2)	19.2 (14.4, 23.7)
		Race														
		White	*N deaths*	11 (5, 15)	12 (4, 17)	53 (22, 72)	43 (19, 61)	231 (85, 341)	141 (57, 218)	665 (277, 953)	383 (131, 588)	1093 (466, 1646)	873 (345, 1314)	3285 (1805, 4714)	6503 (3795, 8912)	13279 (9946, 16127)
			% OSTK	48.7 (20.1, 66.5)	47.8 (16.7, 66.9)	47.4 (20.1, 65.2)	45.2 (19.8, 64.5)	40.9 (14.9, 60.2)	34.5 (14, 53.4)	34.8 (14.5, 49.9)	30.5 (10.4, 46.7)	27.9 (11.9, 42)	26 (10.3, 39.1)	18.8 (10.3, 27)	19 (11.1, 26)	20.9 (15.7, 25.4)
		Black	*N deaths*	10 (4, 13)	5 (2, 6)	39 (14, 55)	29 (11, 40)	127 (49, 182)	99 (33, 147)	304 (130, 436)	196 (84, 288)	353 (171, 490)	232 (115, 344)	345 (199, 486)	690 (411, 938)	2395 (1947, 2789)
			% OSTK	56 (23.8, 74.6)	52.3 (24.8, 69.9)	50.2 (18, 70)	51 (19.4, 71.4)	43.3 (16.5, 61.9)	42.3 (14.3, 62.7)	38.7 (16.6, 55.6)	34.3 (14.8, 50.4)	33.2 (16.1, 46.1)	26.8 (13.2, 39.7)	19.3 (11.2, 27.2)	19.8 (11.8, 27)	25.9 (21.1, 30.2)
		Hispanic	*N deaths*	3 (1, 4)	4 (1, 5)	14 (5, 21)	6 (2, 9)	38 (11, 56)	24 (8, 36)	70 (29, 107)	49 (18, 75)	98 (39, 145)	68 (27, 108)	185 (96, 303)	263 (142, 398)	824 (629, 1023)
			% OSTK	44.3 (17.2, 63.8)	45.4 (13.2, 65.6)	41.3 (13.3, 60.4)	42.1 (12.4, 62.1)	38.1 (11.2, 56.8)	37.3 (12.2, 56.2)	30.2 (12.3, 45.7)	30.6 (11.6, 47.3)	27.2 (10.8, 40.3)	23.8 (9.4, 37.5)	16.2 (8.4, 26.5)	14.8 (8, 22.4)	19.7 (15, 24.4)
		Other	*N deaths*	0 (0, 1)	1 (0, 1)	3 (1, 5)	2 (1, 3)	19 (6, 30)	11 (3, 16)	45 (15, 71)	18 (5, 32)	66 (24, 105)	48 (15, 83)	113 (52, 186)	126 (31, 256)	451 (316, 613)
			% OSTK	45 (14.2, 66.5)	36.4 (14.6, 57.1)	33.1 (11.3, 53.3)	36.4 (10.6, 55.9)	29.2 (9.5, 47.5)	31 (8.7, 48.4)	32.7 (10.8, 50.9)	21.2 (5.9, 38.5)	26.1 (9.7, 41.6)	23.7 (7.6, 40.7)	14.8 (6.9, 24.4)	10.8 (2.7, 22)	16.6 (11.6, 22.5)
		Total	*N deaths*	23 (8, 32)	21 (10, 29)	105 (36, 148)	77 (30, 110)	395 (171, 581)	259 (97, 381)	1050 (467, 1570)	614 (240, 942)	1562 (744, 2327)	1206 (518, 1812)	3869 (2124, 5632)	7470 (4140, 10212)	**16584 (12721, 20123)**
			% OSTK	48.7 (17.7, 68)	47.2 (22.5, 65.8)	45.2 (15.3, 63.9)	44.8 (17.5, 64.6)	38.6 (16.7, 56.8)	35 (13.1, 51.5)	34.2 (15.2, 51.2)	29.6 (11.6, 45.4)	27.9 (13.3, 41.6)	25.5 (11, 38.4)	18.3 (10, 26.6)	18.4 (10.2, 25.1)	**20.8 (16, 25.3)**
Vegetables	**Cardiometabolic disease**	**Overall by age**	*N deaths*	412 (299, 514)		1512 (1101, 1870)		4620 (3231, 5941)		8363 (6037, 10467)		9911 (7377, 12553)		28634 (22832, 34184)		**M: 27942 (23230, 32589) F: 25592 (20524, 30250)**
(<400 g/d)			*% CMD*	11.3 (8.2, 14.1)		12.1 (8.8, 14.9)		10.9 (7.6, 14)		9.7 (7, 12.2)		8.6 (6.4, 10.9)		6.5 (5.2, 7.7)		**M: 7.8 (6.5, 9.1) F: 7.4 (6, 8.8)**
		Education														
		<High-school	*N deaths*	61 (38, 82)	30 (17, 39)	200 (122, 273)	121 (77, 156)	755 (459, 1013)	337 (214, 450)	1191 (778, 1614)	523 (341, 691)	1580 (1001, 2080)	942 (634, 1246)	2806 (1988, 3635)	4936 (3554, 6166)	13486 (11661, 15265)
			% CMD	11.6 (7.3, 15.6)	12 (7, 15.7)	12.1 (7.4, 16.5)	14.8 (9.4, 19.2)	13.1 (8, 17.6)	12.8 (8.1, 17.1)	11.7 (7.6, 15.8)	10.2 (6.6, 13.5)	10.3 (6.5, 13.5)	9.4 (6.4, 12.5)	5.9 (4.2, 7.6)	7.1 (5.1, 8.9)	8 (6.9, 9)
		High-school	*N deaths*	186 (117, 240)	101 (58, 131)	734 (462, 977)	354 (222, 455)	2234 (1410, 3073)	1089 (681, 1431)	3826 (2420, 5252)	1823 (1148, 2381)	3603 (2283, 4944)	2473 (1638, 3272)	6307 (4375, 8204)	10236 (7596, 12784)	32735 (29024, 37081)
			% CMD	11.6 (7.3, 14.9)	12.4 (7.2, 16.2)	12.8 (8, 17)	13 (8.2, 16.8)	11.6 (7.3, 16)	12 (7.5, 15.8)	10.3 (6.5, 14.1)	9.9 (6.2, 12.9)	8.7 (5.5, 11.9)	8.7 (5.8, 11.6)	6.4 (4.4, 8.3)	6.7 (5, 8.4)	7.9 (7, 8.9)
		College	*N deaths*	24 (14, 32)	20 (13, 26)	90 (54, 123)	68 (40, 90)	271 (164, 406)	107 (60, 150)	782 (451, 1107)	285 (179, 390)	917 (578, 1261)	384 (251, 512)	2393 (1700, 3044)	1834 (1322, 2348)	7163 (6214, 8201)
			% CMD	9.2 (5.5, 12.1)	12.4 (8, 15.9)	9.5 (5.8, 13.1)	14.1 (8.3, 18.8)	8.2 (5, 12.4)	7.9 (4.4, 11)	8.6 (5, 12.2)	7.9 (5, 10.9)	7.6 (4.8, 10.4)	7.6 (4.9, 10.1)	6.2 (4.4, 7.9)	6.8 (4.9, 8.7)	7 (6.1, 8)
		Race														
		White	*N deaths*	145 (91, 191)	87 (55, 110)	590 (368, 816)	316 (203, 410)	2185 (1288, 3058)	856 (542, 1168)	4096 (2388, 5682)	1662 (1094, 2241)	4607 (3000, 6301)	2773 (1887, 3660)	10039 (7180, 12902)	14756 (11051, 18429)	42116 (36346, 47403)
			% CMD	10.8 (6.7, 14.2)	12.9 (8.1, 16.4)	11.9 (7.4, 16.5)	13.3 (8.5, 17.2)	11.3 (6.7, 15.8)	10.5 (6.7, 14.4)	9.9 (5.7, 13.7)	9.1 (6, 12.3)	8.5 (5.5, 11.6)	8.7 (5.9, 11.5)	6.3 (4.5, 8.1)	7 (5.2, 8.8)	7.6 (6.6, 8.6)
		Black	*N deaths*	72 (47, 92)	38 (25, 49)	246 (154, 318)	153 (98, 199)	746 (496, 973)	495 (320, 642)	1183 (777, 1597)	673 (460, 881)	998 (644, 1286)	641 (432, 840)	891 (648, 1124)	1599 (1163, 2036)	7707 (6865, 8577)
			% CMD	11.8 (7.7, 15.1)	10.6 (7.1, 13.7)	11.9 (7.4, 15.4)	13.2 (8.4, 17.2)	12.6 (8.4, 16.5)	13.5 (8.8, 17.6)	11.4 (7.5, 15.4)	10.4 (7.1, 13.6)	10.3 (6.6, 13.2)	8.5 (5.7, 11.1)	6.4 (4.7, 8.1)	7 (5.1, 8.9)	9.1 (8.1, 10.1)
		Hispanic	*N deaths*	38 (21, 50)	20 (11, 27)	124 (78, 165)	53 (29, 71)	295 (196, 399)	136 (79, 179)	382 (240, 507)	193 (123, 257)	367 (237, 484)	237 (160, 319)	528 (353, 716)	668 (470, 872)	3031 (2642, 3433)
			% CMD	11.5 (6.5, 15.3)	14.9 (7.9, 19.5)	12.4 (7.8, 16.5)	14.2 (7.9, 19.2)	11.8 (7.8, 15.9)	12.9 (7.5, 17)	9.1 (5.7, 12.1)	9.2 (5.9, 12.3)	8 (5.2, 10.6)	7.7 (5.2, 10.4)	5.4 (3.6, 7.4)	5.2 (3.7, 6.8)	7.2 (6.3, 8.2)
		Other	*N deaths*	14 (8, 20)	8 (4, 12)	41 (24, 60)	27 (14, 38)	115 (66, 161)	56 (33, 79)	217 (140, 313)	80 (50, 114)	222 (143, 299)	142 (87, 201)	305 (203, 420)	301 (157, 482)	1530 (1303, 1786)
			% CMD	10.9 (6, 14.8)	11.4 (5.7, 16.1)	9 (5.3, 13.2)	15.7 (8, 22)	9.3 (5.3, 13)	11.8 (6.8, 16.7)	10 (6.5, 14.5)	7.5 (4.6, 10.6)	8.8 (5.6, 11.8)	8.4 (5.2, 12)	5.3 (3.6, 7.4)	4.3 (2.2, 6.8)	6.7 (5.7, 7.9)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		Total	*N deaths*	262 (167, 350)	150 (91, 195)	986 (638, 1313)	529 (339, 687)	3200 (1913, 4313)	1441 (942, 1929)	5843 (3622, 7900)	2561 (1661, 3401)	6127 (3945, 8312)	3803 (2620, 4967)	11475 (8215, 14986)	17206 (12255, 21422)	**53410 (46290, 60398)**
			% CMD	10.9 (6.9, 14.5)	12.1 (7.4, 15.7)	11.6 (7.5, 15.5)	13 (8.3, 16.9)	11 (6.6, 14.9)	10.8 (7.1, 14.5)	10 (6.2, 13.5)	9.2 (6, 12.2)	8.6 (5.6, 11.7)	8.6 (5.9, 11.2)	6.1 (4.3, 7.9)	6.8 (4.8, 8.5)	**7.6 (6.6, 8.6)**
Nuts/seeds	**Coronary heart disease**	**Overall by age**	*N deaths*	269 (184, 353)		1646 (1193, 2069)		6017 (4210, 7679)		6241 (3892, 9431)		11913 (8639, 15541)		28381 (22163, 36020)		**M: 29258 (23562, 35709)** **F: 25386 (20011, 31503)**
(<20.2 g/d)			*% CHD*	26.2 (17.9, 34.4)		31.8 (23, 39.9)		27.5 (19.2, 35)		13.1 (8.2, 19.8)		19 (13.8, 24.7)		12.2 (9.5, 15.5)		**M: 14.2 (11.4, 17.3)** **F: 15.4 (12.1, 19.1)**
		Education														
		<High-school	*N deaths*	69 (47, 88)	24 (17, 31)	278 (189, 363)	102 (68, 136)	1098 (695, 1431)	373 (248, 502)	1480 (928, 2096)	586 (348, 857)	2186 (1456, 2900)	1107 (711, 1518)	3681 (2456, 4974)	5518 (3624, 7148)	16480 (13855, 18902)
			% CHD	40.9 (28, 52.2)	42.7 (29.3, 53.8)	37.9 (25.8, 49.4)	34.9 (23, 46.3)	34.4 (21.8, 44.8)	31.5 (21, 42.4)	24.7 (15.5, 35)	24.1 (14.3, 35.2)	24.6 (16.4, 32.6)	23.1 (14.8, 31.6)	13.5 (9, 18.2)	16 (10.5, 20.8)	18.4 (15.5, 21.1)
		High-school	*N deaths*	180 (117, 240)	63 (43, 82)	805 (529, 1073)	340 (213, 454)	3034 (1964, 4145)	722 (415, 1083)	4478 (2721, 6692)	1509 (846, 2192)	4703 (3008, 6397)	1674 (876, 2692)	5984 (4073, 8205)	8014 (5416, 10969)	31816 (26748, 36560)
			% CHD	35 (22.9, 46.7)	37.1 (25, 48.3)	30.6 (20.1, 40.7)	37.5 (23.6, 50.2)	27.8 (18, 37.9)	19.3 (11.1, 29)	20.3 (12.3, 30.3)	17.3 (9.7, 25.1)	19.1 (12.2, 26)	12.3 (6.5, 19.9)	10.3 (7, 14.2)	10.8 (7.3, 14.8)	14.5 (12.2, 16.6)
		College	*N deaths*	10 (2, 23)	10 (6, 14)	113 (67, 160)	28 (16, 43)	464 (287, 675)	91 (41, 162)	796 (350, 1473)	216 (114, 347)	804 (353, 1433)	382 (138, 659)	1981 (999, 3358)	826 (338, 1601)	5845 (4400, 7424)
			% CHD	12.9 (3.1, 30.8)	28.8 (16.8, 42.8)	27.1 (16, 38.2)	22.8 (13, 35.4)	24.9 (15.4, 36.2)	18.5 (8.3, 32.8)	14.6 (6.4, 27)	13.5 (7.1, 21.6)	11.4 (5, 20.4)	17.1 (6.2, 29.5)	9.1 (4.6, 15.4)	6.6 (2.7, 12.9)	10.9 (8.2, 13.9)
		Race														
		White	*N deaths*	109 (55, 169)	51 (31, 70)	724 (475, 1000)	281 (168, 394)	2921 (1924, 4007)	746 (421, 1153)	4304 (2445, 6683)	1384 (817, 2052)	5643 (3254, 8377)	3392 (2059, 4727)	9814 (6621, 13845)	10843 (7173, 14928)	40442 (34410, 47368)
			% CHD	23.4 (11.7, 36.2)	31.6 (19.2, 43.7)	28.6 (18.8, 39.6)	30.5 (18.2, 42.8)	24.5 (16.1, 33.6)	19.6 (11.1, 30.4)	16.5 (9.4, 25.6)	15.2 (9, 22.5)	17.1 (9.8, 25.3)	21.5 (13, 30)	10.5 (7.1, 14.8)	10.5 (7, 14.5)	13.5 (11.5, 15.8)
		Black	*N deaths*	66 (44, 87)	27 (17, 35)	284 (191, 366)	87 (53, 124)	765 (486, 1031)	340 (215, 466)	960 (547, 1442)	594 (388, 851)	1180 (777, 1562)	830 (556, 1096)	870 (534, 1280)	1050 (0, 2069)	7032 (5708, 8371)
			% CHD	38.1 (25.5, 49.8)	37.7 (24.5, 49.7)	37.8 (25.5, 48.7)	30.7 (18.8, 43.7)	29.7 (18.9, 40)	27.2 (17.2, 37.3)	18.7 (10.7, 28.2)	22 (14.4, 31.6)	24.4 (16.1, 32.3)	25.3 (16.9, 33.3)	12 (7.4, 17.7)	9.8 (0, 19.4)	18.1 (14.7, 21.5)
		Hispanic	*N deaths*	30 (0, 42)	7 (5, 10)	119 (73, 159)	34 (20, 46)	392 (254, 508)	119 (75, 162)	587 (354, 831)	256 (168, 333)	608 (389, 812)	317 (207, 423)	856 (582, 1111)	907 (628, 1265)	4233 (3674, 4827)
			% CHD	38.5 (0, 53.5)	37.2 (24.6, 47.8)	33.9 (20.9, 45.4)	36.9 (21.6, 50.1)	33 (21.4, 42.7)	34.2 (21.5, 46.3)	26.3 (15.8, 37.2)	29.3 (19.3, 38.2)	24.6 (15.7, 32.8)	24.4 (15.9, 32.6)	15.8 (10.8, 20.5)	14.3 (9.9, 19.9)	20.4 (17.7, 23.3)
		Other	*N deaths*	16 (10, 22)	4 (2, 5)	60 (35, 88)	17 (11, 22)	234 (0, 313)	36 (18, 56)	259 (125, 439)	103 (64, 145)	287 (149, 449)	131 (0, 231)	274 (36, 593)	462 (284, 720)	1881 (1448, 2392)
			% CHD	35.6 (21.7, 49.3)	35.2 (22.7, 49.1)	28.3 (16.5, 41.7)	36.9 (23.4, 48.2)	34.9 (0, 46.8)	23.4 (11.5, 36.5)	21.7 (10.5, 36.8)	24.8 (15.5, 34.8)	20.7 (10.8, 32.5)	18.9 (0, 33.2)	8.8 (1.2, 19.1)	13.9 (8.5, 21.6)	16.7 (12.9, 21.2)
		Total	*N deaths*	177 (93, 259)	91 (60, 118)	1191 (784, 1590)	461 (299, 611)	4648 (2859, 6179)	1381 (868, 1933)	4013 (1718, 6992)	2228 (1381, 3127)	7206 (4351, 10415)	4731 (2976, 6301)	11936 (8110, 16679)	16457 (11539, 22207)	**54591 (46447, 63554)**
			% CHD	23.2 (12.1, 33.9)	34.8 (22.7, 45.2)	31 (20.4, 41.4)	34.4 (22.3, 45.5)	28.4 (17.5, 37.8)	24.9 (15.6, 34.8)	11.6 (5, 20.2)	17 (10.5, 23.9)	17.3 (10.4, 24.9)	22.5 (14.1, 29.9)	10.9 (7.4, 15.3)	13.3 (9.3, 18)	**14.7 (12.5, 17.1)**
Nuts/seeds	**Diabetes**	**Overall by age**	*N deaths*	77 (46, 108)		253 (152, 355)		640 (371, 886)		676 (391, 1058)		1291 (783, 1887)		1774 (1157, 2415)		**M: 2339 (1706, 3002)** **F: 2380 (1702, 3083)**
(<20.2 g/d)			*% DM*	12.8 (7.7, 18.1)		14.7 (8.8, 20.6)		11.8 (6.9, 16.4)		5.8 (3.4, 9.1)		8.4 (5.1, 12.3)		5.3 (3.5, 7.3)		**M: 6.6 (4.8, 8.4)** **F: 7.4 (5.3, 9.5)**
		Education														
		<High-school	*N deaths*	16 (8, 23)	12 (6, 17)	43 (20, 65)	22 (10, 34)	114 (54, 169)	60 (27, 95)	147 (70, 236)	95 (42, 157)	240 (114, 353)	171 (71, 261)	246 (129, 377)	428 (206, 649)	1595 (1277, 1917)
			% DM	19.6 (9.4, 29)	20.8 (10, 30.7)	17.6 (8.5, 27)	16.2 (7.6, 25.4)	16.3 (7.7, 24.2)	14.3 (6.3, 22.6)	11.2 (5.3, 18)	10.5 (4.6, 17.4)	11.3 (5.4, 16.7)	10.1 (4.2, 15.5)	5.8 (3, 8.8)	6.9 (3.3, 10.5)	8.8 (7, 10.6)
		High-school	*N deaths*	38 (18, 58)	30 (15, 45)	102 (47, 156)	80 (37, 123)	285 (138, 453)	116 (52, 198)	413 (185, 666)	218 (95, 373)	429 (198, 672)	215 (88, 389)	348 (170, 538)	472 (240, 727)	2757 (2238, 3352)
			% DM	16.3 (7.5, 24.9)	17.4 (8.5, 26.1)	13.9 (6.4, 21.3)	17.9 (8.2, 27.4)	12.6 (6.1, 20)	8.4 (3.8, 14.3)	8.9 (4, 14.4)	7.3 (3.2, 12.5)	8.4 (3.9, 13.1)	5.3 (2.2, 9.6)	4.5 (2.2, 6.9)	4.6 (2.3, 7.1)	6.9 (5.6, 8.4)
		College	*N deaths*	2 (0, 4)	3 (1, 5)	10 (4, 18)	5 (2, 8)	36 (15, 61)	14 (5, 28)	61 (20, 126)	29 (13, 53)	64 (26, 129)	48 (14, 102)	95 (45, 172)	43 (15, 93)	427 (312, 558)
			% DM	5.1 (1, 13.6)	13.1 (5.8, 22.3)	11.8 (5.1, 20.1)	9.8 (4.3, 17.3)	10.9 (4.6, 18.1)	7.9 (2.7, 15.5)	6.1 (2, 12.5)	5.6 (2.4, 10.2)	4.8 (1.9, 9.7)	7 (2, 14.8)	3.8 (1.8, 6.9)	2.8 (1, 6)	5.2 (3.8, 6.7)
		Race														
		White	*N deaths*	19 (8, 35)	18 (9, 29)	76 (37, 122)	53 (23, 87)	221 (93, 353)	95 (36, 163)	334 (141, 591)	177 (78, 293)	449 (193, 755)	388 (179, 604)	512 (258, 783)	587 (289, 882)	2953 (2396, 3597)
			% DM	9.9 (4.2, 18.3)	14.5 (6.8, 22.6)	12.6 (6.1, 20.3)	14 (6.1, 22.9)	10.8 (4.5, 17.2)	8.2 (3.1, 14.2)	7.1 (3, 12.5)	6.6 (2.9, 10.8)	7.3 (3.1, 12.3)	9.4 (4.3, 14.6)	4.5 (2.3, 6.9)	4.5 (2.2, 6.8)	6.3 (5.1, 7.7)
		Black	*N deaths*	17 (7, 26)	15 (7, 22)	49 (24, 76)	25 (11, 42)	103 (45, 160)	66 (29, 105)	112 (51, 191)	108 (49, 174)	160 (81, 252)	156 (74, 243)	84 (40, 142)	118 (0, 278)	1025 (796, 1270)
			% DM	18 (7.6, 27.6)	18 (8.6, 26.8)	17.6 (8.7, 27.2)	13.9 (5.8, 23.2)	13.7 (6, 21.2)	11.7 (5.2, 18.7)	8.1 (3.7, 13.9)	9.9 (4.5, 16)	10.9 (5.5, 17.1)	11.2 (5.3, 17.5)	5.1 (2.4, 8.7)	4 (0, 9.4)	8.6 (6.7, 10.7)
		Hispanic	*N deaths*	9 (2, 14)	5 (3, 8)	22 (10, 34)	11 (5, 18)	61 (30, 91)	35 (16, 53)	88 (40, 136)	64 (32, 100)	90 (43, 138)	75 (35, 119)	87 (47, 124)	103 (52, 158)	654 (531, 768)
			% DM	17.9 (3.7, 29)	17.7 (8.7, 26.7)	15.8 (7.2, 24.3)	16.8 (7.2, 27.3)	15.3 (7.4, 22.8)	16.1 (7.5, 24.6)	12 (5.4, 18.7)	13 (6.6, 20.4)	10.9 (5.2, 16.8)	10.7 (5, 16.9)	7.1 (3.8, 10)	6.2 (3.1, 9.5)	10 (8.1, 11.7)
		Other	*N deaths*	2 (1, 3)	2 (1, 3)	8 (3, 13)	3 (1, 5)	28 (0, 45)	10 (4, 17)	33 (13, 59)	23 (10, 38)	32 (13, 57)	25 (3, 52)	22 (3, 49)	44 (23, 75)	235 (178, 299)
			% DM	16.1 (6.4, 27.1)	15.9 (6.8, 26.3)	12.6 (5.2, 21.8)	16.8 (8.2, 26.3)	15.5 (0, 25.2)	10.3 (4.4, 18.1)	9.8 (3.8, 17.6)	11.2 (4.7, 18.4)	9.2 (3.6, 16.2)	7.8 (0.8, 16.2)	3.6 (0.5, 8.2)	6 (3.1, 10.2)	8 (6.1, 10.2)
		Total	*N deaths*	35 (15, 61)	41 (21, 63)	151 (68, 233)	102 (49, 153)	428 (193, 647)	216 (106, 342)	352 (127, 691)	323 (146, 519)	654 (289, 1051)	630 (308, 984)	704 (347, 1069)	1068 (560, 1582)	**4732 (3763, 5715)**
			% DM	10.2 (4.3, 17.6)	16.1 (8.1, 25)	14 (6.3, 21.6)	15.9 (7.6, 23.8)	12.6 (5.7, 19.1)	10.7 (5.2, 16.9)	4.9 (1.8, 9.7)	7.2 (3.3, 11.5)	7.4 (3.3, 12)	9.6 (4.7, 15)	4.8 (2.3, 7.2)	5.8 (3, 8.6)	**7 (5.5, 8.4)**
Nuts/seeds	**Cardiometabolic disease**	**Overall by age**	*N deaths*	344 (256, 435)		1898 (1447, 2342)		6644 (4893, 8316)		6944 (4465, 10143)		13204 (9952, 17026)		30164 (23833, 37866)		**M: 31587 (26003, 38270)** **F: 27722 (22433, 33976)**
(<20.2 g/d)			*% CMD*	9.4 (7, 11.9)		15.1 (11.5, 18.7)		15.7 (11.6, 19.7)		8.1 (5.2, 11.8)		11.5 (8.6, 14.8)		6.8 (5.4, 8.6)		**M: 8.8 (7.3, 10.7)** **F: 8.1 (6.5, 9.9)**
		Education														
		<High-school	*N deaths*	85 (63, 105)	36 (27, 45)	321 (226, 410)	124 (86, 159)	1213 (801, 1572)	433 (300, 570)	1626 (1072, 2226)	681 (442, 951)	2411 (1676, 3163)	1281 (872, 1703)	3928 (2688, 5224)	5933 (4021, 7622)	18114 (15466, 20438)
			% CMD	16.2 (12.1, 20.1)	14.4 (10.6, 17.9)	19.5 (13.7, 24.8)	15.3 (10.5, 19.6)	21.1 (13.9, 27.3)	16.4 (11.4, 21.6)	15.9 (10.5, 21.8)	13.2 (8.6, 18.5)	15.7 (10.9, 20.6)	12.8 (8.7, 17.1)	8.2 (5.6, 10.9)	8.5 (5.8, 11)	10.7 (9.1, 12.1)
		High-school	*N deaths*	216 (152, 277)	93 (67, 118)	903 (613, 1182)	421 (286, 546)	3317 (2240, 4491)	839 (522, 1201)	4904 (3102, 7087)	1742 (1062, 2428)	5152 (3440, 6828)	1890 (1084, 2934)	6335 (4403, 8562)	8462 (5931, 11407)	34597 (29555, 39509)
			% CMD	13.5 (9.4, 17.3)	11.4 (8.3, 14.6)	15.7 (10.7, 20.6)	15.5 (10.5, 20.1)	17.3 (11.7, 23.4)	9.3 (5.8, 13.3)	13.2 (8.3, 19)	9.4 (5.8, 13.1)	12.4 (8.3, 16.5)	6.7 (3.8, 10.4)	6.4 (4.4, 8.6)	5.6 (3.9, 7.5)	8.3 (7.1, 9.5)
		College	*N deaths*	12 (4, 25)	12 (8, 17)	124 (77, 171)	33 (21, 48)	502 (323, 716)	106 (54, 177)	869 (407, 1540)	248 (142, 378)	869 (411, 1484)	429 (177, 712)	2086 (1095, 3445)	871 (385, 1636)	6276 (4788, 7899)
			% CMD	4.4 (1.4, 9.5)	7.5 (4.9, 10.6)	13.1 (8.2, 18.1)	6.8 (4.3, 10)	15.3 (9.9, 21.8)	7.8 (4, 13)	9.6 (4.5, 16.9)	6.9 (3.9, 10.5)	7.2 (3.4, 12.3)	8.5 (3.5, 14)	5.4 (2.8, 8.9)	3.2 (1.4, 6)	6.2 (4.7, 7.7)
		Race														
		White	*N deaths*	128 (71, 189)	70 (46, 91)	802 (548, 1083)	334 (216, 454)	3148 (2112, 4211)	840 (513, 1263)	4632 (2770, 6966)	1569 (972, 2257)	6146 (3698, 8798)	3780 (2477, 5094)	10286 (7140, 14299)	11439 (7751, 15461)	43430 (37341, 50212)
			% CMD	9.5 (5.3, 14.1)	10.4 (6.9, 13.5)	16.2 (11.1, 21.9)	14.1 (9.1, 19.1)	16.3 (10.9, 21.8)	10.3 (6.3, 15.5)	11.1 (6.7, 16.8)	8.6 (5.3, 12.4)	11.3 (6.8, 16.2)	11.8 (7.8, 15.9)	6.4 (4.5, 8.9)	5.4 (3.7, 7.3)	7.9 (6.8, 9.1)
		Black	*N deaths*	84 (58, 106)	42 (29, 53)	333 (236, 419)	112 (77, 151)	863 (577, 1140)	403 (274, 538)	1071 (665, 1563)	706 (478, 956)	1341 (925, 1742)	986 (696, 1272)	955 (624, 1373)	1176 (99, 2194)	8080 (6738, 9476)
			% CMD	13.7 (9.5, 17.4)	11.6 (8, 14.6)	16.1 (11.4, 20.3)	9.7 (6.7, 13)	14.6 (9.8, 19.3)	11 (7.5, 14.7)	10.3 (6.4, 15.1)	10.9 (7.4, 14.8)	13.8 (9.5, 17.9)	13 (9.2, 16.8)	6.9 (4.5, 9.9)	5.1 (0.4, 9.6)	9.6 (8, 11.2)
		Hispanic	*N deaths*	39 (12, 53)	13 (9, 16)	140 (95, 186)	45 (30, 58)	452 (309, 572)	154 (105, 197)	675 (431, 914)	319 (227, 406)	699 (475, 905)	392 (273, 504)	945 (663, 1206)	1008 (724, 1373)	4889 (4321, 5496)
			% CMD	12.1 (3.5, 16.1)	9.4 (6.7, 11.9)	14 (9.5, 18.6)	12.1 (8.1, 15.6)	18.1 (12.4, 22.9)	14.6 (10, 18.7)	16.1 (10.3, 21.8)	15.2 (10.8, 19.4)	15.3 (10.4, 19.8)	12.7 (8.9, 16.4)	9.7 (6.8, 12.4)	7.9 (5.7, 10.7)	11.7 (10.3, 13.1)
		Other	*N deaths*	17 (11, 23)	6 (4, 7)	68 (41, 95)	20 (13, 26)	261 (27, 344)	46 (27, 67)	293 (156, 480)	126 (84, 173)	320 (181, 485)	157 (38, 257)	296 (57, 620)	508 (329, 771)	2126 (1678, 2640)
			% CMD	13.1 (8.4, 17.7)	7.7 (5.3, 10.3)	14.9 (9.1, 21)	11.7 (7.8, 15)	21.1 (2.2, 27.8)	9.7 (5.7, 14.1)	13.6 (7.2, 22.2)	11.8 (7.8, 16.2)	12.6 (7.2, 19.2)	9.4 (2.3, 15.3)	5.2 (1, 10.9)	7.2 (4.7, 11)	9.4 (7.4, 11.6)
		Total	*N deaths*	212 (132, 297)	132 (95, 167)	1330 (924, 1772)	561 (388, 712)	5080 (3286, 6649)	1595 (1067, 2173)	4412 (2008, 7459)	2556 (1695, 3523)	7863 (5005, 11154)	5342 (3568, 7064)	12674 (8855, 17406)	17529 (12544, 23233)	**59374 (51211, 68422)**
			% CMD	8.8 (5.5, 12.3)	10.7 (7.7, 13.5)	15.7 (10.9, 20.9)	13.8 (9.5, 17.5)	17.5 (11.3, 22.9)	12 (8, 16.3)	7.6 (3.4, 12.8)	9.2 (6.1, 12.7)	11.1 (7.1, 15.7)	12.1 (8.1, 16)	6.7 (4.7, 9.2)	6.9 (5, 9.2)	**8.5 (7.3, 9.7)**

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
Whole grains (<125 g/d)	**Coronary heart disease**	**Overall by age**	*N deaths*	101 (41, 167)		507 (184, 792)		1797 (747, 2826)		3179 (1215, 5033)		3478 (1482, 5494)		7150 (3678, 10718)		**M: 9754 (6409, 13280) F: 6376 (3685, 9451)**
			% CHD	9.9 (4, 16.3)		9.8 (3.5, 15.3)		8.2 (3.4, 12.9)		6.7 (2.5, 10.5)		5.5 (2.4, 8.7)		3.1 (1.6, 4.6)		**M: 4.7 (3.1, 6.4) F: 3.9 (2.2, 5.7)**
		Education														
		<High-school	*N deaths*	18 (3, 31)	6 (1, 10)	80 (19, 135)	30 (5, 53)	276 (50, 491)	104 (22, 184)	450 (71, 789)	164 (28, 289)	538 (104, 967)	278 (61, 490)	902 (294, 1517)	1092 (342, 1794)	3953 (2834, 5106)
			% CHD	10.9 (1.8, 18.5)	10.8 (2.2, 18.4)	10.9 (2.5, 18.4)	10.1 (1.8, 18)	8.7 (1.6, 15.4)	8.8 (1.9, 15.5)	7.5 (1.2, 13.2)	6.7 (1.2, 11.9)	6.1 (1.2, 10.9)	5.8 (1.3, 10.2)	3.3 (1.1, 5.5)	3.2 (1, 5.2)	4.4 (3.2, 5.7)
		High-school	*N deaths*	54 (11, 95)	18 (4, 32)	269 (55, 466)	87 (23, 155)	913 (169, 1586)	329 (66, 571)	1469 (241, 2568)	592 (123, 1059)	1369 (327, 2354)	740 (129, 1341)	1762 (538, 2901)	2301 (663, 3912)	9889 (7095, 12503)
			% CHD	10.5 (2.2, 18.5)	10.8 (2.6, 18.9)	10.2 (2.1, 17.7)	9.6 (2.5, 17.1)	8.4 (1.5, 14.5)	8.8 (1.8, 15.3)	6.6 (1.1, 11.6)	6.8 (1.4, 12.1)	5.6 (1.3, 9.6)	5.5 (1, 9.9)	3 (0.9, 5)	3.1 (0.9, 5.3)	4.5 (3.2, 5.7)
		College	*N deaths*	7 (1, 12)	3 (1, 5)	37 (8, 66)	11 (2, 19)	137 (20, 238)	40 (7, 70)	357 (67, 612)	107 (15, 189)	378 (76, 701)	120 (22, 219)	694 (228, 1157)	353 (97, 594)	2240 (1580, 2946)
			% CHD	9.8 (1.9, 16.6)	9.5 (1.8, 16.5)	8.9 (1.8, 15.7)	9.1 (2, 15.5)	7.3 (1.1, 12.7)	8 (1.5, 14.2)	6.5 (1.2, 11.2)	6.7 (0.9, 11.8)	5.4 (1.1, 10)	5.4 (1, 9.8)	3.2 (1, 5.3)	2.8 (0.8, 4.8)	4.2 (2.9, 5.5)
		Race														
		White	*N deaths*	47 (7, 83)	16 (3, 28)	247 (51, 419)	87 (16, 151)	964 (179, 1693)	321 (59, 558)	1759 (360, 3017)	631 (144, 1091)	1840 (288, 3259)	881 (177, 1528)	2926 (912, 4933)	3220 (858, 5362)	12852 (9287, 16383)
			% CHD	10.1 (1.6, 17.9)	9.9 (2, 17.5)	9.8 (2, 16.6)	9.5 (1.8, 16.5)	8.1 (1.5, 14.2)	8.5 (1.6, 14.7)	6.7 (1.4, 11.6)	6.9 (1.6, 12)	5.6 (0.9, 9.9)	5.6 (1.1, 9.7)	3.1 (1, 5.3)	3.1 (0.8, 5.2)	4.3 (3.1, 5.5)
		Black	*N deaths*	18 (4, 31)	7 (2, 13)	77 (13, 130)	29 (7, 51)	209 (32, 361)	109 (23, 188)	361 (86, 645)	194 (37, 336)	276 (59, 500)	195 (48, 342)	245 (81, 402)	338 (115, 559)	2058 (1509, 2565)
			% CHD	10.4 (2.4, 18.1)	10.5 (2.2, 18.1)	10.3 (1.8, 17.3)	10.3 (2.6, 17.9)	8.1 (1.2, 14)	8.7 (1.8, 15.1)	7 (1.7, 12.6)	7.2 (1.4, 12.5)	5.7 (1.2, 10.3)	5.9 (1.4, 10.4)	3.4 (1.1, 5.6)	3.2 (1.1, 5.2)	5.3 (3.9, 6.6)
		Hispanic	*N deaths*	8 (2, 15)	2 (0, 4)	38 (10, 66)	9 (2, 16)	101 (18, 178)	31 (7, 52)	153 (30, 268)	61 (13, 105)	143 (25, 250)	75 (15, 134)	186 (56, 310)	209 (67, 348)	1006 (732, 1275)
			% CHD	10.4 (2.2, 18.5)	11.1 (2, 18.9)	10.8 (2.9, 18.8)	9.9 (2.3, 17.1)	8.5 (1.5, 15)	8.8 (1.9, 15)	6.8 (1.4, 12)	7 (1.5, 12.1)	5.8 (1, 10.1)	5.8 (1.1, 10.4)	3.4 (1, 5.7)	3.3 (1.1, 5.5)	4.9 (3.5, 6.2)
		Other	*N deaths*	4 (1, 8)	1 (0, 2)	19 (4, 34)	4 (1, 7)	52 (8, 92)	13 (2, 21)	77 (13, 135)	25 (6, 44)	78 (16, 143)	37 (8, 70)	102 (29, 170)	94 (26, 170)	506 (356, 647)
			% CHD	10.1 (2, 17.7)	9.8 (1.8, 17.3)	9 (1.7, 16)	8.9 (1.4, 15.1)	7.8 (1.2, 13.8)	8.2 (1.4, 14)	6.5 (1.1, 11.4)	5.9 (1.5, 10.7)	5.7 (1.1, 10.3)	5.3 (1.1, 10)	3.3 (0.9, 5.5)	2.8 (0.8, 5.1)	4.5 (3.2, 5.7)
		Total	*N deaths*	76 (11, 134)	27 (6, 45)	377 (90, 661)	128 (33, 221)	1330 (374, 2309)	460 (131, 805)	2332 (393, 4046)	874 (149, 1565)	2314 (543, 4007)	1179 (231, 2102)	3427 (1084, 5609)	3761 (1186, 6458)	**16169 (11749, 20833)**
			% CHD	9.9 (1.5, 17.6)	10.2 (2.2, 17.2)	9.8 (2.3, 17.2)	9.6 (2.4, 16.5)	8.1 (2.3, 14.1)	8.3 (2.4, 14.5)	6.7 (1.1, 11.7)	6.7 (1.1, 11.9)	5.5 (1.3, 9.6)	5.6 (1.1, 10)	3.1 (1, 5.1)	3 (1, 5.2)	**4.4 (3.2, 5.6)**
Whole grains (<125 g/d)	**Stroke, total**	**Overall by age**	*N deaths*	132 (88, 169)		407 (275, 519)		1151 (822, 1464)		1855 (1372, 2310)		2558 (1897, 3173)		7322 (5629, 8925)		**M: 5953 (4907, 6939) F:: 7503 (5868, 8965)**
			% TSTK	24.7 (16.5, 31.6)		23.5 (15.9, 30)		20.3 (14.5, 25.9)		16.8 (12.4, 20.9)		14.1 (10.4, 17.5)		8 (6.2, 9.8)		**M: 11.3 (9.4, 13.2) F: 9.9 (7.7, 11.8)**
		Education														
		<High-school	*N deaths*	16 (8, 23)	12 (6, 16)	57 (30, 81)	39 (20, 53)	161 (96, 216)	105 (61, 145)	244 (150, 322)	148 (98, 194)	338 (222, 447)	276 (190, 371)	698 (484, 897)	1254 (862, 1653)	3346 (2888, 3796)
			% TSTK	25.8 (12.3, 36.7)	26.2 (13.2, 36.6)	26 (13.8, 36.6)	24.6 (13, 33.7)	21.5 (12.9, 29)	21.4 (12.5, 29.7)	18.6 (11.4, 24.5)	17 (11.2, 22.3)	15.3 (10, 20.2)	14.2 (9.8, 19.2)	8.5 (5.9, 10.9)	8.1 (5.6, 10.7)	10.5 (9.1, 12)
		High-school	*N deaths*	51 (27, 71)	39 (21, 53)	150 (87, 204)	114 (65, 156)	400 (242, 534)	368 (199, 505)	648 (405, 870)	525 (311, 714)	744 (459, 984)	762 (479, 1028)	1279 (872, 1680)	2832 (1956, 3686)	7892 (6786, 8976)
			% TSTK	25.4 (13.6, 35.4)	25.5 (14.1, 34.8)	24.4 (14.1, 33.2)	24.1 (13.7, 33)	20.6 (12.5, 27.5)	21.3 (11.5, 29.3)	16.4 (10.2, 22)	17 (10.1, 23.2)	13.8 (8.5, 18.2)	14.1 (8.9, 19)	7.8 (5.3, 10.3)	8 (5.5, 10.3)	10.5 (9.1, 12)
		College	*N deaths*	8 (4, 11)	8 (5, 11)	24 (12, 36)	28 (15, 38)	62 (37, 85)	58 (33, 82)	150 (95, 202)	105 (63, 144)	236 (145, 318)	149 (94, 203)	564 (377, 728)	533 (363, 682)	1915 (1660, 2159)
			% TSTK	23.5 (12.9, 33.1)	22.8 (14.1, 30.5)	21.8 (10.6, 31.7)	21.8 (12.1, 30)	18.7 (11.1, 25.7)	19.8 (11.1, 28)	16 (10.2, 21.6)	16.4 (9.9, 22.5)	13.7 (8.4, 18.5)	13.7 (8.6, 18.6)	8.1 (5.5, 10.5)	7.6 (5.2, 9.7)	9.9 (8.6, 11.2)
		Race														
		White	*N deaths*	36 (20, 52)	31 (18, 43)	106 (61, 148)	92 (52, 129)	325 (196, 433)	293 (167, 402)	664 (428, 892)	481 (304, 655)	962 (643, 1274)	862 (559, 1144)	2136 (1485, 2782)	3916 (2720, 5175)	9924 (8443, 11389)
			% TSTK	24.2 (13.2, 34.5)	23.9 (14.3, 33.4)	23.3 (13.3, 32.4)	22.8 (13, 32)	20.1 (12.1, 26.7)	20.9 (11.9, 28.7)	16.7 (10.7, 22.4)	16.8 (10.6, 22.9)	13.9 (9.3, 18.4)	14.1 (9.1, 18.7)	8 (5.6, 10.5)	7.9 (5.5, 10.5)	9.9 (8.4, 11.4)
		Black	*N deaths*	17 (10, 24)	13 (7, 18)	64 (31, 87)	52 (28, 72)	180 (109, 246)	158 (89, 218)	270 (170, 355)	202 (129, 278)	231 (151, 310)	216 (141, 287)	225 (155, 290)	409 (286, 538)	2029 (1802, 2282)
			% TSTK	24.8 (14.2, 34.8)	24.9 (14.2, 35.1)	24.9 (12.3, 34.2)	24.6 (13.6, 34.3)	20.2 (12.3, 27.6)	20.8 (11.7, 28.8)	17.7 (11.2, 23.3)	17.3 (11.1, 23.7)	14.5 (9.5, 19.4)	15 (9.8, 19.9)	8.7 (6, 11.2)	8.1 (5.6, 10.6)	13 (11.5, 14.6)
		Hispanic	*N deaths*	15 (7, 22)	10 (6, 14)	49 (25, 69)	24 (12, 34)	84 (47, 117)	55 (29, 78)	100 (62, 136)	65 (39, 89)	92 (60, 123)	89 (55, 121)	154 (105, 200)	226 (160, 295)	962 (837, 1072)
			% TSTK	25.8 (12.7, 36.9)	26.5 (14.2, 36.6)	25.7 (13.2, 36.2)	24.5 (12.6, 34.6)	20.9 (11.7, 29.1)	21.2 (11.3, 30.2)	17.2 (10.6, 23.4)	17.2 (10.4, 23.6)	14.5 (9.4, 19.4)	14.6 (9, 19.8)	9 (6.1, 11.6)	8.3 (5.9, 10.8)	12.5 (10.9, 14)
		Other	*N deaths*	4 (2, 7)	5 (3, 7)	13 (7, 19)	13 (6, 18)	37 (22, 52)	28 (14, 39)	51 (31, 71)	37 (21, 52)	67 (41, 91)	54 (34, 77)	98 (66, 131)	132 (85, 184)	539 (464, 620)
			% TSTK	24.7 (10.2, 36.7)	23.8 (13.5, 33.4)	21.8 (11.3, 31.6)	21.5 (10.2, 30.7)	19.5 (11.3, 27.3)	19.8 (9.9, 27.9)	15.7 (9.5, 21.9)	14.8 (8.4, 20.5)	14.5 (8.8, 19.8)	13.7 (8.7, 19.3)	8.4 (5.6, 11.2)	7.3 (4.7, 10.2)	11 (9.5, 12.7)
		Total	*N deaths*	73 (36, 105)	59 (35, 80)	228 (122, 311)	179 (99, 256)	632 (371, 849)	533 (293, 730)	1066 (691, 1455)	786 (469, 1076)	1338 (902, 1812)	1206 (753, 1596)	2631 (1770, 3375)	4720 (3285, 6062)	**13449 (11539, 15160)**
			% TSTK	24.7 (12, 35.2)	24.7 (14.5, 33.8)	23.7 (12.7, 32.3)	23.3 (12.9, 33.4)	20.4 (12, 27.4)	20.9 (11.5, 28.6)	16.6 (10.8, 22.7)	16.9 (10.1, 23.1)	13.9 (9.4, 18.9)	14.1 (8.8, 18.6)	8.2 (5.5, 10.5)	8 (5.6, 10.3)	**10.5 (9, 11.8)**
Whole grains (<125 g/d)	**Ischemic Stroke**	**Overall by age**	*N deaths*	16 (9, 22)		41 (22, 57)		120 (66, 169)		201 (109, 291)		289 (151, 416)		957 (553, 1359)		**M: 706 (487, 941) F: 911 (551, 1287)**
			% ISTK	24.8 (13.7, 34)		23.5 (12.5, 32.7)		20.4 (11.2, 28.8)		16.7 (9.1, 24.3)		14 (7.3, 20.1)		8 (4.6, 11.3)		**M: 11 (7.6, 14.7) F: 9.4 (5.7, 13.3)**
		Education														
		<High-school	*N deaths*	1 (0, 2)	1 (1, 2)	5 (2, 8)	2 (1, 3)	15 (5, 23)	10 (4, 16)	30 (11, 45)	19 (6, 30)	42 (13, 67)	37 (13, 60)	95 (47, 144)	173 (73, 275)	427 (308, 549)
			% ISTK	26 (9.7, 39.5)	25.5 (10.2, 39.2)	25.8 (8.8, 40.2)	24.9 (7.8, 38.4)	21.5 (7.3, 33.4)	21.3 (7.8, 32.4)	19.2 (7, 28.6)	17 (5.3, 27.1)	15.4 (4.8, 24.6)	14.5 (5, 23.7)	8.6 (4.3, 13)	8.1 (3.4, 12.9)	10.2 (7.4, 13.1)
		High-school	*N deaths*	6 (2, 9)	4 (2, 7)	16 (6, 24)	11 (4, 17)	49 (18, 72)	32 (12, 51)	75 (26, 114)	48 (16, 74)	81 (28, 127)	85 (28, 134)	157 (62, 250)	383 (152, 589)	943 (677, 1187)
			% ISTK	25.5 (9.2, 38)	25.1 (10, 39.3)	24.6 (9.7, 37.3)	23.9 (8.8, 35.9)	21.1 (8, 31.4)	20.9 (7.8, 32.6)	16.7 (5.9, 25.5)	16.9 (5.6, 26.4)	13.8 (4.8, 21.5)	14.2 (4.7, 22.3)	7.7 (3, 12.2)	8 (3.2, 12.4)	10.2 (7.3, 12.8)
		College	*N deaths*	1 (0, 1)	3 (1, 4)	2 (1, 3)	4 (2, 7)	7 (3, 12)	5 (2, 8)	18 (6, 29)	10 (3, 16)	27 (10, 43)	13 (5, 20)	73 (29, 112)	70 (28, 114)	231 (171, 293)
			% ISTK	23.5 (9.3, 36.7)	23.2 (8.5, 36.3)	21.7 (8, 34.4)	21.8 (7.9, 33.7)	18.6 (7.2, 30.6)	19.5 (7.3, 30.3)	15.9 (5, 25.9)	16.7 (5.5, 26.2)	13.9 (5, 22.1)	13.9 (5.1, 21.4)	8.3 (3.3, 12.7)	7.4 (3, 12)	9.7 (7.1, 12.2)
		Race														
		White	*N deaths*	4 (2, 7)	4 (2, 7)	13 (5, 20)	11 (4, 17)	39 (14, 61)	33 (13, 50)	84 (30, 133)	49 (16, 78)	113 (35, 180)	96 (36, 153)	275 (111, 423)	515 (214, 805)	1237 (893, 1564)
			% ISTK	24.6 (9.4, 38.6)	24.3 (9.8, 36.3)	23.3 (8.5, 36.3)	23 (7.4, 36.3)	20.4 (7.2, 31.5)	20.9 (8, 31.9)	16.6 (5.8, 26.3)	17.2 (5.7, 27.1)	13.8 (4.3, 22)	14.1 (5.2, 22.4)	8.1 (3.3, 12.4)	7.8 (3.2, 12.2)	9.7 (7, 12.2)
		Black	*N deaths*	2 (1, 3)	2 (1, 3)	4 (1, 6)	4 (2, 7)	22 (7, 34)	12 (5, 19)	28 (11, 45)	20 (8, 31)	27 (10, 44)	26 (9, 41)	33 (14, 50)	64 (25, 96)	242 (189, 291)
			% ISTK	24.4 (9.7, 37.6)	25 (8.5, 38.4)	25 (8.3, 38.1)	24.8 (9.7, 38.4)	20 (6.3, 31.1)	21.1 (8, 32.7)	17.7 (6.7, 28.1)	17.9 (6.7, 27.3)	15 (5.5, 24.4)	14.7 (4.9, 23.6)	8.7 (3.7, 13.3)	8.2 (3.2, 12.3)	12.1 (9.5, 14.5)
		Hispanic	*N deaths*	2 (1, 2)	1 (0, 1)	4 (2, 7)	2 (1, 3)	7 (3, 11)	3 (1, 5)	10 (3, 15)	6 (2, 9)	11 (3, 18)	11 (4, 19)	18 (8, 28)	33 (14, 51)	106 (83, 132)
			% ISTK	25.9 (9, 39.1)	26.4 (9.3, 40.6)	25.8 (10, 39.2)	24.8 (8.1, 37.3)	21 (7.8, 32.5)	21.4 (8.7, 33.1)	17.1 (5.7, 27.1)	17.5 (5.8, 27.4)	14.3 (4.3, 23.2)	14.8 (5.2, 24)	8.8 (3.9, 13.5)	8.4 (3.7, 13.2)	11.6 (9, 14.4)
		Other	*N deaths*	0 (0, 0)	1 (0, 1)	1 (1, 2)	2 (1, 2)	3 (1, 5)	1 (0, 2)	4 (1, 6)	3 (1, 5)	4 (2, 7)	4 (2, 7)	8 (3, 12)	13 (5, 22)	44 (34, 55)
			% ISTK	0 (0, 0)	24 (8.1, 36.8)	22.8 (8.5, 35.3)	21.6 (7.5, 33.5)	19.5 (7.6, 30.2)	20 (7, 31)	15.8 (5.3, 25.2)	14.9 (5.1, 24.2)	14.7 (5.3, 23.7)	13.8 (4.8, 22.2)	8.4 (3.6, 13.1)	7.2 (2.8, 12.3)	10.6 (8.2, 13.3)
		Total	*N deaths*	8 (3, 12)	8 (3, 12)	23 (8, 35)	19 (7, 29)	71 (26, 112)	50 (16, 78)	124 (49, 202)	77 (24, 122)	155 (54, 251)	136 (41, 215)	325 (139, 503)	630 (267, 974)	**1618 (1205, 2072)**
			% ISTK	24.5 (9.2, 38)	24.8 (8.8, 37.2)	24.3 (8.4, 36.5)	23.5 (8.4, 36.2)	20.2 (7.3, 31.6)	21.3 (6.6, 32.9)	16.7 (6.5, 27.2)	16.8 (5.3, 26.8)	14.1 (4.9, 22.8)	14 (4.3, 22.2)	7.9 (3.4, 12.3)	7.9 (3.4, 12.3)	**10 (7.5, 12.8)**
Whole grains (<125 g/d)	**Hemorrhagic Stroke**	**Overall by age**	*N deaths*	94 (51, 130)		270 (144, 374)		672 (367, 940)		798 (449, 1122)		810 (427, 1142)		1390 (815, 1946)		**M: 1933 (1416, 2467) F: 2089 (1530, 2681)**
			% HSTK	24.8 (13.5, 34.3)		23.4 (12.5, 32.5)		20.4 (11.1, 28.5)		16.9 (9.5, 23.7)		14 (7.4, 19.7)		8.1 (4.7, 11.3)		**M: 13 (9.5, 16.6) F: 11.8 (8.7, 15.2)**

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		Education														
		<High-school	*N deaths*	12 (4, 18)	9 (3, 14)	42 (15, 63)	26 (10, 40)	89 (33, 140)	59 (19, 94)	94 (27, 143)	59 (21, 92)	84 (33, 135)	77 (26, 121)	125 (56, 193)	198 (91, 308)	866 (689, 1040)
			% HSTK	25.7 (8.2, 39.1)	26.4 (9.4, 40)	26.4 (9.1, 39.6)	25.1 (9.2, 38.4)	21.4 (7.9, 33.8)	21.7 (7.2, 34.9)	19 (5.4, 28.9)	17.1 (6, 26.7)	15.2 (5.9, 24.6)	14.6 (4.8, 23)	8.5 (3.8, 13.1)	8 (3.7, 12.5)	12.6 (10, 15.1)
		High-school	*N deaths*	38 (14, 58)	27 (9, 41)	95 (33, 145)	77 (31, 118)	221 (81, 336)	232 (85, 360)	268 (101, 421)	245 (85, 385)	229 (86, 364)	264 (81, 423)	283 (113, 438)	522 (220, 811)	2483 (1953, 2971)
			% HSTK	25.7 (9.8, 39.3)	25.7 (8.8, 38.9)	24.7 (8.5, 37.8)	24.1 (9.6, 36.7)	20.6 (7.5, 31.3)	21.4 (7.8, 33.2)	16.5 (6.3, 25.9)	17.3 (6, 27.2)	13.8 (5.1, 21.9)	14.2 (4.3, 22.7)	7.9 (3.1, 12.1)	8.1 (3.4, 12.6)	12.6 (9.9, 15.1)
		College	*N deaths*	5 (2, 8)	4 (1, 6)	19 (7, 29)	19 (7, 28)	37 (13, 58)	40 (15, 63)	64 (22, 101)	55 (19, 89)	88 (35, 139)	60 (22, 97)	132 (55, 205)	102 (43, 156)	618 (499, 746)
			% HSTK	23.4 (9.4, 36.3)	22.9 (7.4, 35.4)	22 (7.9, 34.6)	22 (7.8, 33.3)	18.8 (6.7, 29.6)	20 (7.6, 31.5)	15.8 (5.4, 25)	16.3 (5.7, 26.2)	13.8 (5.4, 21.8)	13.5 (4.8, 21.8)	8.1 (3.4, 12.6)	7.5 (3.2, 11.6)	11.4 (9.2, 13.8)
		Race														
		White	*N deaths*	27 (11, 41)	20 (8, 31)	67 (25, 106)	59 (21, 95)	173 (60, 268)	178 (66, 270)	258 (90, 406)	222 (84, 352)	305 (125, 488)	295 (114, 462)	458 (217, 695)	692 (306, 1057)	2737 (2137, 3315)
			% HSTK	24.3 (9.7, 37.8)	24 (9.3, 36.9)	23.1 (8.6, 36.9)	22.9 (8, 36.5)	20.1 (6.9, 31.1)	21.3 (7.9, 32.4)	16.4 (5.7, 25.9)	16.8 (6.4, 26.7)	14 (5.8, 22.4)	14.1 (5.5, 22.2)	8 (3.8, 12.2)	8.1 (3.6, 12.3)	11.5 (8.9, 13.9)
		Black	*N deaths*	11 (4, 18)	8 (3, 13)	40 (10, 63)	33 (12, 52)	99 (39, 153)	98 (34, 152)	102 (40, 159)	85 (32, 133)	51 (15, 82)	60 (20, 96)	38 (16, 56)	65 (27, 103)	688 (554, 818)
			% HSTK	24.9 (8.8, 39.1)	25.1 (9.4, 39.8)	25 (6.1, 39.1)	24.7 (9, 38.5)	20.3 (7.9, 31.4)	21 (7.4, 32.7)	17.7 (7, 27.4)	17.6 (6.6, 27.5)	14.4 (4.2, 23)	15.1 (5, 24.1)	8.8 (3.8, 13.2)	7.9 (3.3, 12.6)	15.7 (12.6, 18.7)
		Hispanic	*N deaths*	12 (4, 19)	7 (3, 11)	36 (13, 55)	18 (7, 29)	56 (20, 89)	38 (14, 60)	50 (17, 79)	32 (12, 50)	29 (11, 46)	36 (13, 59)	33 (14, 51)	46 (19, 72)	391 (314, 461)
			% HSTK	25.8 (9.1, 40.2)	26.6 (10.3, 39.8)	25.8 (9.1, 39.5)	24.7 (8.9, 38.1)	21 (7.4, 33.5)	21.5 (7.7, 33.6)	17.2 (5.8, 26.9)	17.4 (6.3, 27.2)	14.6 (5.5, 23)	14.8 (5.4, 23.8)	8.9 (3.7, 13.9)	8.3 (3.5, 13.1)	15.2 (12.2, 17.9)
		Other	*N deaths*	4 (2, 6)	4 (2, 6)	10 (4, 16)	10 (4, 16)	22 (8, 34)	20 (6, 30)	26 (9, 41)	22 (7, 35)	25 (9, 41)	22 (7, 36)	26 (11, 41)	33 (15, 55)	224 (181, 267)
			% HSTK	24.8 (9.1, 37.6)	23.9 (10.4, 36.8)	21.7 (7.9, 34.6)	21.7 (8, 33.2)	19.7 (7.2, 30.8)	19.8 (6.5, 30.1)	16.1 (5.5, 25.4)	14.8 (5, 23.8)	14.2 (5.2, 23.1)	13.6 (4.2, 22.1)	8.4 (3.6, 13.2)	7.3 (3.3, 12.1)	12.8 (10.3, 15.2)
		Total	*N deaths*	54 (18, 82)	40 (17, 62)	149 (52, 227)	122 (46, 187)	352 (116, 527)	329 (116, 507)	436 (176, 686)	361 (130, 570)	404 (158, 644)	403 (124, 643)	545 (237, 853)	836 (367, 1270)	**4024 (3172, 4810)**
			% HSTK	24.6 (8.4, 37.8)	24.8 (10.4, 38.3)	23.5 (8.2, 35.8)	23.6 (8.9, 36.1)	20.4 (6.7, 30.5)	20.9 (7.4, 32.1)	16.8 (6.8, 26.4)	16.9 (6.1, 26.7)	13.9 (5.4, 22.2)	13.9 (4.3, 22.3)	8 (3.5, 12.5)	8 (3.5, 12.2)	**12.3 (9.7, 14.8)**
Whole grains	**Other Stroke**	**Overall by age**	*N deaths*	23 (14, 30)		94 (58, 129)		362 (225, 490)		865 (533, 1175)		1446 (904, 2005)		5002 (3548, 6415)		**M: 3319 (2394, 4105) F: 4491 (3029, 5775)**
(<125 g/d)			*% OSTK*	24.8 (15.9, 33)		23.4 (14.4, 32)		20.5 (12.8, 27.8)		16.8 (10.4, 22.9)		14 (8.8, 19.4)		8.1 (5.7, 10.4)		**M: 10.7 (7.7, 13.2) F: 9.3 (6.3, 11.9)**
		Education														
		<High-school	*N deaths*	3 (1, 4)	2 (1, 2)	11 (5, 16)	11 (4, 16)	57 (26, 83)	36 (16, 53)	122 (58, 179)	71 (38, 103)	214 (110, 307)	166 (81, 241)	476 (290, 656)	880 (512, 1234)	2047 (1622, 2460)
			% OSTK	26 (10.7, 37.3)	26 (11.9, 38)	25.7 (11.2, 38.9)	23.9 (10, 36.3)	21.6 (10.1, 31.6)	21.4 (9.3, 31.3)	18.5 (8.8, 27)	17 (9.1, 24.7)	15.4 (8, 22.1)	14.4 (7, 20.9)	8.4 (5.1, 11.6)	8.1 (4.7, 11.4)	9.9 (7.8, 11.9)
		High-school	*N deaths*	8 (4, 11)	8 (3, 11)	40 (18, 59)	26 (11, 37)	133 (67, 194)	104 (42, 155)	313 (137, 459)	236 (105, 346)	428 (202, 630)	422 (201, 610)	850 (486, 1188)	1929 (1153, 2699)	4459 (3580, 5375)
			% OSTK	25.3 (11.3, 36.9)	25.7 (11.6, 37.6)	24.5 (10.8, 36)	24.4 (10.8, 35.7)	20.8 (10.5, 30.3)	21.3 (8.5, 31.9)	16.6 (7.3, 24.3)	17.1 (7.6, 25.1)	13.6 (6.4, 20)	14.4 (6.8, 20.8)	7.9 (4.5, 11.1)	7.9 (4.7, 11)	9.7 (7.8, 11.7)
		College	*N deaths*	1 (1, 2)	2 (1, 2)	4 (2, 6)	5 (2, 7)	19 (8, 27)	13 (6, 20)	69 (35, 99)	40 (19, 58)	121 (55, 180)	76 (34, 115)	360 (198, 500)	359 (210, 499)	1067 (833, 1267)
			% OSTK	23.8 (10.9, 34.5)	23 (12.5, 32.5)	21.9 (8.2, 33.8)	22.2 (10.9, 31.7)	19.2 (8.5, 27.7)	19.7 (8.9, 29.7)	16.4 (8.3, 23.8)	16.6 (8.1, 24.3)	13.6 (6.1, 20.3)	13.9 (6.2, 20.9)	8.2 (4.5, 11.3)	7.6 (4.4, 10.5)	9.3 (7.3, 11.1)
		Race														
		White	*N deaths*	6 (3, 8)	6 (3, 9)	26 (12, 38)	22 (11, 32)	113 (51, 167)	85 (37, 127)	319 (166, 471)	211 (100, 318)	549 (274, 793)	470 (248, 700)	1419 (821, 1965)	2729 (1632, 3850)	5970 (4635, 7230)
			% OSTK	24.6 (11.6, 36.7)	24.6 (11.5, 36.7)	23.4 (11, 34.3)	23.3 (11.7, 34.1)	19.9 (9, 29.5)	20.7 (9.2, 31.1)	16.7 (8.7, 24.7)	16.7 (7.9, 25.2)	14 (7, 20.3)	14 (7.4, 20.8)	8.1 (4.7, 11.2)	8 (4.8, 11.2)	9.4 (7.3, 11.4)
		Black	*N deaths*	4 (2, 6)	2 (1, 3)	19 (8, 29)	14 (6, 21)	59 (26, 88)	49 (22, 73)	139 (65, 204)	99 (44, 146)	154 (85, 228)	131 (66, 190)	155 (93, 214)	281 (173, 390)	1104 (922, 1299)
			% OSTK	25.1 (10.8, 36.2)	25.1 (11.2, 36.2)	24.9 (10.1, 36.6)	24.8 (10.2, 36.8)	20 (8.9, 29.8)	20.8 (9.4, 31.1)	17.8 (8.3, 26)	17.4 (7.7, 25.6)	14.5 (8, 21.4)	15.1 (7.6, 22)	8.7 (5.2, 12)	8.1 (5, 11.2)	12 (10, 14.1)
		Hispanic	*N deaths*	2 (1, 2)	2 (1, 3)	9 (4, 13)	4 (2, 5)	21 (9, 32)	14 (6, 21)	41 (18, 61)	28 (11, 42)	52 (24, 76)	43 (19, 62)	105 (60, 143)	149 (87, 209)	464 (378, 544)
			% OSTK	25.2 (9.5, 37.7)	26.6 (11.5, 39.5)	25.7 (10.8, 37.2)	24.6 (11.1, 35.9)	21.5 (9.5, 31.9)	21.5 (8.8, 32.8)	17.4 (7.9, 26.2)	17.6 (6.8, 26.5)	14.4 (6.8, 21.1)	14.9 (6.6, 21.7)	9.1 (5.3, 12.5)	8.4 (4.9, 11.8)	11.1 (9, 13)
		Other	*N deaths*	0 (0, 0)	0 (0, 1)	2 (1, 3)	1 (0, 2)	13 (5, 19)	7 (3, 10)	22 (10, 34)	12 (6, 20)	38 (16, 57)	28 (12, 43)	64 (36, 93)	84 (43, 132)	270 (213, 334)
			% OSTK	24.8 (9.7, 37.9)	24.1 (10.9, 34.8)	22.6 (9.7, 33.4)	21.3 (9.9, 32.9)	19.7 (8.4, 30)	20.1 (8, 30.3)	15.8 (7.3, 24.3)	14.8 (6.7, 23.7)	14.9 (6.1, 22.3)	13.6 (6.1, 21.3)	8.4 (4.7, 12.2)	7.2 (3.7, 11.3)	9.9 (7.8, 12.3)
		Total	*N deaths*	12 (5, 17)	11 (5, 16)	55 (26, 82)	41 (17, 60)	210 (99, 309)	153 (67, 229)	516 (248, 762)	352 (137, 524)	789 (406, 1163)	666 (320, 1003)	1743 (1042, 2392)	3282 (1966, 4495)	**7774 (6211, 9233)**
			% OSTK	24.9 (10.6, 36.5)	24.9 (12.5, 35.4)	23.8 (11.2, 35.3)	23.8 (9.9, 35)	20.5 (9.7, 30.2)	20.7 (9, 30.8)	16.8 (8.1, 24.9)	17 (6.6, 25.3)	14.1 (7.3, 20.8)	14.1 (6.8, 21.2)	8.2 (4.9, 11.3)	8.1 (4.8, 11)	**9.8 (7.8, 11.6)**
Whole grains	**Diabetes**	**Overall by age**	*N deaths*	201 (143, 245)		555 (404, 690)		1512 (1059, 1892)		2678 (1904, 3420)		2986 (2128, 3799)		3732 (2726, 4685)		**M: 6430 (5301, 7568) F: 5203 (4189, 6240)**
(<125 g/d)			*% DM*	33.6 (23.9, 41)		32.2 (23.4, 40)		27.9 (19.6, 35)		23 (16.3, 29.3)		19.5 (13.9, 24.8)		11.2 (8.2, 14.1)		**M: 18.1 (14.9, 21.3) F: 16.1 (12.9, 19.3)**
		Education														
		<High-school	*N deaths*	28 (18, 37)	20 (12, 26)	84 (49, 113)	46 (27, 61)	204 (128, 274)	123 (70, 165)	335 (190, 456)	212 (129, 286)	452 (261, 612)	342 (195, 467)	513 (318, 681)	698 (445, 983)	3044 (2629, 3478)
			% DM	34.6 (21.8, 46.2)	34.2 (21.3, 46)	34.8 (20.4, 46.5)	33.8 (20.2, 45.2)	29.2 (18.3, 39.3)	29.1 (16.6, 39.3)	25.6 (14.5, 34.8)	23.5 (14.3, 31.8)	21.4 (12.4, 29)	20.3 (11.6, 27.7)	12 (7.5, 16)	11.2 (7.2, 15.8)	16.8 (14.5, 19.2)
		High-school	*N deaths*	79 (47, 105)	59 (34, 79)	241 (154, 319)	147 (87, 196)	636 (374, 840)	399 (248, 534)	1046 (605, 1439)	693 (406, 929)	982 (543, 1362)	792 (480, 1081)	864 (554, 1162)	1167 (758, 1539)	7073 (6118, 7958)
			% DM	34.2 (20.3, 45.2)	34.5 (19.8, 46)	33 (21.1, 43.5)	32.7 (19.4, 43.7)	28.1 (16.5, 37.1)	28.8 (17.9, 38.5)	22.6 (13, 31)	23.3 (13.6, 31.2)	19.2 (10.6, 26.6)	19.6 (11.9, 26.8)	11.1 (7.1, 14.9)	11.3 (7.4, 14.9)	17.6 (15.3, 19.9)
		College	*N deaths*	10 (6, 13)	7 (4, 9)	26 (16, 35)	14 (9, 19)	85 (49, 117)	49 (29, 66)	224 (128, 305)	118 (68, 162)	251 (153, 357)	130 (76, 183)	288 (183, 389)	162 (99, 222)	1363 (1163, 1558)
			% DM	32 (19.6, 43.1)	31.4 (19.1, 41.7)	29.9 (18.1, 40.6)	29.7 (18.5, 39.7)	25.5 (14.7, 34.9)	27 (16.1, 36.5)	22.3 (12.7, 30.4)	22.6 (13, 31.1)	18.8 (11.5, 26.8)	18.8 (11.1, 26.5)	11.6 (7.4, 15.7)	10.5 (6.4, 14.4)	16.5 (14.1, 18.8)
		Race														
		White	*N deaths*	63 (40, 83)	42 (25, 56)	190 (114, 263)	119 (71, 161)	563 (347, 782)	323 (192, 436)	1085 (660, 1499)	626 (364, 848)	1191 (654, 1611)	797 (474, 1097)	1292 (808, 1712)	1431 (925, 1981)	7701 (6614, 8720)
			% DM	33.1 (21, 43.9)	33.2 (19.5, 44.1)	31.6 (19, 43.7)	31.6 (18.7, 42.5)	27.4 (16.9, 38)	28.1 (16.6, 37.8)	23 (14, 31.7)	23.2 (13.5, 31.4)	19.4 (10.7, 26.3)	19.3 (11.5, 26.5)	11.4 (7.1, 15.1)	11 (7.1, 15.2)	16.5 (14.2, 18.7)
		Black	*N deaths*	33 (19, 43)	28 (17, 37)	94 (58, 124)	61 (37, 82)	208 (125, 279)	161 (94, 218)	331 (194, 458)	264 (158, 356)	299 (178, 411)	287 (166, 393)	197 (126, 270)	337 (210, 460)	2288 (1994, 2580)
			% DM	34.5 (19.8, 44.6)	34.2 (20.4, 45.6)	33.8 (20.6, 44.5)	33.6 (20.1, 44.9)	27.6 (16.6, 37)	28.6 (16.8, 38.9)	24.1 (14.1, 33.3)	24.2 (14.5, 32.6)	20.3 (12.1, 27.9)	20.6 (11.9, 28.3)	12.1 (7.7, 16.5)	11.5 (7.1, 15.6)	19.3 (16.8, 21.8)
		Hispanic	*N deaths*	17 (11, 23)	11 (7, 14)	48 (29, 64)	21 (13, 29)	115 (68, 156)	63 (41, 85)	172 (100, 237)	115 (71, 157)	166 (95, 226)	144 (79, 199)	154 (101, 210)	194 (121, 268)	1217 (1053, 1369)
			% DM	34.4 (22, 45.4)	35.5 (21, 46.3)	34.3 (20.9, 45.4)	32.7 (19.4, 44.2)	28.7 (17, 39)	29.3 (19, 39.4)	23.6 (13.8, 32.5)	23.5 (14.4, 31.9)	20.2 (11.5, 27.4)	20.5 (11.2, 28.4)	12.5 (8.2, 17)	11.6 (7.3, 16.1)	18.6 (16.1, 20.9)
		Other	*N deaths*	3 (2, 4)	4 (3, 6)	19 (11, 25)	5 (3, 7)	48 (28, 66)	25 (15, 35)	75 (43, 103)	43 (25, 62)	71 (41, 98)	62 (38, 87)	71 (43, 98)	76 (42, 113)	501 (425, 571)
			% DM	33.3 (20.2, 44.6)	32.7 (19.8, 43.3)	31 (18.4, 41.7)	29.1 (17.6, 39.9)	26.9 (15.7, 36.8)	27 (16.2, 36.8)	22.4 (13, 30.8)	20.6 (11.8, 29.6)	20.1 (11.7, 28)	19.3 (12, 27)	11.8 (7.1, 16.3)	10.3 (5.7, 15.2)	17.1 (14.5, 19.5)
		Total	*N deaths*	116 (73, 153)	85 (51, 112)	350 (210, 467)	205 (123, 275)	943 (567, 1261)	573 (348, 771)	1655 (994, 2250)	1039 (594, 1428)	1722 (1045, 2343)	1274 (748, 1742)	1703 (1068, 2328)	2043 (1283, 2745)	**11639 (10102, 13143)**
			% DM	33.6 (21, 44.3)	33.5 (20.1, 44.3)	32.4 (19.4, 43.2)	32 (19.2, 42.7)	27.8 (16.7, 37.2)	28.3 (17.2, 38.1)	23.1 (13.9, 31.4)	23.1 (13.2, 31.8)	19.6 (11.9, 26.7)	19.4 (11.4, 26.6)	11.5 (7.2, 15.7)	11.1 (7, 14.9)	**17.1 (14.9, 19.4)**
Whole grains	**Cardiometabolic disease**	**Overall by age**	*N deaths*	431 (340, 520)		1463 (1093, 1800)		4466 (3308, 5667)		7718 (5472, 9722)		9018 (6724, 11178)		18182 (14348, 22248)		**M: 22224 (18359, 26070) F: 19126 (15887, 22493)**
(<125 g/d)			*% CMD*	11.8 (9.3, 14.2)		11.7 (8.7, 14.3)		10.6 (7.8, 13.4)		9 (6.4, 11.3)		7.8 (5.8, 9.7)		4.1 (3.2, 5)		**M: 6.2 (5.1, 7.3) F: 5.6 (4.6, 6.5)**
		Education														
		<High-school	*N deaths*	62 (42, 78)	37 (26, 47)	220 (149, 288)	113 (80, 145)	638 (387, 873)	329 (232, 427)	1026 (624, 1402)	522 (354, 677)	1332 (856, 1750)	900 (636, 1143)	2108 (1442, 2775)	3025 (2181, 3941)	10347 (9059, 11638)
			% CMD	11.8 (7.9, 15)	14.9 (10.5, 18.8)	13.3 (9, 17.5)	13.9 (9.9, 17.9)	11.1 (6.7, 15.2)	12.5 (8.8, 16.2)	10.1 (6.1, 13.7)	10.2 (6.9, 13.2)	8.7 (5.6, 11.4)	9 (6.4, 11.5)	4.4 (3, 5.8)	4.4 (3.1, 5.7)	6.1 (5.3, 6.9)
		High-school	*N deaths*	183 (125, 236)	115 (85, 143)	658 (430, 881)	347 (252, 437)	1944 (1129, 2698)	1091 (768, 1394)	3147 (1890, 4385)	1796 (1228, 2378)	3037 (1972, 4213)	2304 (1555, 3011)	3882 (2587, 5129)	6271 (4461, 8288)	24822 (21659, 28028)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
			% CMD	11.4 (7.8, 14.7)	14.2 (10.5, 17.6)	11.5 (7.5, 15.3)	12.8 (9.3, 16.1)	10.1 (5.9, 14)	12 (8.5, 15.4)	8.5 (5.1, 11.8)	9.7 (6.7, 12.9)	7.3 (4.8, 10.2)	8.1 (5.5, 10.6)	3.9 (2.6, 5.2)	4.1 (2.9, 5.5)	6 (5.2, 6.7)
		College	*N deaths*	25 (17, 32)	18 (14, 22)	87 (57, 121)	52 (37, 68)	287 (159, 389)	147 (100, 190)	729 (434, 1002)	331 (227, 437)	863 (543, 1203)	399 (277, 526)	1552 (1049, 2055)	1039 (753, 1345)	5509 (4808, 6293)
			% CMD	9.4 (6.6, 12.3)	11 (8.3, 13.5)	9.2 (6.1, 12.9)	10.9 (7.7, 14.1)	8.7 (4.9, 11.9)	10.8 (7.4, 14)	8 (4.8, 11)	9.2 (6.3, 12.1)	7.1 (4.5, 9.9)	7.9 (5.5, 10.4)	4 (2.7, 5.3)	3.8 (2.8, 5)	5.4 (4.7, 6.2)
		Race														
		White	*N deaths*	146 (99, 192)	88 (65, 112)	542 (330, 729)	299 (209, 380)	1861 (1018, 2631)	940 (625, 1213)	3480 (2013, 4858)	1740 (1149, 2252)	3973 (2315, 5554)	2531 (1698, 3361)	6351 (4243, 8518)	8534 (5966, 11212)	30432 (26453, 34689)
			% CMD	10.9 (7.4, 14.3)	13.1 (9.7, 16.6)	10.9 (6.7, 14.7)	12.6 (8.8, 16)	9.6 (5.3, 13.6)	11.6 (7.7, 14.9)	8.4 (4.8, 11.7)	9.6 (6.3, 12.4)	7.3 (4.3, 10.3)	7.9 (5.3, 10.5)	4 (2.7, 5.3)	4.1 (2.8, 5.3)	5.5 (4.8, 6.3)
		Black	*N deaths*	68 (48, 87)	48 (35, 59)	235 (160, 300)	140 (101, 177)	594 (396, 770)	424 (300, 544)	961 (630, 1289)	658 (457, 835)	812 (552, 1056)	690 (508, 896)	665 (471, 851)	1089 (790, 1357)	6371 (5719, 7007)
			% CMD	11.1 (7.9, 14.2)	13.2 (9.6, 16.4)	11.4 (7.7, 14.5)	12.1 (8.7, 15.3)	10.1 (6.7, 13)	11.6 (8.2, 14.9)	9.3 (6.1, 12.4)	10.2 (7.1, 12.9)	8.3 (5.7, 10.8)	9.1 (6.7, 11.8)	4.8 (3.4, 6.1)	4.8 (3.5, 5.9)	7.5 (6.8, 8.3)
		Hispanic	*N deaths*	40 (29, 52)	23 (17, 29)	134 (94, 174)	54 (37, 68)	299 (204, 394)	149 (105, 189)	420 (277, 561)	240 (173, 306)	398 (264, 518)	308 (218, 399)	494 (356, 631)	625 (454, 812)	3188 (2849, 3501)
			% CMD	12.3 (9, 15.9)	17.1 (12.2, 21.2)	13.4 (9.4, 17.5)	14.6 (9.9, 18.2)	11.9 (8.2, 15.7)	14.1 (9.9, 17.9)	10 (6.6, 13.4)	11.4 (8.2, 14.6)	8.7 (5.8, 11.4)	10 (7.1, 13)	5.1 (3.7, 6.5)	4.9 (3.5, 6.3)	7.6 (6.8, 8.4)
		Other	*N deaths*	12 (8, 16)	10 (7, 13)	51 (32, 69)	22 (14, 29)	137 (89, 187)	65 (45, 83)	201 (128, 272)	105 (74, 136)	217 (142, 286)	154 (111, 200)	270 (187, 351)	305 (212, 401)	1546 (1367, 1728)
			% CMD	9.1 (6, 12.5)	13.6 (9.7, 17.3)	11.3 (7.1, 15.2)	12.8 (8.3, 16.8)	11 (7.2, 15.1)	13.6 (9.4, 17.4)	9.3 (5.9, 12.6)	9.8 (6.9, 12.7)	8.6 (5.6, 11.3)	9.2 (6.6, 11.9)	4.7 (3.3, 6.2)	4.3 (3, 5.7)	6.8 (6, 7.6)
		Total	*N deaths*	264 (183, 340)	169 (122, 209)	950 (604, 1262)	512 (371, 646)	2891 (1807, 3951)	1557 (1112, 2017)	5051 (2965, 6867)	2691 (1843, 3545)	5343 (3422, 7287)	3641 (2544, 4728)	7710 (5176, 10011)	10586 (7646, 13711)	**41311 (36141, 46360)**
			% CMD	10.9 (7.6, 14.1)	13.6 (9.8, 16.8)	11.2 (7.1, 14.9)	12.6 (9.1, 15.9)	10 (6.2, 13.6)	11.7 (8.3, 15.1)	8.7 (5.1, 11.8)	9.7 (6.6, 12.7)	7.5 (4.8, 10.3)	8.2 (5.7, 10.7)	4.1 (2.7, 5.3)	4.2 (3, 5.4)	**5.9 (5.1, 6.6)**
Red meats	**Diabetes**	**Overall by age**	*N deaths*	54 (20, 87)		158 (58, 257)		443 (163, 685)		645 (241, 1040)		766 (311, 1238)		826 (392, 1251)		**M: 1893 (1194, 2538) F: 985 (600, 1381)**
(>14.3 g/d)			*% DM*	9.1 (3.4, 14.5)		9.2 (3.3, 14.9)		8.2 (3, 12.7)		5.5 (2.1, 8.9)		5 (2, 8.1)		2.5 (1.2, 3.8)		**M: 5.3 (3.4, 7.1) F: 3 (1.9, 4.3)**
		Education														
		<High-school	*N deaths*	7 (1, 14)	4 (1, 8)	37 (6, 62)	13 (1, 25)	80 (14, 150)	27 (5, 52)	101 (23, 184)	46 (9, 86)	129 (32, 262)	61 (11, 120)	113 (30, 201)	124 (35, 249)	752 (543, 971)
			% DM	9.1 (1.8, 17.5)	6.3 (1.4, 13.5)	15.3 (2.6, 25.8)	9.4 (1.1, 18.4)	11.4 (2, 21.4)	6.5 (1.1, 12.4)	7.7 (1.7, 14)	5.1 (1, 9.5)	6.1 (1.5, 12.4)	3.6 (0.7, 7.1)	2.7 (0.7, 4.7)	2 (0.6, 4)	4.1 (3, 5.4)
		High-school	*N deaths*	27 (4, 48)	13 (2, 24)	82 (22, 142)	31 (7, 57)	214 (30, 392)	93 (12, 175)	366 (69, 651)	120 (19, 224)	291 (49, 564)	153 (30, 289)	274 (87, 486)	229 (74, 421)	1900 (1395, 2436)
			% DM	11.7 (1.8, 20.8)	7.6 (1.1, 14.1)	11.2 (3, 19.5)	6.9 (1.6, 12.8)	9.4 (1.3, 17.3)	6.7 (0.9, 12.6)	7.9 (1.5, 14)	4 (0.7, 7.5)	5.7 (1, 11)	3.8 (0.7, 7.1)	3.5 (1.1, 6.2)	2.2 (0.7, 4.1)	4.7 (3.5, 6.1)
		College	*N deaths*	3 (0, 6)	1 (0, 2)	7 (2, 13)	2 (0, 4)	23 (3, 45)	9 (2, 17)	46 (7, 87)	14 (3, 30)	76 (15, 141)	28 (3, 57)	57 (14, 111)	24 (7, 56)	296 (200, 401)
			% DM	10.2 (1.5, 20)	4.6 (0.9, 10.2)	8.6 (1.9, 15.4)	3.9 (0.7, 7.8)	6.8 (1, 13.6)	4.9 (1.1, 9.6)	4.6 (0.7, 8.7)	2.7 (0.6, 5.7)	5.7 (1.1, 10.6)	4 (0.5, 8.2)	2.3 (0.6, 4.5)	1.6 (0.4, 3.7)	3.6 (2.4, 4.8)
		Race														
		White	*N deaths*	20 (3, 37)	9 (2, 16)	63 (15, 111)	22 (5, 41)	198 (34, 349)	70 (16, 130)	295 (64, 533)	92 (17, 181)	367 (58, 688)	163 (34, 301)	332 (98, 590)	274 (72, 492)	1911 (1360, 2499)
			% DM	10.5 (1.6, 19.6)	6.8 (1.3, 12.9)	10.4 (2.5, 18.5)	5.7 (1.3, 11)	9.7 (1.7, 17)	6.1 (1.4, 11.3)	6.2 (1.3, 11.3)	3.4 (0.6, 6.7)	6 (0.9, 11.2)	3.9 (0.8, 7.3)	2.9 (0.9, 5.2)	2.1 (0.6, 3.8)	4.1 (2.9, 5.4)
		Black	*N deaths*	9 (2, 18)	7 (1, 12)	32 (7, 58)	14 (2, 27)	40 (7, 73)	30 (6, 58)	84 (14, 156)	54 (11, 101)	63 (8, 122)	48 (8, 97)	38 (13, 77)	77 (20, 154)	502 (365, 663)
			% DM	9.6 (2.2, 19)	8 (1.5, 15.3)	11.5 (2.6, 20.9)	7.7 (1.1, 14.9)	5.3 (1, 9.6)	5.3 (1.1, 10.3)	6.1 (1, 11.4)	4.9 (1, 9.3)	4.3 (0.6, 8.3)	3.5 (0.6, 7)	2.4 (0.8, 4.7)	2.6 (0.7, 5.2)	4.2 (3.1, 5.6)
		Hispanic	*N deaths*	6 (1, 10)	2 (0, 3)	18 (5, 32)	5 (1, 9)	41 (9, 71)	13 (3, 27)	68 (16, 125)	26 (3, 51)	40 (8, 82)	24 (4, 54)	35 (10, 69)	36 (10, 78)	321 (230, 419)
			% DM	11.4 (1.8, 20.4)	5.9 (0.7, 11.3)	12.8 (3.4, 23.1)	7.5 (1.6, 13.6)	10.2 (2.3, 17.8)	6.2 (1.4, 12.5)	9.4 (2.2, 17.1)	5.3 (0.7, 10.4)	4.9 (0.9, 10)	3.5 (0.6, 7.8)	2.8 (0.8, 5.6)	2.2 (0.6, 4.7)	4.9 (3.5, 6.4)
		Other	*N deaths*	1 (0, 2)	1 (0, 1)	6 (1, 12)	1 (0, 2)	21 (3, 42)	4 (1, 10)	25 (5, 51)	8 (1, 18)	17 (3, 40)	8 (1, 18)	22 (6, 45)	15 (4, 31)	134 (92, 179)
			% DM	11.9 (1.7, 23.4)	4.2 (0.9, 8.8)	10.1 (1.8, 20.6)	4.8 (0.9, 9.5)	11.7 (1.9, 23.5)	4.7 (1, 10.6)	7.6 (1.4, 15.3)	4 (0.6, 8.5)	4.9 (0.7, 11.4)	2.5 (0.4, 5.5)	3.6 (1, 7.5)	2.1 (0.5, 4.2)	4.6 (3.1, 6.1)
		Total	*N deaths*	37 (8, 67)	16 (3, 30)	122 (23, 211)	39 (7, 71)	314 (64, 553)	122 (29, 225)	479 (102, 858)	167 (25, 304)	512 (94, 922)	253 (51, 456)	432 (124, 731)	386 (122, 689)	**2869 (2091, 3694)**
			% DM	10.7 (2.3, 19.5)	6.5 (1.2, 12.1)	11.3 (2.2, 19.5)	6 (1.2, 11.1)	9.3 (1.9, 16.3)	6 (1.5, 11.1)	6.7 (1.4, 12)	3.7 (0.6, 6.8)	5.8 (1.1, 10.5)	3.9 (0.8, 7)	2.9 (0.8, 4.9)	2.1 (0.7, 3.7)	**4.2 (3.1, 5.4)**
Red meats	**Cardiometabolic disease**	**Overall by age**	*N deaths*	54 (20, 87)		158 (58, 257)		443 (163, 685)		645 (241, 1040)		766 (311, 1238)		826 (392, 1251)		**M: 1893 (1194, 2538) F: 985 (600, 1381)**
(>14.3 g/d)			*% CMD*	1.5 (0.5, 2.4)		1.3 (0.5, 2)		1 (0.4, 1.6)		0.7 (0.3, 1.2)		0.7 (0.3, 1.1)		0.2 (0.1, 0.3)		**M: 0.5 (0.3, 0.7) F: 0.3 (0.2, 0.4)**
		Education														
		<High-school	*N deaths*	7 (1, 14)	4 (1, 8)	37 (6, 62)	13 (1, 25)	80 (14, 150)	27 (5, 52)	101 (23, 184)	46 (9, 86)	129 (32, 262)	61 (11, 120)	113 (30, 201)	124 (35, 249)	752 (543, 971)
			% CMD	1.4 (0.3, 2.7)	1.4 (0.3, 3.1)	2.2 (0.4, 3.8)	1.6 (0.2, 3.1)	1.4 (0.2, 2.6)	1 (0.2, 2)	1 (0.2, 1.8)	0.9 (0.2, 1.7)	0.8 (0.2, 1.7)	0.6 (0.1, 1.2)	0.2 (0.1, 0.4)	0.2 (0, 0.4)	0.4 (0.3, 0.6)
		High-school	*N deaths*	27 (4, 48)	13 (2, 24)	82 (22, 142)	31 (7, 57)	214 (30, 392)	93 (12, 175)	366 (69, 651)	120 (19, 224)	291 (49, 564)	153 (30, 289)	274 (87, 486)	229 (74, 421)	1900 (1395, 2436)
			% CMD	1.7 (0.3, 3)	1.6 (0.2, 3)	1.4 (0.4, 2.5)	1.1 (0.3, 2.1)	1.1 (0.2, 2)	1 (0.1, 1.9)	1 (0.2, 1.8)	0.6 (0.1, 1.2)	0.7 (0.1, 1.4)	0.5 (0.1, 1)	0.3 (0.1, 0.5)	0.2 (0, 0.3)	0.5 (0.3, 0.6)
		College	*N deaths*	3 (0, 6)	1 (0, 2)	7 (2, 13)	2 (0, 4)	23 (3, 45)	9 (2, 17)	46 (7, 87)	14 (3, 30)	76 (15, 141)	28 (3, 57)	57 (14, 111)	24 (7, 56)	296 (200, 401)
			% CMD	1.2 (0.2, 2.4)	0.6 (0.1, 1.3)	0.8 (0.2, 1.4)	0.4 (0.1, 0.8)	0.7 (0.1, 1.4)	0.6 (0.1, 1.3)	0.5 (0.1, 1)	0.4 (0.1, 0.8)	0.6 (0.1, 1.2)	0.5 (0.1, 1.1)	0.1 (0, 0.3)	0.1 (0, 0.2)	0.3 (0.2, 0.4)
		Race														
		White	*N deaths*	20 (3, 37)	9 (2, 16)	63 (15, 111)	22 (5, 41)	198 (34, 349)	70 (16, 130)	295 (64, 533)	92 (17, 181)	367 (58, 688)	163 (34, 301)	332 (98, 590)	274 (72, 492)	1911 (1360, 2499)
			% CMD	1.5 (0.2, 2.8)	1.3 (0.2, 2.4)	1.3 (0.3, 2.2)	0.9 (0.2, 1.7)	1 (0.2, 1.8)	0.9 (0.2, 1.6)	0.7 (0.2, 1.3)	0.5 (0.1, 1)	0.7 (0.1, 1.3)	0.5 (0.1, 0.9)	0.2 (0.1, 0.4)	0.1 (0, 0.2)	0.3 (0.2, 0.5)
		Black	*N deaths*	9 (2, 18)	7 (1, 12)	32 (7, 58)	14 (2, 27)	40 (7, 73)	30 (6, 58)	84 (14, 156)	54 (11, 101)	63 (8, 122)	48 (8, 97)	38 (13, 77)	77 (20, 154)	502 (365, 663)
			% CMD	1.5 (0.3, 3)	1.8 (0.3, 3.4)	1.5 (0.3, 2.8)	1.2 (0.2, 2.3)	0.7 (0.1, 1.2)	0.8 (0.2, 1.6)	0.8 (0.1, 1.5)	0.8 (0.2, 1.6)	0.6 (0.1, 1.3)	0.6 (0.1, 1.3)	0.3 (0.1, 0.6)	0.3 (0.1, 0.7)	0.6 (0.4, 0.8)
		Hispanic	*N deaths*	6 (1, 10)	2 (0, 3)	18 (5, 32)	5 (1, 9)	41 (9, 71)	13 (3, 27)	68 (16, 125)	26 (3, 51)	40 (8, 82)	24 (4, 54)	35 (10, 69)	36 (10, 78)	321 (230, 419)
			% CMD	1.8 (0.3, 3.1)	1.3 (0.2, 2.6)	1.8 (0.5, 3.2)	1.3 (0.3, 2.4)	1.6 (0.4, 2.9)	1.3 (0.3, 2.6)	1.6 (0.4, 3)	1.2 (0.2, 2.4)	0.9 (0.2, 1.8)	0.8 (0.1, 1.8)	0.4 (0.1, 0.7)	0.3 (0.1, 0.6)	0.8 (0.5, 1)
		Other	*N deaths*	1 (0, 2)	1 (0, 1)	6 (1, 12)	1 (0, 2)	21 (3, 42)	4 (1, 10)	25 (5, 51)	8 (1, 18)	17 (3, 40)	8 (1, 18)	22 (6, 45)	15 (4, 31)	134 (92, 179)
			% CMD	0.9 (0.1, 1.8)	0.7 (0.2, 1.6)	1.3 (0.2, 2.7)	0.5 (0.1, 1)	1.7 (0.3, 3.4)	0.9 (0.2, 2.1)	1.2 (0.2, 2.4)	0.8 (0.1, 1.6)	0.7 (0.1, 1.6)	0.5 (0.1, 1.1)	0.4 (0.1, 0.8)	0.2 (0.1, 0.4)	0.6 (0.4, 0.8)
		Total	*N deaths*	37 (8, 67)	16 (3, 30)	122 (23, 211)	39 (7, 71)	314 (64, 553)	122 (29, 225)	479 (102, 858)	167 (25, 304)	512 (94, 922)	253 (51, 456)	432 (124, 731)	386 (122, 689)	**2869 (2091, 3694)**
			% CMD	1.5 (0.3, 2.8)	1.3 (0.2, 2.4)	1.4 (0.3, 2.5)	0.9 (0.2, 1.7)	1.1 (0.2, 1.9)	0.9 (0.2, 1.7)	0.8 (0.2, 1.5)	0.6 (0.1, 1.1)	0.7 (0.1, 1.3)	0.6 (0.1, 1)	0.2 (0.1, 0.4)	0.2 (0, 0.3)	**0.4 (0.3, 0.5)**
Processed meats	**Coronary heart disease**	**Overall by age**	*N deaths*	293 (141, 437)		1474 (732, 2092)		5447 (2514, 8045)		9224 (4397, 13693)		11126 (5692, 16226)		18146 (11067, 25770)		**M: 31109 (21636, 40741) F: 14667 (8935, 19943)**
(>0 g/d)			*% CHD*	28.6 (13.7, 42.6)		28.5 (14.1, 40.4)		24.9 (11.5, 36.7)		19.3 (9.2, 28.7)		17.7 (9.1, 25.8)		7.8 (4.8, 11.1)		**M: 15.1 (10.5, 19.7) F: 8.9 (5.4, 12.1)**
		Education														
		<High-school	*N deaths*	53 (17, 89)	13 (4, 21)	165 (60, 290)	63 (22, 105)	859 (274, 1401)	170 (63, 287)	1279 (442, 2082)	414 (125, 736)	1779 (653, 2883)	606 (203, 1064)	3199 (1362, 5426)	2545 (991, 4233)	11267 (8446, 14434)
			% CHD	31.3 (10.2, 52.4)	22.1 (6.9, 37.2)	22.5 (8.2, 39.5)	21.6 (7.7, 35.7)	26.9 (8.6, 43.9)	14.4 (5.4, 24.2)	21.4 (7.4, 34.7)	17 (5.1, 30.2)	20 (7.3, 32.4)	12.6 (4.2, 22.1)	11.7 (5, 19.8)	7.4 (2.9, 12.3)	12.6 (9.4, 16.1)
		High-school	*N deaths*	167 (68, 260)	40 (13, 63)	896 (285, 1418)	229 (84, 366)	3089 (1107, 4836)	885 (275, 1430)	5028 (2063, 7965)	1346 (483, 2187)	5323 (1919, 8743)	1961 (686, 3234)	4701 (2006, 7540)	4959 (2163, 7904)	28619 (21893, 35438)
			% CHD	32.5 (13.3, 50.7)	23.4 (7.7, 36.9)	34 (10.8, 53.8)	25.3 (9.3, 40.5)	28.3 (10.1, 44.3)	23.6 (7.4, 38.2)	22.8 (9.3, 36.1)	15.4 (5.5, 25)	21.7 (7.8, 35.6)	14.5 (5.1, 23.9)	8.1 (3.5, 13)	6.7 (2.9, 10.7)	13 (10, 16.1)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		College	*N deaths*	21 (8, 34)	7 (2, 11)	128 (41, 204)	21 (7, 37)	439 (180, 701)	82 (25, 143)	956 (384, 1657)	174 (62, 300)	1079 (410, 1806)	290 (89, 509)	2025 (881, 3396)	578 (240, 1088)	5894 (4221, 7599)
			% CHD	28 (10.1, 45.5)	20.3 (6.6, 33.2)	30.7 (9.9, 48.7)	17.5 (6, 30.5)	23.6 (9.6, 37.6)	16.6 (5.2, 28.9)	17.5 (7, 30.4)	10.8 (3.8, 18.7)	15.3 (5.8, 25.7)	13 (4, 22.8)	9.3 (4, 15.6)	4.7 (1.9, 8.8)	11 (7.9, 14.2)
		Race														
		White	*N deaths*	153 (57, 233)	38 (14, 61)	847 (310, 1256)	203 (74, 319)	3296 (1160, 5036)	794 (267, 1331)	5450 (2270, 8714)	1362 (427, 2280)	6480 (2458, 10527)	2227 (873, 3699)	9001 (4091, 14390)	6930 (3004, 10891)	36879 (28298, 46226)
			% CHD	32.8 (12.2, 49.9)	23.8 (8.8, 37.8)	33.5 (12.3, 49.7)	22.1 (8, 34.6)	27.6 (9.7, 42.2)	20.9 (7, 35.1)	20.9 (8.7, 33.4)	14.9 (4.7, 25)	19.6 (7.4, 31.9)	14.1 (5.5, 23.4)	9.6 (4.4, 15.4)	6.7 (2.9, 10.6)	12.3 (9.4, 15.4)
		Black	*N deaths*	54 (21, 93)	19 (7, 31)	227 (84, 356)	74 (22, 120)	781 (318, 1196)	241 (95, 405)	1282 (503, 2049)	468 (167, 759)	1267 (450, 2311)	473 (175, 787)	681 (295, 1041)	1034 (444, 1694)	6570 (5137, 8267)
			% CHD	31 (12.1, 53.5)	27 (9.9, 43)	30.2 (11.2, 47.3)	26.2 (7.8, 42.6)	30.3 (12.3, 46.4)	19.3 (7.6, 32.4)	25 (9.8, 40)	17.4 (6.2, 28.2)	26.2 (9.3, 47.8)	14.4 (5.3, 23.9)	9.4 (4.1, 14.4)	9.7 (4.2, 15.9)	16.9 (13.2, 21.2)
		Hispanic	*N deaths*	23 (9, 37)	4 (1, 6)	92 (29, 150)	17 (6, 28)	280 (94, 476)	57 (19, 93)	371 (167, 601)	75 (24, 131)	405 (154, 707)	93 (30, 158)	433 (165, 767)	249 (113, 441)	2130 (1589, 2692)
			% CHD	28.8 (11.1, 47.1)	18.4 (6.7, 31.1)	26.4 (8.4, 43)	18.6 (6.4, 30.6)	23.5 (7.9, 40.1)	16.3 (5.4, 26.8)	16.6 (7.5, 26.9)	8.7 (2.7, 15)	16.3 (6.2, 28.6)	7.2 (2.3, 12.1)	8 (3, 14.2)	3.9 (1.8, 6.9)	10.3 (7.7, 13)
		Other	*N deaths*	13 (5, 20)	2 (1, 4)	55 (20, 94)	8 (2, 14)	104 (32, 201)	15 (4, 28)	155 (57, 286)	30 (7, 59)	255 (73, 489)	80 (12, 184)	197 (23, 496)	117 (11, 299)	1067 (713, 1740)
			% CHD	29 (10.8, 46.3)	23.2 (7.8, 39.3)	26.2 (9.3, 44.5)	16.9 (5.1, 31.4)	15.6 (4.7, 30.1)	9.8 (2.9, 18.4)	13 (4.8, 24)	7.3 (1.8, 14.1)	18.4 (5.3, 35.4)	11.5 (1.7, 26.4)	6.3 (0.7, 16)	3.5 (0.3, 9)	9.5 (6.3, 15.5)
		Total	*N deaths*	234 (93, 372)	58 (25, 94)	1190 (468, 1786)	289 (97, 460)	4332 (1501, 6767)	1108 (409, 1798)	7361 (2690, 11785)	1837 (538, 3067)	8235 (3049, 13182)	2873 (887, 4626)	9982 (4099, 15723)	8360 (3508, 13292)	**45637 (35048, 56391)**
			% CHD	30.7 (12.2, 48.8)	22.3 (9.5, 35.9)	31 (12.2, 46.5)	21.6 (7.2, 34.3)	26.5 (9.2, 41.3)	20 (7.4, 32.4)	21.3 (7.8, 34.1)	14 (4.1, 23.4)	19.7 (7.3, 31.6)	13.6 (4.2, 22)	9.1 (3.8, 14.4)	6.8 (2.8, 10.8)	**12.3 (9.4, 15.2)**
Processed meats (>0 g/d)	**Diabetes**	**Overall by age**	*N deaths*	207 (143, 263)		591 (394, 762)		1635 (1081, 2170)		2747 (1757, 3618)		3419 (2306, 4574)		3334 (2393, 4345)		**M: 7533 (6020, 9189) F: 4358 (3369, 5347)**
			% DM	34.6 (23.9, 44)		34.3 (22.8, 44.2)		30.2 (20, 40.1)		23.6 (15.1, 31)		22.3 (15, 29.8)		10 (7.2, 13.1)		**M: 21.2 (16.9, 25.8) F: 13.5 (10.4, 16.5)**
		Education														
		<High-school	*N deaths*	32 (18, 48)	16 (8, 24)	71 (35, 107)	37 (20, 54)	243 (124, 350)	78 (41, 118)	355 (196, 530)	199 (106, 301)	542 (302, 774)	276 (135, 430)	671 (388, 962)	586 (332, 884)	3124 (2565, 3685)
			% DM	39.7 (22.3, 59.5)	28.9 (14.8, 42.5)	29.2 (14.7, 44.4)	27.2 (15, 40.3)	34.8 (17.8, 50.1)	18.6 (9.9, 27.9)	27 (14.9, 40.4)	22 (11.7, 33.4)	25.6 (14.3, 36.6)	16.3 (8, 25.5)	15.8 (9.1, 22.6)	9.4 (5.3, 14.2)	17.2 (14.2, 20.3)
		High-school	*N deaths*	97 (58, 135)	51 (29, 72)	315 (180, 422)	142 (75, 199)	813 (470, 1125)	419 (218, 612)	1299 (747, 1901)	585 (316, 848)	1426 (768, 2091)	752 (386, 1099)	828 (482, 1175)	897 (530, 1338)	7641 (6458, 8915)
			% DM	41.6 (25, 58.2)	29.6 (16.7, 42.1)	43.1 (24.6, 57.7)	31.8 (16.7, 44.3)	35.9 (20.8, 49.6)	30.2 (15.7, 44.1)	28 (16.1, 41)	19.7 (10.6, 28.5)	27.8 (15, 40.8)	18.6 (9.6, 27.2)	10.6 (6.2, 15.1)	8.7 (5.2, 13)	19.1 (16.1, 22.2)
		College	*N deaths*	11 (6, 16)	6 (3, 8)	33 (18, 46)	11 (5, 16)	100 (55, 146)	39 (20, 60)	231 (117, 342)	75 (36, 121)	265 (134, 397)	112 (52, 189)	296 (162, 438)	98 (50, 157)	1283 (1058, 1531)
			% DM	35.4 (18.3, 52.2)	26.4 (14.1, 38)	38.3 (20.8, 53.3)	22.7 (11.3, 34)	30 (16.6, 43.7)	21.8 (11.2, 33.4)	23 (11.7, 34)	14.3 (6.8, 23.2)	19.9 (10.1, 29.8)	16.2 (7.5, 27.4)	11.9 (6.5, 17.7)	6.3 (3.3, 10.2)	15.5 (12.8, 18.5)
		Race														
		White	*N deaths*	77 (44, 109)	39 (21, 53)	246 (153, 339)	105 (60, 148)	719 (425, 986)	311 (163, 454)	1276 (680, 1853)	515 (270, 758)	1573 (883, 2253)	735 (400, 1083)	1434 (813, 1994)	1137 (632, 1632)	8186 (6772, 9451)
			% DM	40.3 (23.1, 57.1)	30.4 (16.6, 42.1)	40.9 (25.4, 56.3)	27.7 (15.8, 39.2)	35 (20.7, 48)	27 (14.1, 39.4)	27 (14.4, 39.2)	19.1 (10, 28)	25.7 (14.4, 36.7)	17.8 (9.7, 26.2)	12.6 (7.2, 17.6)	8.7 (4.8, 12.5)	17.6 (14.5, 20.3)
		Black	*N deaths*	40 (21, 57)	28 (16, 40)	108 (60, 148)	61 (32, 87)	287 (173, 400)	138 (76, 198)	431 (217, 614)	242 (135, 355)	514 (248, 780)	265 (141, 387)	193 (120, 274)	367 (205, 552)	2674 (2199, 3152)
			% DM	41.2 (21.6, 59.6)	34.3 (19.2, 49)	38.8 (21.5, 53)	33.6 (17.7, 47.6)	38.1 (22.9, 53)	24.6 (13.6, 35.2)	31.4 (15.8, 44.7)	22.2 (12.4, 32.6)	34.9 (16.9, 53)	19.1 (10.1, 27.8)	11.8 (7.3, 16.8)	12.5 (7, 18.8)	22.6 (18.6, 26.6)
		Hispanic	*N deaths*	19 (10, 26)	7 (4, 11)	46 (23, 65)	16 (8, 24)	120 (59, 182)	43 (24, 66)	155 (82, 221)	55 (29, 85)	176 (94, 272)	64 (32, 98)	133 (65, 213)	86 (46, 135)	925 (757, 1086)
			% DM	37.3 (19.9, 52)	23.6 (12.9, 36.1)	32.9 (16.8, 46.7)	24.4 (12.9, 36.9)	29.9 (14.7, 45.3)	19.8 (11.1, 30.4)	21.3 (11.3, 30.3)	11.2 (6, 17.4)	21.3 (11.4, 33)	9.2 (4.6, 14)	10.8 (5.3, 17.2)	5.2 (2.7, 8.1)	14.1 (11.6, 16.6)
		Other	*N deaths*	4 (2, 5)	4 (2, 6)	19 (10, 30)	4 (2, 7)	39 (17, 64)	12 (6, 20)	56 (23, 94)	19 (8, 36)	84 (37, 146)	51 (7, 102)	53 (10, 132)	33 (0, 75)	385 (283, 823)
			% DM	37.8 (18.9, 54.7)	29.2 (14.2, 47.1)	32.2 (17.1, 49.9)	21.9 (11, 36.2)	21.8 (9.3, 36.2)	13.1 (6.3, 21.5)	16.7 (6.8, 28)	9.3 (3.7, 17.2)	23.9 (10.6, 41.6)	15.8 (2.3, 31.6)	8.9 (1.7, 22)	4.5 (0, 10)	13.1 (9.7, 28.1)
		Total	*N deaths*	135 (74, 186)	72 (39, 99)	415 (233, 568)	177 (99, 250)	1126 (631, 1583)	515 (278, 759)	1918 (1009, 2728)	824 (435, 1228)	2223 (1265, 3194)	1172 (655, 1727)	1742 (1077, 2470)	1608 (983, 2277)	**11900 (10070, 13833)**
			% DM	39 (21.3, 53.6)	28.6 (15.4, 39.3)	38.4 (21.5, 52.6)	27.6 (15.4, 38.8)	33.2 (18.6, 46.7)	25.5 (13.8, 37.5)	26.8 (14.1, 38.1)	18.3 (9.7, 27.3)	25.3 (14.4, 36.4)	17.9 (10, 26.4)	11.8 (7.3, 16.7)	8.7 (5.3, 12.4)	**17.5 (14.8, 20.4)**
Processed meats (>0 g/d)	**Cardiometabolic disease**	**Overall by age**	*N deaths*	499 (337, 649)		2071 (1289, 2700)		7098 (4176, 9824)		11935 (7081, 16481)		14579 (9133, 19766)		21562 (14274, 29161)		**M: 38632 (29036, 48341) F: 18900 (13142, 24344)**
			% CMD	13.6 (9.2, 17.7)		16.5 (10.3, 21.5)		16.8 (9.9, 23.2)		13.9 (8.2, 19.1)		12.7 (7.9, 17.2)		4.9 (3.2, 6.6)		**M: 10.8 (8.1, 13.5) F: 5.5 (3.8, 7.1)**
		Education														
		<High-school	*N deaths*	85 (46, 124)	29 (18, 41)	237 (123, 372)	100 (55, 145)	1101 (514, 1650)	249 (132, 377)	1633 (794, 2459)	623 (307, 942)	2314 (1198, 3449)	882 (449, 1378)	3883 (1991, 6001)	3137 (1580, 4868)	14393 (11464, 17620)
			% CMD	16.2 (8.7, 23.7)	11.6 (7.2, 16.3)	14.3 (7.5, 22.5)	12.4 (6.8, 17.9)	19.1 (8.9, 28.7)	9.5 (5, 14.3)	16 (7.8, 24.1)	12.1 (6, 18.3)	15.1 (7.8, 22.4)	8.8 (4.5, 13.8)	8.1 (4.2, 12.6)	4.5 (2.3, 7)	8.5 (6.8, 10.4)
		High-school	*N deaths*	263 (153, 365)	90 (56, 122)	1212 (572, 1744)	369 (214, 518)	3942 (1880, 5677)	1303 (663, 1878)	6359 (3162, 9383)	1935 (1002, 2769)	6729 (3343, 10257)	2701 (1339, 4007)	5556 (2854, 8413)	5872 (3164, 8859)	36272 (29335, 43168)
			% CMD	16.4 (9.5, 22.7)	11.1 (6.9, 15)	21.1 (10, 30.4)	13.6 (7.9, 19.1)	20.5 (9.8, 29.5)	14.4 (7.3, 20.7)	17.1 (8.5, 25.2)	10.5 (5.4, 15)	16.2 (8.1, 24.7)	9.5 (4.7, 14.2)	5.6 (2.9, 8.5)	3.9 (2.1, 5.8)	8.7 (7.1, 10.4)
		College	*N deaths*	32 (18, 46)	12 (7, 17)	162 (73, 238)	32 (18, 49)	542 (272, 804)	122 (61, 181)	1187 (580, 1871)	250 (124, 388)	1348 (653, 2078)	406 (188, 644)	2328 (1147, 3701)	677 (333, 1200)	7169 (5494, 8913)
			% CMD	12.2 (6.8, 17.4)	7.5 (4, 10.6)	17.2 (7.7, 25.3)	6.7 (3.7, 10.1)	16.5 (8.3, 24.5)	9 (4.5, 13.3)	13 (6.4, 20.6)	6.9 (3.5, 10.8)	11.1 (5.4, 17.2)	8 (3.7, 12.7)	6 (3, 9.6)	2.5 (1.2, 4.4)	7 (5.4, 8.7)
		Race														
		White	*N deaths*	229 (130, 321)	76 (48, 103)	1096 (551, 1520)	306 (167, 432)	4030 (1939, 5752)	1105 (516, 1656)	6771 (3491, 9955)	1883 (887, 2829)	8016 (3791, 12298)	2950 (1609, 4386)	10373 (5365, 15684)	8062 (4011, 12128)	45100 (35973, 54220)
			% CMD	17 (9.7, 23.9)	11.4 (7.1, 15.3)	22.1 (11.1, 30.7)	12.9 (7, 18.2)	20.8 (10, 29.7)	13.6 (6.3, 20.4)	16.3 (8.4, 23.9)	10.4 (4.9, 15.6)	14.8 (7, 22.7)	9.2 (5, 13.7)	6.5 (3.4, 9.8)	3.8 (1.9, 5.8)	8.2 (6.5, 9.8)
		Black	*N deaths*	94 (55, 134)	47 (29, 64)	332 (183, 471)	135 (78, 188)	1071 (586, 1490)	377 (214, 545)	1712 (856, 2503)	717 (378, 1020)	1807 (867, 2867)	736 (430, 1088)	868 (473, 1251)	1397 (769, 2123)	9258 (7739, 10980)
			% CMD	15.3 (9, 21.9)	12.9 (8.1, 17.7)	16.1 (8.9, 22.8)	11.7 (6.8, 16.3)	18.2 (9.9, 25.2)	10.3 (5.8, 14.9)	16.5 (8.3, 24.1)	11.1 (5.8, 15.7)	18.6 (8.9, 29.5)	9.7 (5.7, 14.4)	6.3 (3.4, 9)	6.1 (3.4, 9.3)	10.9 (9.1, 13)
		Hispanic	*N deaths*	41 (24, 57)	11 (7, 16)	139 (72, 197)	33 (20, 46)	396 (206, 611)	100 (59, 143)	526 (317, 761)	131 (73, 190)	586 (304, 888)	158 (88, 231)	564 (295, 931)	339 (194, 541)	3047 (2478, 3635)
			% CMD	12.6 (7.5, 17.5)	8.1 (5, 11.6)	13.9 (7.2, 19.7)	8.8 (5.5, 12.3)	15.8 (8.2, 24.4)	9.5 (5.6, 13.5)	12.5 (7.6, 18.1)	6.3 (3.5, 9.1)	12.8 (6.7, 19.5)	5.1 (2.9, 7.5)	5.8 (3, 9.6)	2.6 (1.5, 4.2)	7.3 (5.9, 8.7)
		Other	*N deaths*	17 (8, 24)	6 (4, 9)	76 (40, 114)	12 (6, 19)	142 (68, 247)	28 (15, 43)	210 (111, 342)	50 (24, 82)	341 (141, 580)	132 (43, 256)	253 (77, 740)	152 (41, 362)	1454 (1094, 2250)
			% CMD	12.5 (6.2, 18.3)	8.4 (5, 12.3)	16.7 (8.8, 25.2)	6.9 (3.5, 11.1)	11.5 (5.5, 20)	5.8 (3.1, 9)	9.7 (5.1, 15.8)	4.7 (2.2, 7.6)	13.5 (5.6, 22.9)	7.9 (2.6, 15.3)	4.4 (1.4, 13)	2.2 (0.6, 5.1)	6.4 (4.8, 9.9)
		Total	*N deaths*	370 (208, 515)	130 (84, 176)	1604 (854, 2242)	463 (268, 662)	5454 (2593, 8016)	1617 (888, 2379)	9202 (4715, 13630)	2640 (1352, 3956)	10482 (5484, 15531)	4056 (2031, 5923)	11717 (5910, 17408)	9966 (5165, 14930)	**57766 (47220, 68866)**
			% CMD	15.3 (8.6, 21.3)	10.5 (6.8, 14.2)	18.9 (10.1, 26.5)	11.4 (6.6, 16.2)	18.8 (8.9, 27.7)	12.1 (6.7, 17.9)	15.8 (8.1, 23.4)	9.5 (4.9, 14.2)	14.8 (7.7, 21.9)	9.2 (4.6, 13.4)	6.2 (3.1, 9.2)	3.9 (2, 5.9)	**8.2 (6.7, 9.8)**
SSBs[f] (>0 g/d)	**Heart disease**	**Overall by age**	*N deaths*	585 (426, 728)		2567 (1891, 3306)		6971 (4877, 9079)		9988 (7114, 13003)		7268 (5252, 9540)		13079 (10293, 16312)		**M: 26785 (22353, 31135) F: 13925 (11269, 16761)**
			% CHD	23.2 (16.9, 28.8)		28.2 (20.8, 36.4)		22.3 (15.6, 29.1)		15.8 (11.2, 20.5)		8.9 (6.4, 11.7)		4.1 (3.2, 5.1)		**M: 9.9 (8.3, 11.5) F: 5.9 (4.8, 7.1)**
		Education														
		<High-school	*N deaths*	103 (72, 131)	33 (22, 43)	451 (300, 571)	191 (123, 264)	1238 (784, 1663)	478 (306, 652)	1683 (1003, 2378)	436 (274, 620)	1309 (802, 1942)	765 (422, 1200)	2181 (1352, 3040)	2154 (1365, 3054)	11071 (9532, 12664)
			% CHD	27 (18.8, 34.4)	22.1 (15, 28.7)	37.9 (25.3, 48.1)	36.8 (23.7, 50.8)	28.7 (18.2, 38.6)	27.7 (17.7, 37.8)	22.2 (13.2, 31.4)	13 (8.2, 18.4)	11.9 (7.3, 17.6)	12 (6.6, 18.9)	6.2 (3.8, 8.6)	4.5 (2.9, 6.4)	9.2 (8, 10.6)
		High-school	*N deaths*	362 (254, 447)	98 (65, 133)	1469 (965, 1919)	505 (321, 725)	3662 (2427, 4884)	1188 (786, 1619)	4803 (3042, 6682)	1993 (1185, 2946)	3204 (1870, 4697)	1453 (858, 2106)	3430 (2300, 4878)	4083 (2688, 5642)	26246 (23031, 30164)
			% CHD	30.9 (21.7, 38.1)	20 (13.3, 27.3)	33.4 (21.9, 43.6)	28.1 (17.9, 40.4)	24.4 (16.2, 32.5)	20 (13.2, 27.3)	16.8 (10.6, 23.3)	16.1 (9.5, 23.7)	10.4 (6, 15.2)	7.7 (4.5, 11.2)	4.6 (3.1, 6.5)	3.8 (2.5, 5.3)	8.7 (7.7, 10)
		College	*N deaths*	26 (18, 36)	8 (5, 12)	131 (82, 192)	31 (20, 44)	531 (310, 837)	69 (42, 98)	847 (515, 1267)	141 (80, 221)	469 (272, 726)	112 (57, 188)	938 (566, 1421)	372 (161, 662)	3731 (3079, 4553)
			% CHD	13.2 (9.1, 18.1)	7.7 (4.9, 10.9)	17.6 (11.1, 25.8)	10.1 (6.4, 14.3)	20.3 (11.8, 32)	7.8 (4.8, 11)	11.8 (7.2, 17.7)	5.8 (3.3, 9.1)	5.2 (3, 8)	3.4 (1.7, 5.7)	3.2 (1.9, 4.9)	2 (0.9, 3.6)	5 (4.1, 6.1)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		Race														
		White	*N deaths*	309 (206, 413)	85 (52, 134)	1145 (779, 1542)	400 (260, 556)	3945 (2481, 5540)	964 (621, 1313)	4994 (3127, 6884)	1614 (859, 2433)	3298 (2044, 4734)	1684 (933, 2539)	5427 (3655, 7361)	4681 (3169, 6396)	28614 (24782, 32640)
			% CHD	30.8 (20.5, 41.1)	20.4 (12.5, 32.2)	29.4 (20, 39.6)	25 (16.3, 34.8)	25.2 (15.8, 35.3)	17.3 (11.1, 23.5)	15.2 (9.5, 20.9)	12.8 (6.8, 19.3)	8 (5, 11.5)	7.8 (4.3, 11.7)	4.4 (3, 6)	3.2 (2.1, 4.3)	7 (6.1, 8)
		Black	*N deaths*	94 (65, 121)	39 (28, 51)	409 (293, 516)	147 (102, 189)	902 (623, 1174)	496 (334, 662)	1338 (871, 1774)	687 (437, 943)	876 (587, 1216)	605 (390, 825)	665 (410, 964)	1398 (942, 1931)	7663 (6758, 8581)
			% CHD	21.1 (14.6, 27)	17.3 (12.2, 22.4)	26.7 (19.1, 33.7)	19.1 (13.3, 24.6)	21.2 (14.6, 27.6)	21.2 (14.3, 28.3)	17.9 (11.7, 23.7)	16.3 (10.4, 22.4)	13.1 (8.8, 18.3)	12.7 (8.2, 17.4)	6.9 (4.3, 10)	9.4 (6.4, 13)	13.4 (11.8, 15)
		Hispanic	*N deaths*	41 (30, 52)	9 (6, 12)	161 (108, 213)	32 (21, 44)	412 (268, 542)	90 (59, 121)	498 (322, 688)	160 (96, 236)	349 (220, 495)	174 (88, 363)	295 (135, 500)	280 (174, 405)	2514 (2163, 2943)
			% CHD	18.8 (13.6, 24)	13.8 (9.2, 18.4)	24.2 (16.1, 31.9)	15.4 (10.3, 20.8)	24.2 (15.8, 31.9)	15.5 (10.1, 20.7)	17.2 (11.2, 23.8)	13 (7.8, 19.2)	11.3 (7.1, 15.9)	9.9 (5, 20.6)	4.3 (2, 7.4)	3.3 (2.1, 4.8)	9.1 (7.8, 10.6)
		Other	*N deaths*	18 (11, 23)	3 (2, 5)	81 (50, 109)	9 (6, 14)	120 (66, 185)	22 (13, 33)	313 (176, 477)	27 (14, 43)	137 (67, 227)	103 (34, 212)	137 (74, 214)	131 (46, 303)	1119 (902, 1826)
			% CHD	16.9 (10.7, 22.5)	7.9 (4.5, 11.9)	24.3 (15, 32.9)	10.1 (6.1, 15.1)	13.8 (7.6, 21.2)	9.2 (5.5, 13.4)	20.9 (11.7, 31.7)	4.5 (2.4, 7)	8 (3.9, 13.2)	10.8 (3.5, 22.1)	3.5 (1.9, 5.4)	2.9 (1, 6.7)	7.5 (6.1, 12.3)
		Total	*N deaths*	458 (305, 598)	127 (81, 175)	1917 (1272, 2574)	659 (399, 988)	5409 (3357, 7383)	1563 (1010, 2229)	7627 (4998, 10492)	2330 (1405, 3432)	4632 (2998, 6630)	2558 (1519, 3755)	6541 (4538, 8657)	6612 (4453, 8979)	**40552 (35643, 45841)**
			% CHD	25.9 (17.2, 33.7)	16.9 (10.8, 23.2)	29.8 (19.8, 40.1)	24.7 (15, 37.1)	24 (14.9, 32.8)	17.9 (11.6, 25.5)	17 (11.2, 23.5)	12.5 (7.5, 18.4)	8.8 (5.7, 12.6)	8.8 (5.2, 12.9)	4.6 (3.2, 6.1)	3.8 (2.5, 5.1)	**8 (7, 9.1)**
SSBs[f]	**Coronary heart disease**	**Overall by age**	*N deaths*	559 (410, 702)		2498 (1824, 3208)		6821 (4760, 8932)		9850 (6991, 12864)		7194 (5177, 9457)		12932 (10062, 16165)		**M: 26386 (21960, 30680) F: 13703 (11031, 16525)**
(>0 g/d)			*% CHD*	54.5 (40, 68.5)		48.2 (35.2, 61.9)		31.1 (21.7, 40.8)		20.6 (14.7, 27)		11.5 (8.2, 15.1)		5.6 (4.3, 6.9)		**M: 12.8 (10.6, 14.9) F: 8.3 (6.7, 10)**
		Education														
		<High-school	*N deaths*	98 (66, 125)	32 (21, 42)	436 (288, 562)	187 (117, 260)	1216 (767, 1632)	470 (297, 647)	1661 (977, 2358)	430 (269, 613)	1299 (790, 1930)	758 (416, 1193)	2156 (1325, 3019)	2119 (1331, 3037)	10898 (9349, 12492)
			% CHD	58.1 (39.1, 74.2)	55.8 (37.2, 73.1)	59.3 (39.3, 76.5)	63.7 (39.9, 88.7)	38.1 (24, 51.1)	39.6 (25.1, 54.6)	27.7 (16.3, 39.4)	17.7 (11.1, 25.2)	14.6 (8.9, 21.7)	15.8 (8.7, 24.8)	7.9 (4.8, 11)	6.2 (3.9, 8.8)	12.2 (10.4, 14)
		High-school	*N deaths*	346 (241, 427)	95 (62, 130)	1431 (919, 1873)	489 (298, 710)	3594 (2378, 4797)	1164 (763, 1592)	4728 (2969, 6615)	1961 (1151, 2910)	3174 (1831, 4668)	1438 (846, 2094)	3390 (2266, 4855)	4015 (2638, 5580)	25829 (22592, 29746)
			% CHD	67.4 (47, 83.2)	55.7 (36.5, 76.7)	54.3 (34.9, 71.1)	54 (32.9, 78.4)	32.9 (21.8, 43.9)	31.1 (20.4, 42.6)	21.4 (13.4, 30)	22.4 (13.2, 33.3)	12.9 (7.5, 19)	10.6 (6.2, 15.5)	5.9 (3.9, 8.4)	5.4 (3.6, 7.5)	11.8 (10.3, 13.5)
		College	*N deaths*	25 (17, 35)	8 (5, 11)	127 (77, 188)	30 (18, 43)	523 (303, 824)	66 (40, 96)	831 (507, 1255)	138 (78, 217)	464 (267, 720)	111 (55, 187)	929 (554, 1412)	366 (154, 658)	3678 (3022, 4497)
			% CHD	33.3 (22.1, 46.6)	23.6 (14.8, 33.9)	30.3 (18.5, 44.9)	24.4 (15.1, 35.1)	28 (16.3, 44.2)	13.5 (8.2, 19.4)	15.2 (9.3, 23)	8.6 (4.8, 13.5)	6.6 (3.8, 10.2)	5 (2.5, 8.4)	4.3 (2.5, 6.5)	2.9 (1.2, 5.3)	6.9 (5.6, 8.4)
		Race														
		White	*N deaths*	300 (195, 402)	84 (50, 133)	1116 (736, 1510)	389 (250, 550)	3889 (2393, 5510)	947 (599, 1293)	4917 (3096, 6832)	1599 (840, 2416)	3274 (2021, 4710)	1672 (922, 2527)	5367 (3607, 7316)	4618 (3100, 6345)	28266 (24427, 32247)
			% CHD	64.3 (41.8, 86.3)	51.9 (30.8, 82.4)	44.2 (29.1, 59.8)	42.3 (27.1, 59.7)	32.6 (20.1, 46.2)	25 (15.8, 34.1)	18.9 (11.9, 26.2)	17.5 (9.2, 26.5)	9.9 (6.1, 14.3)	10.6 (5.8, 16)	5.7 (3.9, 7.8)	4.5 (3, 6.2)	9.4 (8.1, 10.7)
		Black	*N deaths*	87 (58, 111)	36 (25, 47)	387 (276, 488)	135 (91, 173)	864 (577, 1141)	469 (311, 632)	1291 (833, 1732)	665 (414, 928)	859 (566, 1200)	593 (378, 813)	651 (398, 955)	1366 (907, 1903)	7420 (6528, 8353)
			% CHD	50.2 (33.4, 63.9)	51.2 (35.8, 66.6)	51.5 (36.6, 65)	47.6 (32.1, 61)	33.5 (22.4, 44.3)	37.6 (24.9, 50.6)	25.2 (16.3, 33.8)	24.7 (15.4, 34.4)	17.8 (11.7, 24.8)	18 (11.5, 24.7)	9 (5.5, 13.2)	12.8 (8.5, 17.8)	19.1 (16.8, 21.4)
		Hispanic	*N deaths*	39 (27, 49)	9 (6, 12)	156 (102, 205)	31 (20, 42)	402 (260, 535)	88 (56, 118)	489 (316, 674)	157 (94, 234)	345 (217, 491)	172 (87, 362)	290 (132, 495)	276 (170, 400)	2471 (2108, 2896)
			% CHD	49 (34.6, 62.5)	44.8 (28.9, 59.6)	44.7 (29.1, 58.7)	33.6 (22, 45.7)	33.9 (21.9, 45)	25.1 (16, 33.8)	21.9 (14.1, 30.2)	18.1 (10.8, 26.9)	13.9 (8.8, 19.8)	13.3 (6.7, 27.9)	5.4 (2.4, 9.1)	4.3 (2.7, 6.3)	11.9 (10.2, 14)
		Other	*N deaths*	17 (11, 23)	3 (2, 5)	79 (49, 108)	9 (5, 14)	118 (65, 183)	22 (13, 32)	309 (171, 474)	27 (14, 43)	135 (65, 225)	102 (33, 202)	135 (73, 212)	129 (43, 302)	1101 (887, 1809)
			% CHD	38.4 (24.1, 51.3)	31.4 (17.6, 46.8)	37.3 (23.1, 51.1)	20.1 (11.9, 30)	17.7 (9.7, 27.2)	14.3 (8.5, 21)	25.9 (14.3, 39.8)	6.5 (3.4, 10.2)	9.8 (4.7, 16.3)	14.7 (4.7, 29)	4.4 (2.3, 6.8)	3.9 (1.3, 9.1)	9.8 (7.9, 16.1)
		Total	*N deaths*	300 (195, 402)	84 (50, 133)	1116 (736, 1510)	389 (250, 550)	3889 (2393, 5510)	947 (599, 1293)	4917 (3096, 6832)	1599 (840, 2416)	3274 (2021, 4710)	1672 (922, 2527)	5367 (3607, 7316)	4618 (3100, 6345)	**39937 (34992, 45204)**
			% CHD	64.3 (41.8, 86.3)	51.9 (30.8, 82.4)	44.2 (29.1, 59.8)	42.3 (27.1, 59.7)	32.6 (20.1, 46.2)	25 (15.8, 34.1)	18.9 (11.9, 26.2)	17.5 (9.2, 26.5)	9.9 (6.1, 14.3)	10.6 (5.8, 16)	5.7 (3.9, 7.8)	4.5 (3, 6.2)	**10.8 (9.4, 12.2)**
SSBs[f]	**Hypertensive heart disease[f]**	**Overall by age**	*N deaths*	22 (2, 52)		74 (12, 159)		137 (31, 259)		147 (57, 269)		72 (47, 106)		157 (87, 249)		**M: 391 (242, 594) F: 221(139, 319)**
(>0 g/d)			*% HHD*	5.8 (0.5, 13.7)		4.9 (0.8, 10.6)		3.4 (0.8, 6.4)		2.4 (0.9, 4.3)		1.5 (1, 2.2)		0.9 (0.5, 1.4)		**M: 2.2 (1.4, 3.4) F: 1.3 (0.8, 1.8)**
		Education														
		<High-school	*N deaths*	4 (0, 12)	1 (0, 3)	12 (0, 32)	5 (0, 13)	22 (0, 50)	8 (0, 18)	22 (5, 45)	7 (1, 15)	11 (5, 19)	7 (3, 12)	22 (10, 42)	32 (12, 60)	157 (114, 214)
			% HHD	7 (0, 19.1)	6.3 (0, 16.5)	6.4 (0, 16.4)	6.3 (0, 16.5)	4.3 (0, 9.6)	4 (0, 8.8)	3.5 (0.7, 7.2)	2.1 (0.4, 4.4)	1.9 (0.9, 3.3)	1.9 (0.9, 3.3)	1.3 (0.6, 2.6)	0.9 (0.4, 1.8)	2 (1.4, 2.7)
		High-school	*N deaths*	15 (0, 42)	3 (0, 9)	39 (0, 104)	15 (0, 40)	66 (0, 147)	28 (0, 66)	73 (15, 147)	30 (7, 65)	29 (15, 50)	15 (8, 25)	32 (12, 59)	60 (23, 113)	423 (295, 554)
			% HHD	8.4 (0, 22.8)	5.3 (0, 14.9)	5.6 (0, 14.8)	4.8 (0, 12.8)	3.6 (0, 8.1)	3.2 (0, 7.5)	2.6 (0.6, 5.3)	2.3 (0.5, 5.1)	1.7 (0.9, 3)	1.2 (0.7, 2)	1 (0.4, 1.9)	0.9 (0.3, 1.6)	2 (1.4, 2.6)
		College	*N deaths*	1 (0, 3)	0 (0, 1)	4 (0, 10)	1 (0, 3)	8 (0, 21)	2 (0, 6)	13 (3, 29)	3 (1, 6)	5 (2, 9)	1 (1, 3)	9 (3, 17)	5 (1, 12)	54 (38, 76)
			% HHD	3.4 (0, 9.4)	2.2 (0, 6.6)	2.8 (0, 7.7)	2 (0, 5.4)	2.5 (0, 6.6)	1.5 (0, 3.7)	1.9 (0.4, 4.2)	0.8 (0.2, 1.9)	0.9 (0.5, 1.6)	0.6 (0.2, 1.1)	0.7 (0.3, 1.4)	0.4 (0.1, 0.9)	1.1 (0.8, 1.5)
		Race														
		White	*N deaths*	9 (0, 24)	2 (0, 5)	26 (0, 67)	9 (0, 24)	49 (0, 115)	18 (0, 42)	59 (15, 126)	17 (4, 36)	24 (12, 40)	12 (6, 21)	50 (19, 91)	59 (25, 111)	344 (246, 462)
			% HHD	6.6 (0, 17.2)	4.4 (0, 12.5)	5.1 (0, 12.9)	4.5 (0, 12.4)	3.1 (0, 7.3)	2.8 (0, 6.7)	2.2 (0.6, 4.8)	1.5 (0.3, 3.3)	1.3 (0.7, 2.1)	1 (0.5, 1.8)	1.1 (0.4, 1.9)	0.6 (0.3, 1.2)	1.4 (1, 1.9)
		Black	*N deaths*	6 (0, 17)	3 (0, 8)	22 (0, 51)	11 (0, 27)	33 (0, 79)	25 (0, 58)	40 (11, 80)	20 (3, 39)	17 (9, 29)	12 (7, 20)	15 (5, 30)	32 (13, 59)	244 (176, 327)
			% HHD	6.6 (0, 18)	6.4 (0, 18)	6.2 (0, 14.3)	5.3 (0, 12.6)	3.7 (0, 8.9)	4.6 (0, 10.4)	3.2 (0.9, 6.5)	2.9 (0.5, 5.8)	2.2 (1.2, 3.8)	2.3 (1.2, 3.7)	1.7 (0.6, 3.4)	2 (0.8, 3.6)	3.1 (2.2, 4.1)
		Hispanic	*N deaths*	2 (0, 6)	0 (0, 1)	5 (0, 14)	1 (0, 3)	8 (0, 19)	3 (0, 6)	8 (2, 16)	2 (0, 5)	4 (2, 7)	1 (1, 2)	4 (1, 8)	4 (1, 8)	45 (30, 62)
			% HHD	6.1 (0, 15.9)	5.2 (0, 14)	4.4 (0, 11.5)	3.5 (0, 8.7)	3.8 (0.1, 8.9)	3.1 (0, 7)	2.8 (0.8, 5.7)	1.7 (0.3, 3.5)	2 (1.1, 3.3)	1 (0.5, 1.7)	0.9 (0.3, 2.1)	0.6 (0.2, 1.3)	2 (1.3, 2.8)
		Other	*N deaths*	9 (0, 24)	2 (0, 5)	26 (0, 67)	9 (0, 24)	49 (0, 115)	18 (0, 42)	59 (15, 126)	17 (4, 36)	24 (12, 40)	12 (6, 21)	50 (19, 91)	59 (25, 111)	16 (10, 24)
			% HHD	6.6 (0, 17.2)	4.4 (0, 12.5)	5.1 (0, 12.9)	4.5 (0, 12.4)	3.1 (0, 7.3)	2.8 (0, 6.7)	2.2 (0.6, 4.8)	1.5 (0.3, 3.3)	1.3 (0.7, 2.1)	1 (0.5, 1.8)	1.1 (0.4, 1.9)	0.6 (0.3, 1.2)	1.5 (0.9, 2.2)
		Total	*N deaths*	6 (0, 17)	3 (0, 8)	22 (0, 51)	11 (0, 27)	33 (0, 79)	25 (0, 58)	40 (11, 80)	20 (3, 39)	17 (9, 29)	12 (7, 20)	15 (5, 30)	32 (13, 59)	**616 (433, 830)**
			% HHD	6.6 (0, 18)	6.4 (0, 18)	6.2 (0, 14.3)	5.3 (0, 12.6)	3.7 (0, 8.9)	4.6 (0, 10.4)	3.2 (0.9, 6.5)	2.9 (0.5, 5.8)	2.2 (1.2, 3.8)	2.3 (1.2, 3.7)	1.7 (0.6, 3.4)	2 (0.8, 3.6)	**1.8 (1.2, 2.4)**
SSBs[f]	**Stroke, total**	**Overall by age**	*N deaths*	36 (28, 46)		94 (72, 121)		189 (146, 238)		216 (166, 274)		169 (131, 215)		206 (144, 277)		**M: 514 (430, 594) F: 404 (328, 486)**
(>0 g/d)			*% TSTK*	6.8 (5.3, 8.7)		5.4 (4.2, 7)		3.3 (2.6, 4.2)		2 (1.5, 2.5)		0.9 (0.7, 1.2)		0.2 (0.2, 0.3)		**M: 1 (0.8, 1.1) F: 0.5 (0.4, 0.6)**
		Education														
		<High-school	*N deaths*	6 (4, 8)	4 (2, 5)	18 (12, 25)	12 (8, 17)	32 (22, 45)	20 (14, 28)	38 (26, 54)	15 (10, 21)	26 (18, 37)	22 (15, 33)	29 (18, 47)	38 (22, 62)	264 (232, 302)
			% TSTK	9.3 (6.1, 13.3)	8 (5.5, 11.6)	7.9 (5.4, 11.1)	7.7 (5.1, 10.7)	4.3 (3, 6)	4.1 (2.8, 5.8)	2.9 (1.9, 4.1)	1.8 (1.2, 2.5)	1.2 (0.8, 1.7)	1.2 (0.8, 1.7)	0.4 (0.2, 0.6)	0.2 (0.1, 0.4)	0.8 (0.7, 1)
		High-school	*N deaths*	22 (15, 31)	11 (7, 15)	42 (29, 58)	28 (19, 39)	71 (49, 97)	58 (39, 81)	90 (63, 125)	64 (40, 90)	58 (39, 82)	40 (29, 55)	43 (25, 68)	80 (46, 122)	613 (537, 686)
			% TSTK	10.9 (7.5, 15.2)	7.2 (4.9, 10)	6.8 (4.7, 9.4)	5.9 (4, 8.3)	3.6 (2.5, 5)	3.4 (2.3, 4.7)	2.3 (1.6, 3.2)	2.1 (1.3, 2.9)	1.1 (0.7, 1.5)	0.7 (0.5, 1)	0.3 (0.2, 0.4)	0.2 (0.1, 0.3)	0.8 (0.7, 0.9)
		College	*N deaths*	1 (1, 2)	1 (1, 1)	4 (2, 6)	3 (2, 4)	9 (6, 13)	5 (3, 7)	15 (10, 21)	5 (3, 7)	10 (7, 15)	4 (2, 6)	13 (8, 21)	8 (4, 14)	79 (67, 92)
			% TSTK	4.5 (3.1, 6.5)	2.7 (1.9, 3.8)	3.4 (2.2, 5.1)	2.4 (1.7, 3.4)	2.6 (1.7, 4)	1.5 (1, 2.3)	1.6 (1.1, 2.3)	0.7 (0.4, 1.1)	0.6 (0.4, 0.9)	0.4 (0.2, 0.6)	0.2 (0.1, 0.3)	0.1 (0.1, 0.2)	0.4 (0.3, 0.5)
		Race														
		White	*N deaths*	13 (9, 17)	7 (5, 11)	26 (18, 37)	22 (15, 31)	54 (37, 72)	41 (27, 58)	74 (51, 102)	38 (25, 54)	56 (39, 77)	39 (27, 58)	71 (41, 115)	79 (47, 121)	528 (459, 600)
			% TSTK	8.3 (5.8, 11.7)	5.7 (4, 8.4)	5.8 (4.1, 8.1)	5.3 (3.7, 7.7)	3.3 (2.3, 4.5)	2.9 (2, 4.2)	1.9 (1.3, 2.6)	1.3 (0.9, 1.9)	0.8 (0.6, 1.1)	0.6 (0.4, 0.9)	0.3 (0.2, 0.4)	0.2 (0.1, 0.2)	0.5 (0.5, 0.6)
		Black	*N deaths*	6 (4, 8)	4 (3, 6)	18 (13, 24)	13 (9, 18)	35 (25, 48)	37 (25, 53)	42 (29, 57)	29 (21, 40)	22 (16, 32)	21 (15, 28)	12 (7, 20)	26 (16, 41)	268 (235, 300)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
			% TSTK	8.1 (5.8, 11.2)	8 (5.5, 11)	7.1 (4.9, 9.6)	6.2 (4.3, 8.6)	4 (2.8, 5.4)	4.9 (3.3, 7)	2.7 (1.9, 3.8)	2.5 (1.8, 3.5)	1.4 (1, 2)	1.4 (1, 1.9)	0.4 (0.3, 0.8)	0.5 (0.3, 0.8)	1.7 (1.5, 1.9)
		Hispanic	*N deaths*	5 (3, 7)	3 (2, 4)	10 (7, 14)	4 (3, 6)	16 (11, 23)	8 (6, 11)	14 (9, 20)	6 (4, 8)	8 (5, 11)	4 (3, 5)	4 (2, 8)	5 (3, 7)	87 (76, 99)
			% TSTK	8.2 (5.3, 11.9)	7 (4.6, 9.9)	5.2 (3.6, 7.4)	4.3 (2.8, 6.1)	4.1 (2.8, 5.7)	3.2 (2.2, 4.5)	2.4 (1.6, 3.4)	1.5 (1, 2.1)	1.3 (0.9, 1.8)	0.6 (0.4, 0.9)	0.2 (0.1, 0.4)	0.2 (0.1, 0.3)	1.1 (1, 1.3)
		Other	*N deaths*	1 (1, 2)	0 (0, 0)	3 (2, 4)	1 (1, 2)	4 (2, 6)	2 (1, 3)	9 (6, 14)	2 (1, 2)	4 (2, 7)	5 (2, 9)	2 (1, 4)	3 (1, 6)	36 (30, 48)
			% TSTK	5.8 (3.5, 9)	0.5 (0.3, 0.8)	4.2 (2.8, 6.4)	2.5 (1.5, 4)	1.9 (1.2, 2.9)	1.6 (1, 2.5)	2.9 (1.8, 4.4)	0.6 (0.4, 1)	0.9 (0.4, 1.5)	1.1 (0.5, 2.2)	0.2 (0.1, 0.3)	0.2 (0.1, 0.3)	0.7 (0.6, 1)
		Total	*N deaths*	13 (9, 17)	7 (5, 11)	26 (18, 37)	22 (15, 31)	54 (37, 72)	41 (27, 58)	74 (51, 102)	38 (25, 54)	56 (39, 77)	39 (27, 58)	71 (41, 115)	79 (47, 121)	**916 (809, 1028)**
			% TSTK	8.3 (5.8, 11.7)	5.7 (4, 8.4)	5.8 (4.1, 8.1)	5.3 (3.7, 7.7)	3.3 (2.3, 4.5)	2.9 (2, 4.2)	1.9 (1.3, 2.6)	1.3 (0.9, 1.9)	0.8 (0.6, 1.1)	0.6 (0.4, 0.9)	0.3 (0.2, 0.4)	0.2 (0.1, 0.2)	**0.7 (0.6, 0.8)**
SSBs[f]	**Ischemic Stroke**	**Overall by age**	*N deaths*	3 (2, 4)		7 (5, 9)		14 (11, 19)		18 (12, 24)		15 (11, 21)		24 (14, 37)		**M: 45 (36, 56)** **F: 37 (27, 48)**
(>0 g/d)			*% ISTK*	4.6 (3.4, 6.2)		3.8 (2.7, 5.1)		2.4 (1.8, 3.2)		1.5 (1, 2)		0.7 (0.5, 1)		0.2 (0.1, 0.3)		**M: 0.7 (0.6, 0.9)** **F: 0.4 (0.3, 0.5)**
		Education														
		<High-school	*N deaths*	0 (0, 0)	0 (0, 0)	1 (1, 2)	0 (0, 1)	2 (1, 3)	1 (1, 2)	3 (2, 6)	1 (1, 2)	3 (1, 4)	2 (1, 4)	4 (2, 6)	5 (2, 8)	24(20, 29)
			% ISTK	6.4 (3.8, 9.2)	5.6 (3.5, 8.2)	5.6 (3.3, 8.2)	5.2 (3.1, 7.9)	3.1 (1.9, 4.6)	3 (1.8, 4.4)	2.2 (1.2, 3.5)	1.4 (0.7, 2.1)	1 (0.5, 1.5)	1 (0.5, 1.6)	0.3 (0.1, 0.6)	0.2 (0.1, 0.4)	0.6 (0.5, 0.7)
		High-school	*N deaths*	2 (1, 3)	1 (1, 1)	3 (2, 5)	2 (1, 3)	6 (4, 9)	4 (2, 5)	8 (4, 11)	4 (2, 7)	5 (3, 8)	4 (2, 5)	5 (2, 8)	9 (5, 17)	53 (45, 63)
			% ISTK	7.6 (4.8, 11.1)	5 (3.1, 7.2)	4.8 (3, 7)	4.1 (2.5, 6.2)	2.7 (1.7, 3.8)	2.4 (1.5, 3.4)	1.7 (1, 2.6)	1.5 (0.8, 2.5)	0.9 (0.5, 1.4)	0.6 (0.4, 0.9)	0.2 (0.1, 0.4)	0.2 (0.1, 0.4)	0.6 (0.5, 0.7)
		College	*N deaths*	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 1)	1 (0, 1)	0 (0, 0)	1 (1, 2)	0 (0, 1)	1 (1, 1)	0 (0, 0)	1 (1, 3)	1 (0, 2)	7 (6, 9)
			% ISTK	3.1 (1.9, 4.8)	2.1 (1.2, 3.2)	2.3 (1.3, 3.6)	1.7 (1, 2.7)	1.8 (0.9, 3)	1.1 (0.6, 1.7)	1.2 (0.6, 2)	0.6 (0.3, 0.9)	0.5 (0.3, 0.8)	0.3 (0.1, 0.5)	0.2 (0.1, 0.3)	0.1 (0, 0.2)	0.3 (0.2, 0.4)
		Race														
		White	*N deaths*	1 (1, 2)	1 (0, 1)	2 (1, 3)	2 (1, 3)	5 (3, 7)	3 (2, 5)	7 (4, 11)	3 (2, 5)	5 (3, 8)	4 (2, 6)	8 (4, 14)	10 (5, 16)	51 (42, 61)
			% ISTK	5.8 (3.6, 8.4)	4 (2.4, 6.2)	4.1 (2.5, 6.1)	3.8 (2.3, 5.8)	2.4 (1.6, 3.5)	2.1 (1.3, 3.1)	1.5 (0.9, 2.1)	1 (0.6, 1.6)	0.6 (0.4, 1)	0.5 (0.3, 0.8)	0.2 (0.1, 0.4)	0.1 (0.1, 0.2)	0.4 (0.3, 0.5)
		Black	*N deaths*	0 (0, 1)	1 (0, 1)	1 (0, 1)	1 (0, 1)	3 (2, 5)	2 (1, 3)	3 (2, 5)	2 (1, 3)	2 (1, 3)	2 (1, 3)	1 (1, 3)	4 (2, 6)	23 (19, 27)
			% ISTK	5.7 (3.6, 8.4)	5.7 (3.5, 8.4)	4.9 (3.1, 7.2)	4.3 (2.7, 6.6)	2.9 (1.8, 4.3)	3.4 (2, 5.2)	2.1 (1.2, 3.1)	1.9 (1.2, 2.8)	1.2 (0.7, 1.7)	1.1 (0.7, 1.7)	0.4 (0.2, 0.8)	0.5 (0.2, 0.8)	1.1 (1, 1.3)
		Hispanic	*N deaths*	0 (0, 1)	0 (0, 0)	1 (0, 1)	0 (0, 0)	1 (1, 1)	0 (0, 0)	1 (1, 2)	0 (0, 1)	1 (0, 1)	0 (0, 1)	0 (0, 1)	1 (0, 1)	6 (5, 7)
			% ISTK	5.8 (3.5, 8.4)	4.7 (2.9, 6.9)	3.6 (2.3, 5.2)	2.9 (1.8, 4.4)	2.9 (1.8, 4.2)	2.2 (1.4, 3.3)	1.8 (1.1, 2.8)	1.1 (0.6, 1.7)	1 (0.6, 1.6)	0.5 (0.3, 0.8)	0.2 (0.1, 0.4)	0.2 (0.1, 0.3)	0.7 (0.6, 0.8)
		Other	*N deaths*	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	0 (0, 0)	1 (0, 1)	0 (0, 0)	0 (0, 0)	0 (0, 1)	0 (0, 0)	0 (0, 1)	2 (2, 3)
			% ISTK	0 (0, 0)	2.8 (1.4, 4.8)	3 (1.8, 4.7)	1.7 (0.9, 2.9)	1.3 (0.7, 2.3)	1.1 (0.6, 1.8)	2.2 (1.1, 3.6)	0.4 (0.2, 0.8)	0.7 (0.3, 1.3)	0.9 (0.2, 1.9)	0.2 (0.1, 0.3)	0.1 (0, 0.3)	0.5 (0.4, 0.7)
		Total	*N deaths*	1 (1, 2)	1 (0, 1)	2 (1, 3)	2 (1, 3)	5 (3, 7)	3 (2, 5)	7 (4, 11)	3 (2, 5)	5 (3, 8)	4 (2, 6)	8 (4, 14)	10 (5, 16)	**82 (69, 98)**
			% ISTK	5.8 (3.6, 8.4)	4 (2.4, 6.2)	4.1 (2.5, 6.1)	3.8 (2.3, 5.8)	2.4 (1.6, 3.5)	2.1 (1.3, 3.1)	1.5 (0.9, 2.1)	1 (0.6, 1.6)	0.6 (0.4, 1)	0.5 (0.3, 0.8)	0.2 (0.1, 0.4)	0.1 (0.1, 0.2)	**0.5 (0.4, 0.6)**
SSBs[f]	**Hemorrhagic Stroke**	**Overall by age**	*N deaths*	27 (19, 37)		65 (45, 92)		116 (76, 157)		96 (64, 137)		57 (37, 84)		42 (18, 68)		**M: 235 (187, 292)** **F: 170 (132, 215)**
(>0 g/d)			*% HSTK*	7.2 (5, 9.8)		5.7 (3.9, 8)		3.5 (2.3, 4.8)		2 (1.3, 2.9)		1 (0.6, 1.5)		0.2 (0.1, 0.4)		**M: 1.6 (1.3, 2)** **F: 1 (0.7, 1.2)**
		Education														
		<High-school	*N deaths*	4 (3, 7)	3 (2, 4)	13 (8, 20)	8 (5, 13)	19 (10, 31)	11 (7, 19)	15 (8, 26)	6 (3, 10)	7 (3, 12)	7 (3, 12)	5 (1, 11)	6 (2, 13)	108 (90, 129)
			% HSTK	9.4 (5.4, 14.5)	8.3 (5.1, 12.9)	8.2 (5, 12.6)	7.8 (4.3, 12.1)	4.5 (2.5, 7.4)	4.2 (2.5, 6.9)	3 (1.5, 5.3)	1.9 (1, 3)	1.3 (0.6, 2.1)	1.3 (0.6, 2.3)	0.4 (0.1, 0.8)	0.3 (0.1, 0.5)	1.6 (1.3, 1.9)
		High-school	*N deaths*	17 (10, 25)	8 (4, 12)	27 (16, 41)	20 (11, 31)	41 (22, 64)	38 (21, 59)	39 (21, 61)	30 (15, 51)	19 (10, 31)	14 (8, 23)	10 (3, 20)	15 (3, 31)	281 (233, 332)
			% HSTK	11.4 (6.8, 17)	7.5 (4.3, 11.5)	7.1 (4.2, 10.7)	6.1 (3.5, 9.6)	3.8 (2.1, 6)	3.5 (1.9, 5.5)	2.4 (1.3, 3.8)	2.1 (1, 3.6)	1.1 (0.6, 1.9)	0.8 (0.4, 1.3)	0.3 (0.1, 0.5)	0.2 (0.1, 0.5)	1.4 (1.2, 1.7)
		College	*N deaths*	1 (1, 2)	1 (0, 1)	3 (2, 5)	2 (1, 3)	5 (3, 9)	3 (2, 5)	7 (3, 12)	3 (1, 5)	4 (2, 7)	2 (1, 3)	3 (1, 7)	2 (0, 4)	36 (29, 44)
			% HSTK	4.7 (2.7, 7.5)	3.1 (1.7, 5)	3.5 (1.9, 5.7)	2.6 (1.5, 4)	2.7 (1.3, 4.8)	1.6 (0.9, 2.6)	1.7 (0.9, 2.8)	0.7 (0.3, 1.4)	0.6 (0.3, 1.1)	0.4 (0.1, 0.7)	0.2 (0.1, 0.4)	0.1 (0, 0.3)	0.7 (0.5, 0.8)
		Race														
		White	*N deaths*	10 (6, 14)	5 (3, 8)	18 (10, 27)	15 (8, 24)	30 (17, 47)	26 (14, 41)	31 (16, 49)	18 (9, 30)	18 (10, 30)	14 (7, 25)	16 (4, 34)	14 (4, 29)	220 (179, 259)
			% HSTK	8.7 (5.1, 13.1)	6.1 (3.5, 9.9)	6.1 (3.4, 9.5)	5.6 (3.2, 9.2)	3.5 (2, 5.4)	3.1 (1.7, 4.9)	2 (1, 3.1)	1.4 (0.7, 2.3)	0.8 (0.5, 1.4)	0.7 (0.3, 1.2)	0.3 (0.1, 0.6)	0.2 (0, 0.3)	0.9 (0.7, 1.1)
		Black	*N deaths*	4 (2, 6)	3 (2, 4)	12 (7, 18)	9 (5, 13)	20 (12, 32)	24 (13, 37)	17 (9, 26)	13 (7, 21)	5 (3, 9)	6 (3, 10)	2 (0, 5)	5 (1, 9)	120 (99, 143)
			% HSTK	8.6 (5.1, 13)	8.5 (4.7, 12.9)	7.2 (4.2, 10.9)	6.4 (3.6, 9.9)	4.2 (2.4, 6.5)	5.1 (2.7, 8)	2.9 (1.6, 4.5)	2.6 (1.4, 4.3)	1.5 (0.8, 2.5)	1.5 (0.8, 2.5)	0.5 (0.1, 1.1)	0.6 (0.1, 1.1)	2.7 (2.3, 3.3)
		Hispanic	*N deaths*	4 (2, 6)	2 (1, 3)	7 (4, 12)	3 (2, 5)	11 (6, 17)	6 (3, 9)	7 (4, 12)	3 (1, 5)	3 (1, 5)	2 (1, 3)	1 (0, 2)	1 (0, 2)	51 (42, 60)
			% HSTK	8.5 (4.9, 13.1)	7.2 (4, 11.1)	5.4 (3.2, 8.3)	4.3 (2.5, 6.7)	4.2 (2.4, 6.5)	3.3 (1.9, 5)	2.5 (1.3, 4.1)	1.5 (0.8, 2.6)	1.3 (0.7, 2.3)	0.6 (0.3, 1.1)	0.2 (0, 0.6)	0.2 (0, 0.4)	2 (1.6, 2.3)
		Other	*N deaths*	1 (1, 2)	0 (0, 0)	2 (1, 3)	1 (1, 2)	2 (1, 4)	2 (1, 3)	5 (2, 8)	1 (0, 2)	2 (0, 3)	2 (1, 4)	1 (0, 1)	1 (0, 2)	19 (15, 24)
			% HSTK	5.8 (3.3, 9.2)	0 (0, 0)	4.4 (2.5, 7)	2.6 (1.3, 4.5)	1.9 (1, 3.4)	1.6 (0.9, 2.9)	2.9 (1.4, 5.2)	0.6 (0.3, 1.2)	0.9 (0.3, 1.9)	1.1 (0.3, 2.5)	0.2 (0, 0.4)	0.1 (0, 0.5)	1.1 (0.8, 1.4)
		Total	*N deaths*	10 (6, 14)	5 (3, 8)	18 (10, 27)	15 (8, 24)	30 (17, 47)	26 (14, 41)	31 (16, 49)	18 (9, 30)	18 (10, 30)	14 (7, 25)	16 (4, 34)	14 (4, 29)	**405 (342, 479)**
			% HSTK	8.7 (5.1, 13.1)	6.1 (3.5, 9.9)	6.1 (3.4, 9.5)	5.6 (3.2, 9.2)	3.5 (2, 5.4)	3.1 (1.7, 4.9)	2 (1, 3.1)	1.4 (0.7, 2.3)	0.8 (0.5, 1.4)	0.7 (0.3, 1.2)	0.3 (0.1, 0.6)	0.2 (0, 0.3)	**1.2 (1.1, 1.5)**
SSBs[f]	**Other Stroke**	**Overall by age**	*N deaths*	6 (4, 8)		22 (16, 31)		59 (41, 82)		100 (67, 144)		96 (64, 133)		138 (83, 206)		**M: 228 (176, 294)** **F: 194 (138, 266)**
(>0 g/d)			*% OSTK*	6.8 (4.9, 9)		5.4 (3.9, 7.6)		3.3 (2.3, 4.6)		1.9 (1.3, 2.8)		0.9 (0.6, 1.3)		0.2 (0.1, 0.3)		**M: 0.7 (0.6, 0.9)** **F: 0.4 (0.3, 0.5)**
		Education														
		<High-school	*N deaths*	1 (1, 2)	0 (0, 1)	3 (2, 5)	3 (2, 5)	11 (7, 17)	7 (4, 11)	19 (10, 32)	7 (4, 12)	16 (9, 26)	13 (6, 23)	20 (10, 37)	27 (12, 48)	131 (104, 163)
			% OSTK	9.2 (5.5, 14.1)	8 (4.9, 12)	7.8 (4.7, 12.2)	7.4 (4.5, 11.5)	4.3 (2.5, 6.6)	4 (2.4, 6.6)	2.8 (1.5, 4.9)	1.7 (1, 2.9)	1.2 (0.6, 1.9)	1.1 (0.6, 2)	0.4 (0.2, 0.7)	0.2 (0.1, 0.4)	0.6 (0.5, 0.8)
		High-school	*N deaths*	3 (2, 5)	2 (1, 3)	11 (6, 17)	6 (4, 10)	23 (14, 36)	16 (10, 25)	43 (24, 68)	28 (15, 48)	33 (19, 55)	21 (13, 34)	27 (13, 51)	54 (23, 97)	277 (224, 336)
			% OSTK	10.9 (6.5, 16.5)	7.2 (4.3, 11)	6.8 (3.9, 10.7)	5.9 (3.5, 9.1)	3.6 (2.2, 5.6)	3.3 (2, 5.2)	2.3 (1.3, 3.6)	2 (1.1, 3.5)	1.1 (0.6, 1.8)	0.7 (0.4, 1.2)	0.3 (0.1, 0.5)	0.2 (0.1, 0.4)	0.6 (0.5, 0.7)
		College	*N deaths*	0 (0, 0)	0 (0, 0)	1 (0, 1)	1 (0, 1)	3 (1, 5)	1 (1, 2)	7 (3, 11)	2 (1, 3)	5 (3, 9)	2 (1, 4)	8 (4, 16)	5 (1, 11)	35 (26, 46)
			% OSTK	4.6 (2.6, 6.9)	2.7 (1.6, 4.3)	3.4 (1.9, 5.5)	2.5 (1.4, 3.8)	2.6 (1.3, 4.6)	1.5 (0.8, 2.6)	1.6 (0.8, 2.7)	0.7 (0.3, 1.3)	0.6 (0.3, 1)	0.4 (0.2, 0.7)	0.2 (0.1, 0.4)	0.1 (0, 0.2)	0.3 (0.2, 0.4)
		Race														
		White	*N deaths*	2 (1, 3)	1 (1, 2)	6 (4, 10)	5 (3, 8)	19 (11, 29)	12 (6, 19)	35 (21, 56)	16 (8, 27)	32 (18, 51)	21 (11, 37)	46 (21, 86)	55 (26, 96)	259 (202, 319)
			% OSTK	8.3 (5, 12.7)	5.8 (3.4, 9)	5.7 (3.4, 9)	5.3 (3, 8.1)	3.3 (1.9, 5.2)	2.9 (1.6, 4.6)	1.8 (1.1, 2.9)	1.3 (0.7, 2.2)	0.8 (0.5, 1.3)	0.6 (0.3, 1.1)	0.3 (0.1, 0.5)	0.2 (0.1, 0.3)	0.4 (0.3, 0.5)
		Black	*N deaths*	1 (1, 2)	1 (0, 1)	6 (3, 8)	3 (2, 5)	12 (7, 18)	11 (6, 18)	21 (12, 34)	14 (8, 22)	15 (9, 24)	12 (7, 19)	8 (4, 15)	18 (9, 31)	125 (104, 148)
			% OSTK	8.2 (5, 11.9)	8 (4.6, 12.1)	7.1 (4.2, 10.7)	6.2 (3.7, 9.5)	3.9 (2.3, 6.1)	4.9 (2.7, 7.6)	2.7 (1.5, 4.3)	2.4 (1.4, 3.9)	1.4 (0.8, 2.2)	1.4 (0.9, 2.2)	0.5 (0.2, 0.9)	0.5 (0.3, 0.9)	1.4 (1.1, 1.6)
		Hispanic	*N deaths*	0 (0, 1)	1 (0, 1)	2 (1, 3)	1 (0, 1)	4 (2, 6)	2 (1, 3)	6 (3, 9)	2 (1, 4)	5 (2, 8)	2 (1, 3)	3 (1, 6)	3 (1, 6)	30 (25, 36)
			% OSTK	8.2 (4.9, 11.9)	6.9 (4, 10.9)	5.2 (3.2, 7.6)	4.3 (2.5, 6.5)	4 (2.3, 6.2)	3.2 (1.7, 5.1)	2.4 (1.3, 3.9)	1.4 (0.8, 2.5)	1.3 (0.7, 2.1)	0.6 (0.3, 1)	0.2 (0.1, 0.5)	0.2 (0.1, 0.3)	0.7 (0.6, 0.9)
		Other	*N deaths*	0 (0, 0)	0 (0, 0)	0 (0, 1)	0 (0, 0)	1 (1, 2)	1 (0, 1)	4 (2, 7)	1 (0, 1)	2 (1, 4)	2 (0, 5)	1 (0, 3)	2 (0, 5)	15 (11, 21)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
			% OSTK	5.7 (3.1, 9.1)	0.6 (0.3, 1.1)	4.3 (2.4, 6.8)	2.5 (1.3, 4.3)	1.9 (0.9, 3.2)	1.6 (0.8, 2.7)	2.9 (1.4, 5.2)	0.6 (0.3, 1.1)	0.9 (0.3, 1.7)	1.1 (0.2, 2.5)	0.2 (0.1, 0.4)	0.2 (0, 0.4)	0.6 (0.4, 0.8)
		Total	*N deaths*	2 (1, 3)	1 (1, 2)	6 (4, 10)	5 (3, 8)	19 (11, 29)	12 (6, 19)	35 (21, 56)	16 (8, 27)	32 (18, 51)	21 (11, 37)	46 (21, 86)	55 (26, 96)	**426 (345, 512)**
			% OSTK	8.3 (5, 12.7)	5.8 (3.4, 9)	5.7 (3.4, 9)	5.3 (3, 8.1)	3.3 (1.9, 5.2)	2.9 (1.6, 4.6)	1.8 (1.1, 2.9)	1.3 (0.7, 2.2)	0.8 (0.5, 1.3)	0.6 (0.3, 1.1)	0.3 (0.1, 0.5)	0.2 (0.1, 0.3)	**0.5 (0.4, 0.6)**
SSBs[f]	**Diabetes**	**Overall by age**	*N deaths*	361 (230, 481)		955 (587, 1336)		1902 (1220, 2629)		2717 (1634, 3854)		1977 (1278, 2854)		2107 (1417, 2815)		**M: 6010 (4693, 7380) F: 4027 (3105, 5124)**
(>0 g/d)			*% DM*	60.3 (38.4, 80.5)		55.4 (34.1, 77.5)		35.2 (22.5, 48.6)		23.3 (14, 33.1)		12.9 (8.3, 18.6)		6.3 (4.3, 8.5)		**M: 16.9 (13.2, 20.8) F: 12.4 (9.6, 15.8)**
		Education														
		<High-school	*N deaths*	54 (30, 73)	36 (20, 51)	163 (97, 220)	99 (46, 144)	300 (158, 434)	186 (89, 286)	412 (215, 657)	180 (82, 287)	344 (170, 549)	305 (134, 494)	387 (217, 573)	429 (236, 653)	2904 (2432, 3428)
			% DM	66.7 (36.9, 89.6)	63.3 (35.6, 90.1)	67.3 (40.2, 91)	73 (33.7, 107)	42.9 (22.6, 62.1)	44.2 (21.1, 67.9)	31.4 (16.4, 50.1)	20 (9.1, 31.8)	16.3 (8, 25.9)	18.1 (8, 29.3)	9.1 (5.1, 13.5)	6.9 (3.8, 10.5)	16 (13.4, 18.9)
		High-school	*N deaths*	176 (101, 234)	105 (56, 163)	441 (234, 627)	276 (138, 442)	861 (466, 1244)	481 (223, 745)	1135 (552, 1677)	753 (365, 1346)	735 (379, 1212)	484 (231, 781)	521 (310, 788)	641 (345, 967)	6637(5599, 7851)
			% DM	75.7 (43.7, 100.7)	61.6 (32.5, 95.4)	60.3 (32, 85.7)	61.7 (30.8, 98.6)	38 (20.6, 54.9)	34.7 (16.1, 53.7)	24.5 (11.9, 36.2)	25.3 (12.3, 45.3)	14.3 (7.4, 23.7)	12 (5.7, 19.4)	6.7 (4, 10.1)	6.2 (3.3, 9.4)	16.6 (14, 19.6)
		College	*N deaths*	12 (6, 17)	6 (3, 9)	31 (15, 48)	13 (6, 21)	107 (43, 220)	28 (15, 43)	174 (91, 284)	51 (22, 92)	101 (46, 171)	39 (17, 69)	125 (72, 198)	51 (21, 97)	748 (604, 967)
			% DM	37.6 (18.7, 55.5)	26.9 (13.9, 43.6)	35.4 (17.7, 54.9)	27.1 (11.6, 44)	32 (13, 65.9)	15.3 (8.3, 23.8)	17.3 (9.1, 28.2)	9.8 (4.2, 17.6)	7.5 (3.4, 12.8)	5.7 (2.4, 10)	5 (2.9, 8)	3.3 (1.3, 6.3)	9 (7.3, 11.7)
		Race														
		White	*N deaths*	141 (76, 199)	77 (32, 131)	303 (163, 421)	184 (90, 284)	764 (357, 1155)	324 (166, 486)	1030 (564, 1557)	532 (234, 1012)	691 (334, 1117)	499 (214, 846)	759 (438, 1105)	661 (362, 1032)	6005 (4954, 7029)
			% DM	74.3 (39.9, 104.9)	60.5 (25.4, 103.3)	50.4 (27, 69.9)	48.6 (23.9, 75)	37.2 (17.4, 56.2)	28.1 (14.4, 42.3)	21.8 (11.9, 32.9)	19.7 (8.6, 37.4)	11.3 (5.4, 18.2)	12.1 (5.2, 20.5)	6.7 (3.9, 9.7)	5.1 (2.8, 7.9)	12.9 (10.6, 15.1)
		Black	*N deaths*	55 (30, 74)	48 (26, 66)	162 (92, 221)	99 (53, 137)	289 (159, 408)	243 (128, 353)	393 (203, 570)	310 (162, 453)	292 (149, 446)	283 (138, 427)	169 (100, 263)	425 (250, 622)	2773 (2366, 3190)
			% DM	57.5 (31.6, 76.9)	59.1 (32.2, 81.6)	58.2 (33.1, 79.3)	54.3 (29, 75.4)	38.3 (21, 54)	43.3 (22.9, 62.9)	28.6 (14.8, 41.5)	28.4 (14.9, 41.5)	19.8 (10.1, 30.3)	20.3 (9.9, 30.7)	10.4 (6.1, 16.1)	14.5 (8.5, 21.2)	23.4 (20, 26.9)
		Hispanic	*N deaths*	28 (15, 38)	16 (8, 22)	70 (34, 96)	25 (13, 37)	154 (86, 225)	63 (35, 91)	179 (96, 273)	101 (47, 165)	130 (64, 197)	105 (42, 364)	76 (36, 130)	83 (46, 125)	1044 (869, 1334)
			% DM	56.1 (30.6, 75.3)	51 (26.4, 72.2)	50 (24, 68.5)	38.1 (19.6, 56.7)	38.3 (21.4, 56.1)	29.1 (16.2, 42.1)	24.6 (13.1, 37.5)	20.5 (9.5, 33.6)	15.7 (7.7, 23.9)	15 (5.9, 51.9)	6.2 (2.9, 10.5)	4.9 (2.7, 7.5)	15.9 (13.3, 20.4)
		Other	*N deaths*	4 (2, 6)	5 (2, 9)	25 (12, 37)	4 (2, 7)	34 (17, 56)	15 (7, 24)	99 (46, 155)	15 (7, 25)	39 (16, 71)	52 (15, 107)	30 (15, 49)	32 (10, 74)	360 (282, 609)
			% DM	43.3 (22.3, 63.9)	36 (16.3, 65.5)	41.1 (20.7, 60.9)	22.7 (11.4, 37.8)	19.2 (9.7, 31.4)	16.1 (7.7, 25.8)	29.5 (13.9, 46.3)	7 (3.1, 12.2)	11.2 (4.7, 20.1)	16.1 (4.6, 33.1)	5 (2.6, 8.2)	4.3 (1.4, 10)	12.3 (9.6, 20.8)
		Total	*N deaths*	141 (76, 199)	77 (32, 131)	303 (163, 421)	184 (90, 284)	764 (357, 1155)	324 (166, 486)	1030 (564, 1557)	532 (234, 1012)	691 (334, 1117)	499 (214, 846)	759 (438, 1105)	661 (362, 1032)	**10043 (8419, 11979)**
			% DM	74.3 (39.9, 104.9)	60.5 (25.4, 103.3)	50.4 (27, 69.9)	48.6 (23.9, 75)	37.2 (17.4, 56.2)	28.1 (14.4, 42.3)	21.8 (11.9, 32.9)	19.7 (8.6, 37.4)	11.3 (5.4, 18.2)	12.1 (5.2, 20.5)	6.7 (3.9, 9.7)	5.1 (2.8, 7.9)	**14.8 (12.4, 17.6)**
SSBs[f]	**Cardiometabolic disease**	**Overall by age**	*N deaths*	982 (789, 1170)		3620 (2826, 4506)		9066 (6839, 11324)		13007 (9820, 16060)		9441 (7322, 11908)		15418 (12608, 18835)		**M: 33315 (28713, 37655) F: 18374 (15507, 21446)**
(>0 g/d)			*% CMD*	26.8 (21.6, 32)		28.9 (22.5, 35.9)		21.4 (16.2, 26.8)		15.1 (11.4, 18.6)		8.2 (6.4, 10.3)		3.5 (2.8, 4.3)		**M: 9.3 (8, 10.5) F: 5.3 (4.5, 6.2)**
		Education														
		<High-school	*N deaths*	161 (124, 196)	73 (53, 90)	631 (467, 771)	301 (218, 388)	1562 (1119, 1993)	689 (489, 889)	2137 (1448, 2916)	632 (443, 847)	1690 (1148, 2348)	1093 (707, 1571)	2584 (1760, 3468)	2629 (1840, 3550)	14248 (12547, 15930)
			% CMD	30.7 (23.6, 37.4)	29 (21.2, 35.8)	38.2 (28.3, 46.7)	37 (26.8, 47.8)	27.1 (19.4, 34.6)	26.1 (18.6, 33.7)	21 (14.2, 28.6)	12.3 (8.6, 16.5)	11 (7.5, 15.3)	11 (7.1, 15.7)	5.4 (3.7, 7.3)	3.8 (2.6, 5.1)	8.4 (7.4, 9.4)
		High-school	*N deaths*	558 (431, 663)	216 (155, 282)	1941 (1417, 2470)	818 (587, 1091)	4584 (3288, 5881)	1725 (1255, 2244)	6053 (4131, 8017)	2826 (1880, 3886)	4019 (2680, 5564)	1986 (1327, 2691)	3982 (2821, 5468)	4782 (3302, 6366)	33524 (29963, 37419)
			% CMD	34.7 (26.8, 41.3)	26.6 (19.1, 34.8)	33.8 (24.7, 43)	30.1 (21.6, 40.2)	23.8 (17.1, 30.6)	19.1 (13.9, 24.8)	16.3 (11.1, 21.5)	15.3 (10.2, 21)	9.7 (6.5, 13.4)	7 (4.7, 9.5)	4 (2.8, 5.5)	3.1 (2.2, 4.2)	8.1 (7.2, 9)
		College	*N deaths*	40 (29, 51)	15 (11, 20)	166 (115, 226)	47 (33, 62)	656 (424, 964)	102 (72, 138)	1037 (706, 1476)	198 (131, 289)	584 (379, 848)	156 (96, 241)	1080 (694, 1582)	435 (214, 751)	4564 (3870, 5429)
			% CMD	15.1 (11.1, 19.6)	9.1 (6.5, 12)	17.7 (12.2, 24)	9.8 (6.9, 12.9)	20 (12.9, 29.4)	7.5 (5.3, 10.2)	11.4 (7.8, 16.2)	5.5 (3.6, 8)	4.8 (3.1, 7)	3.1 (1.9, 4.8)	2.8 (1.8, 4.1)	1.6 (0.8, 2.8)	4.5 (3.8, 5.3)
		Race														
		White	*N deaths*	461 (348, 576)	171 (113, 239)	1466 (1068, 1900)	608 (439, 792)	4778 (3229, 6352)	1321 (964, 1702)	6098 (4221, 8098)	2205 (1411, 3122)	4047 (2689, 5536)	2225 (1381, 3188)	6276 (4464, 8139)	5424 (3896, 7236)	35170 (31116, 39318)
			% CMD	34.3 (25.9, 42.9)	25.5 (16.8, 35.5)	29.6 (21.6, 38.4)	25.6 (18.5, 33.3)	24.7 (16.7, 32.8)	16.2 (11.9, 20.9)	14.7 (10.2, 19.5)	12.1 (7.8, 17.2)	7.5 (5, 10.2)	7 (4.3, 10)	3.9 (2.8, 5.1)	2.6 (1.9, 3.4)	6.4 (5.6, 7.1)
		Black	*N deaths*	154 (117, 187)	91 (67, 112)	588 (463, 706)	258 (193, 313)	1230 (915, 1534)	774 (578, 977)	1769 (1295, 2248)	1024 (728, 1329)	1195 (857, 1561)	915 (645, 1172)	851 (591, 1161)	1845 (1345, 2393)	10689 (9741, 11754)
			% CMD	25.1 (19.1, 30.5)	25.3 (18.6, 31.2)	28.5 (22.4, 34.2)	22.3 (16.7, 27)	20.8 (15.5, 26)	21.1 (15.8, 26.7)	17.1 (12.5, 21.7)	15.8 (11.2, 20.5)	12.3 (8.8, 16)	12.1 (8.5, 15.5)	6.1 (4.3, 8.4)	8.1 (5.9, 10.5)	12.6 (11.5, 13.9)
		Hispanic	*N deaths*	73 (58, 89)	28 (20, 35)	240 (182, 298)	61 (46, 78)	581 (422, 742)	162 (120, 203)	690 (498, 904)	269 (178, 364)	488 (338, 645)	290 (173, 606)	375 (205, 595)	369 (255, 498)	3657 (3240, 4154)
			% CMD	22.4 (17.9, 27.2)	20.2 (14.8, 25.8)	24 (18.2, 29.9)	16.6 (12.4, 20.9)	23.2 (16.9, 29.7)	15.3 (11.4, 19.3)	16.4 (11.9, 21.5)	12.8 (8.5, 17.4)	10.7 (7.4, 14.1)	9.4 (5.6, 19.7)	3.9 (2.1, 6.1)	2.9 (2, 3.9)	8.7 (7.7, 9.9)
		Other	*N deaths*	23 (16, 29)	8 (5, 13)	109 (73, 139)	15 (11, 20)	158 (99, 227)	40 (28, 53)	423 (277, 588)	44 (28, 62)	180 (107, 280)	165 (82, 416)	170 (105, 248)	169 (75, 819)	1526 (1281, 2278)
			% CMD	17.3 (12.2, 21.9)	11 (6.9, 17.4)	24 (16, 30.7)	8.9 (6.3, 11.8)	12.7 (8, 18.3)	8.4 (5.9, 11.1)	19.5 (12.8, 27.2)	4.1 (2.7, 5.8)	7.1 (4.2, 11)	9.9 (4.9, 24.8)	3 (1.8, 4.4)	2.4 (1.1, 11.6)	6.7 (5.6, 10)
		Total	*N deaths*	461 (348, 576)	171 (113, 239)	1466 (1068, 1900)	608 (439, 792)	4778 (3229, 6352)	1321 (964, 1702)	6098 (4221, 8098)	2205 (1411, 3122)	4047 (2689, 5536)	2225 (1381, 3188)	6276 (4464, 8139)	5424 (3896, 7236)	**51694 (46363, 57156)**
			% CMD	34.3 (25.9, 42.9)	25.5 (16.8, 35.5)	29.6 (21.6, 38.4)	25.6 (18.5, 33.3)	24.7 (16.7, 32.8)	16.2 (11.9, 20.9)	14.7 (10.2, 19.5)	12.1 (7.8, 17.2)	7.5 (5, 10.2)	7 (4.3, 10)	3.9 (2.8, 5.1)	2.6 (1.9, 3.4)	**7.4 (6.6, 8.1)**
PUFA replacing Carbs[g]	**Coronary heart disease**	**Overall by age**	*N deaths*	112 (66, 152)		493 (310, 689)		1720 (1060, 2390)		3054 (1805, 4168)		3451 (2248, 4832)		7221 (4986, 9359)		**M: 10056 (7766, 12353) F: 5995 (4306, 7630)**
(<11% E/d)			*% CHD*	10.9 (6.4, 14.8)		9.5 (6, 13.3)		7.8 (4.8, 10.9)		6.4 (3.8, 8.7)		5.5 (3.6, 7.7)		3.1 (2.1, 4)		**M: 4.9 (3.8, 6) F: 3.6 (2.6, 4.6)**
		Education														
		<High-school	*N deaths*	21 (11, 31)	7 (4, 11)	79 (43, 118)	32 (16, 47)	245 (117, 414)	103 (51, 152)	397 (208, 613)	161 (84, 249)	498 (261, 784)	287 (145, 430)	878 (489, 1288)	1031 (560, 1521)	3766 (3045, 4523)
			% CHD	12.6 (6.7, 18.6)	12.4 (6.5, 18.5)	10.8 (5.9, 16)	11.1 (5.6, 16)	7.7 (3.7, 13)	8.7 (4.3, 12.8)	6.6 (3.5, 10.2)	6.6 (3.4, 10.2)	5.6 (2.9, 8.8)	6 (3, 9)	3.2 (1.8, 4.7)	3 (1.6, 4.4)	4.2 (3.4, 5.1)
		High-school	*N deaths*	57 (31, 85)	18 (9, 26)	258 (130, 379)	76 (36, 116)	912 (494, 1365)	252 (127, 391)	1512 (757, 2217)	467 (248, 707)	1465 (767, 2224)	696 (366, 1040)	1973 (1199, 2860)	2020 (1186, 2983)	9789 (8054, 11376)
			% CHD	11.2 (6.1, 16.6)	10.4 (5.5, 15.3)	9.8 (4.9, 14.4)	8.4 (4, 12.8)	8.3 (4.5, 12.5)	6.7 (3.4, 10.4)	6.8 (3.4, 10)	5.3 (2.8, 8.1)	6 (3.1, 9.1)	5.1 (2.7, 7.7)	3.4 (2.1, 4.9)	2.7 (1.6, 4)	4.5 (3.7, 5.2)
		College	*N deaths*	7 (3, 11)	3 (2, 5)	37 (20, 57)	10 (5, 15)	144 (75, 218)	36 (17, 55)	347 (178, 542)	88 (44, 135)	350 (170, 544)	115 (58, 177)	669 (367, 994)	315 (162, 489)	2124 (1706, 2571)
			% CHD	9.7 (4.6, 14.8)	10.2 (5.6, 15.3)	9 (4.9, 13.7)	8.4 (4.4, 12.7)	7.7 (4, 11.7)	7.3 (3.5, 11.2)	6.4 (3.3, 9.9)	5.5 (2.8, 8.4)	5 (2.4, 7.7)	5.2 (2.6, 7.9)	3.1 (1.7, 4.6)	2.5 (1.3, 3.9)	4 (3.2, 4.8)
		Race														
		White	*N deaths*	49 (25, 72)	19 (10, 28)	244 (121, 363)	80 (41, 120)	941 (479, 1405)	276 (140, 428)	1703 (860, 2479)	507 (263, 762)	1784 (908, 2694)	819 (429, 1188)	2962 (1692, 4321)	2767 (1527, 4117)	12183 (9862, 14534)
			% CHD	10.6 (5.4, 15.6)	11.5 (6.3, 17.1)	9.6 (4.8, 14.4)	8.7 (4.5, 13.1)	7.9 (4, 11.8)	7.3 (3.7, 11.3)	6.5 (3.3, 9.5)	5.6 (2.9, 8.4)	5.4 (2.7, 8.2)	5.2 (2.7, 7.5)	3.2 (1.8, 4.6)	2.7 (1.5, 4)	4.1 (3.3, 4.8)
		Black	*N deaths*	19 (10, 29)	6 (3, 10)	68 (35, 104)	23 (12, 35)	184 (93, 275)	82 (43, 124)	307 (154, 465)	129 (60, 201)	260 (130, 406)	143 (71, 222)	237 (136, 346)	365 (213, 528)	1831 (1499, 2159)
			% CHD	11.2 (5.6, 16.5)	8.7 (4.7, 13.9)	9.1 (4.7, 13.9)	8.3 (4.1, 12.5)	7.2 (3.6, 10.7)	6.6 (3.4, 9.9)	6 (3, 9.1)	4.8 (2.2, 7.5)	5.4 (2.7, 8.4)	4.3 (2.2, 6.8)	3.3 (1.9, 4.8)	3.4 (2, 4.9)	4.7 (3.8, 5.5)
		Hispanic	*N deaths*	9 (5, 14)	2 (1, 3)	37 (19, 55)	9 (4, 13)	111 (57, 166)	32 (18, 47)	167 (89, 251)	67 (34, 99)	166 (86, 247)	86 (44, 128)	227 (126, 328)	245 (141, 356)	1160 (969, 1371)
			% CHD	11.6 (5.9, 17.3)	11.2 (5.8, 16.9)	10.6 (5.3, 15.8)	9.3 (4.7, 14.3)	9.3 (4.8, 13.9)	9.2 (5.1, 13.4)	7.5 (4, 11.3)	7.7 (3.9, 11.3)	6.7 (3.5, 10)	6.6 (3.4, 9.9)	4.2 (2.3, 6.1)	3.9 (2.2, 5.6)	5.6 (4.7, 6.6)
		Other	*N deaths*	5 (3, 8)	1 (0, 1)	21 (11, 32)	5 (2, 7)	60 (28, 91)	9 (5, 15)	106 (50, 165)	19 (6, 37)	98 (52, 154)	54 (28, 80)	102 (55, 160)	125 (74, 181)	607 (494, 729)
			% CHD	11.5 (6.1, 17.7)	9 (4.5, 14)	9.8 (5.2, 15.2)	10.3 (5.4, 15.4)	8.9 (4.2, 13.6)	5.9 (2.9, 9.5)	8.9 (4.2, 13.9)	4.5 (1.5, 8.9)	7.1 (3.7, 11.1)	7.8 (4, 11.4)	3.3 (1.8, 5.2)	3.8 (2.2, 5.4)	5.4 (4.4, 6.5)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		Total	*N deaths*	83 (40, 122)	28 (13, 41)	377 (200, 564)	118 (65, 179)	1314 (678, 1951)	407 (211, 609)	2297 (1159, 3382)	748 (361, 1104)	2352 (1257, 3561)	1106 (577, 1658)	3605 (2078, 5147)	3569 (2076, 5141)	**16025 (13280, 18925)**
			% CHD	10.9 (5.2, 16)	10.7 (5.1, 15.8)	9.8 (5.2, 14.7)	8.8 (4.8, 13.3)	8 (4.1, 11.9)	7.3 (3.8, 11)	6.6 (3.3, 9.8)	5.7 (2.8, 8.4)	5.6 (3, 8.5)	5.3 (2.7, 7.9)	3.3 (1.9, 4.7)	2.9 (1.7, 4.2)	**4.3 (3.6, 5.1)**
PUFA replacing Carbs[g]	**Cardiometabolic disease**	**Overall by age**	*N deaths*	112 (66, 152)		493 (310, 689)		1720 (1060, 2390)		3054 (1805, 4168)		3451 (2248, 4832)		7221 (4986, 9359)		**M: 10056 (7766, 12353) F: 5995 (4306, 7630)**
(<11% E/d)			*% CMD*	3.1 (1.8, 4.2)		3.9 (2.5, 5.5)		4.1 (2.5, 5.6)		3.5 (2.1, 4.8)		3 (2, 4.2)		1.6 (1.1, 2.1)		**M: 2.8 (2.2, 3.4) F: 1.7 (1.3, 2.2)**
		Education														
		<High-school	*N deaths*	21 (11, 31)	7 (4, 11)	79 (43, 118)	32 (16, 47)	245 (117, 414)	103 (51, 152)	397 (208, 613)	161 (84, 249)	498 (261, 784)	287 (145, 430)	878 (489, 1288)	1031 (560, 1521)	3766 (3045, 4523)
			% CMD	4.1 (2.1, 6)	2.8 (1.5, 4.2)	4.8 (2.6, 7.1)	4 (2, 5.8)	4.3 (2, 7.2)	3.9 (1.9, 5.8)	3.9 (2, 6)	3.1 (1.6, 4.9)	3.2 (1.7, 5.1)	2.9 (1.5, 4.3)	1.8 (1, 2.7)	1.5 (0.8, 2.2)	2.2 (1.8, 2.7)
		High-school	*N deaths*	57 (31, 85)	18 (9, 26)	258 (130, 379)	76 (36, 116)	912 (494, 1365)	252 (127, 391)	1512 (757, 2217)	467 (248, 707)	1465 (767, 2224)	696 (366, 1040)	1973 (1199, 2860)	2020 (1186, 2983)	9789 (8054, 11376)
			% CMD	3.6 (2, 5.3)	2.2 (1.2, 3.2)	4.5 (2.3, 6.6)	2.8 (1.3, 4.3)	4.7 (2.6, 7.1)	2.8 (1.4, 4.3)	4.1 (2, 6)	2.5 (1.3, 3.8)	3.5 (1.9, 5.4)	2.5 (1.3, 3.7)	2 (1.2, 2.9)	1.3 (0.8, 2)	2.4 (1.9, 2.7)
		College	*N deaths*	7 (3, 11)	3 (2, 5)	37 (20, 57)	10 (5, 15)	144 (75, 218)	36 (17, 55)	347 (178, 542)	88 (44, 135)	350 (170, 544)	115 (58, 177)	669 (367, 994)	315 (162, 489)	2124 (1706, 2571)
			% CMD	2.8 (1.3, 4.2)	2.1 (1.1, 3.1)	4 (2.2, 6.1)	2.1 (1.1, 3.2)	4.4 (2.3, 6.6)	2.7 (1.3, 4.1)	3.8 (2, 6)	2.4 (1.2, 3.8)	2.9 (1.4, 4.5)	2.3 (1.1, 3.5)	1.7 (1, 2.6)	1.2 (0.6, 1.8)	2.1 (1.7, 2.5)
		Race														
		White	*N deaths*	49 (25, 72)	19 (10, 28)	244 (121, 363)	80 (41, 120)	941 (479, 1405)	276 (140, 428)	1703 (860, 2479)	507 (263, 762)	1784 (908, 2694)	819 (429, 1188)	2962 (1692, 4321)	2767 (1527, 4117)	12183 (9862, 14534)
			% CHD	3.7 (1.9, 5.4)	2.8 (1.5, 4.1)	4.9 (2.4, 7.3)	3.4 (1.7, 5.1)	4.9 (2.5, 7.3)	3.4 (1.7, 5.3)	4.1 (2.1, 6)	2.8 (1.4, 4.2)	3.3 (1.7, 5)	2.6 (1.3, 3.7)	1.9 (1.1, 2.7)	1.3 (0.7, 2)	2.2 (1.8, 2.6)
		Black	*N deaths*	19 (10, 29)	6 (3, 10)	68 (35, 104)	23 (12, 35)	184 (93, 275)	82 (43, 124)	307 (154, 465)	129 (60, 201)	260 (130, 406)	143 (71, 222)	237 (136, 346)	365 (213, 528)	1831 (1499, 2159)
			% CHD	3.2 (1.6, 4.7)	1.7 (0.9, 2.7)	3.3 (1.7, 5.1)	2 (1, 3.1)	3.1 (1.6, 4.7)	2.2 (1.2, 3.4)	3 (1.5, 4.5)	2 (0.9, 3.1)	2.7 (1.3, 4.2)	1.9 (0.9, 2.9)	1.7 (1, 2.5)	1.6 (0.9, 2.3)	2.2 (1.8, 2.6)
		Hispanic	*N deaths*	9 (5, 14)	2 (1, 3)	37 (19, 55)	9 (4, 13)	111 (57, 166)	32 (18, 47)	167 (89, 251)	67 (34, 99)	166 (86, 247)	86 (44, 128)	227 (126, 328)	245 (141, 356)	1160 (969, 1371)
			% CHD	2.8 (1.4, 4.2)	1.6 (0.8, 2.5)	3.7 (1.9, 5.5)	2.3 (1.2, 3.5)	4.4 (2.3, 6.6)	3 (1.7, 4.4)	4 (2.1, 6)	3.2 (1.6, 4.7)	3.6 (1.9, 5.4)	2.8 (1.4, 4.2)	2.3 (1.3, 3.4)	1.9 (1.1, 2.8)	2.8 (2.3, 3.3)
		Other	*N deaths*	5 (3, 8)	1 (0, 1)	21 (11, 32)	5 (2, 7)	60 (28, 91)	9 (5, 15)	106 (50, 165)	19 (6, 37)	98 (52, 154)	54 (28, 80)	102 (55, 160)	125 (74, 181)	607 (494, 729)
			% CHD	3.8 (2, 5.9)	1.2 (0.6, 1.9)	4.6 (2.4, 7.1)	2.8 (1.4, 4.2)	4.8 (2.3, 7.4)	1.9 (0.9, 3.1)	4.9 (2.3, 7.7)	1.7 (0.6, 3.4)	3.9 (2, 6.1)	3.2 (1.7, 4.7)	1.8 (1, 2.8)	1.8 (1.1, 2.6)	2.7 (2.2, 3.2)
		Total	*N deaths*	83 (40, 122)	28 (13, 41)	377 (200, 564)	118 (65, 179)	1314 (678, 1951)	407 (211, 609)	2297 (1159, 3382)	748 (361, 1104)	2352 (1257, 3561)	1106 (577, 1658)	3605 (2078, 5147)	3569 (2076, 5141)	**16025 (13280, 18925)**
			% CMD	3.4 (1.6, 5.1)	2.3 (1.1, 3.3)	4.5 (2.4, 6.7)	2.9 (1.6, 4.4)	4.5 (2.3, 6.7)	3.1 (1.6, 4.6)	3.9 (2, 5.8)	2.7 (1.3, 4)	3.3 (1.8, 5)	2.5 (1.3, 3.7)	1.9 (1.1, 2.7)	1.4 (0.8, 2)	**2.3 (1.9, 2.7)**
PUFA replacing SFA[g]	**Coronary heart disease**	**Overall by age**	*N deaths*	100 (63, 140)		446 (252, 634)		1555 (947, 2220)		2795 (1624, 3889)		3128 (1928, 4337)		6358 (4178, 8399)		**9078 (6891, 11275) 5293 (3776, 6946)**
(<11% E/d)			*% CHD*	9.8 (6.1, 13.7)		8.6 (4.9, 12.2)		7.1 (4.3, 10.1)		5.9 (3.4, 8.2)		5 (3.1, 6.9)		2.7 (1.8, 3.6)		**4.4 (3.3, 5.5) 3.2 (2.3, 4.2)**
		Education														
		<High-school	*N deaths*	20 (10, 29)	6 (3, 9)	73 (39, 109)	29 (15, 43)	222 (115, 365)	93 (45, 140)	368 (177, 560)	147 (71, 224)	460 (234, 734)	264 (139, 402)	786 (426, 1102)	931 (540, 1396)	3416 (2760, 4066)
			% CHD	11.6 (6.1, 17.1)	11.1 (6, 16.5)	10 (5.3, 14.9)	9.9 (5.1, 14.8)	6.9 (3.6, 11.4)	7.8 (3.8, 11.8)	6.1 (3, 9.3)	6 (2.9, 9.2)	5.2 (2.6, 8.3)	5.5 (2.9, 8.4)	2.9 (1.6, 4)	2.7 (1.6, 4.1)	3.8 (3.1, 4.5)
		High-school	*N deaths*	53 (26, 77)	16 (8, 24)	232 (122, 347)	67 (34, 106)	824 (411, 1265)	232 (111, 367)	1361 (703, 2043)	428 (208, 644)	1375 (647, 2036)	626 (320, 944)	1800 (1043, 2584)	1830 (1058, 2775)	8848 (7236, 10474)
			% CHD	10.3 (5.1, 15.1)	9.5 (4.6, 14.2)	8.8 (4.6, 13.2)	7.4 (3.8, 11.7)	7.5 (3.8, 11.6)	6.2 (3, 9.8)	6.2 (3.2, 9.2)	4.9 (2.4, 7.4)	5.6 (2.6, 8.3)	4.6 (2.4, 7)	3.1 (1.8, 4.5)	2.5 (1.4, 3.7)	4 (3.3, 4.8)
		College	*N deaths*	7 (3, 10)	3 (2, 5)	35 (16, 51)	9 (4, 14)	132 (66, 202)	33 (17, 51)	320 (157, 484)	82 (42, 125)	317 (157, 485)	102 (51, 158)	596 (311, 881)	282 (160, 441)	1919 (1499, 2325)
			% CHD	8.7 (4.1, 13.3)	9.4 (4.8, 14.2)	8.3 (3.9, 12.2)	7.7 (3.6, 11.6)	7.1 (3.5, 10.8)	6.8 (3.5, 10.3)	5.9 (2.9, 8.9)	5.1 (2.6, 7.8)	4.5 (2.2, 6.9)	4.6 (2.3, 7.1)	2.7 (1.4, 4)	2.3 (1.3, 3.6)	3.6 (2.8, 4.3)
		Race														
		White	*N deaths*	45 (24, 66)	17 (8, 25)	225 (106, 333)	72 (38, 107)	843 (414, 1342)	247 (114, 387)	1539 (708, 2315)	466 (222, 707)	1599 (849, 2437)	732 (391, 1113)	2726 (1569, 3905)	2495 (1326, 3700)	11020 (8818, 13011)
			% CHD	9.6 (5.1, 14.2)	10.4 (5.2, 15.5)	8.9 (4.2, 13.2)	7.8 (4.1, 11.6)	7.1 (3.5, 11.3)	6.5 (3, 10.2)	5.9 (2.7, 8.9)	5.1 (2.4, 7.7)	4.8 (2.6, 7.4)	4.6 (2.5, 7.1)	2.9 (1.7, 4.2)	2.4 (1.3, 3.6)	3.7 (2.9, 4.3)
		Black	*N deaths*	17 (9, 26)	6 (3, 9)	62 (29, 99)	21 (10, 34)	163 (76, 249)	74 (35, 115)	287 (146, 421)	116 (55, 186)	236 (115, 364)	130 (66, 204)	210 (119, 308)	330 (180, 483)	1654 (1359, 1963)
			% CHD	10 (4.9, 15)	8 (4.1, 12.3)	8.2 (3.9, 13.2)	7.4 (3.6, 12)	6.3 (3, 9.7)	5.9 (2.8, 9.2)	5.6 (2.8, 8.2)	4.3 (2.1, 6.9)	4.9 (2.4, 7.5)	4 (2, 6.2)	2.9 (1.6, 4.3)	3.1 (1.7, 4.5)	4.2 (3.5, 5)
		Hispanic	*N deaths*	8 (4, 13)	2 (1, 3)	33 (17, 49)	8 (4, 12)	101 (53, 152)	29 (15, 44)	152 (79, 229)	59 (28, 91)	149 (77, 223)	76 (39, 117)	208 (105, 304)	220 (119, 329)	1048 (852, 1251)
			% CHD	10.5 (5.2, 16)	10.1 (4.8, 15.1)	9.5 (4.9, 14.1)	8.6 (4.2, 13.4)	8.5 (4.5, 12.8)	8.4 (4.2, 12.5)	6.8 (3.5, 10.3)	6.8 (3.2, 10.5)	6 (3.1, 9)	5.9 (3, 9)	3.8 (1.9, 5.6)	3.5 (1.9, 5.2)	5.1 (4.1, 6)
		Other	*N deaths*	5 (2, 7)	1 (0, 1)	18 (9, 29)	4 (2, 7)	53 (26, 83)	8 (4, 14)	93 (43, 152)	17 (6, 33)	89 (45, 137)	49 (25, 74)	90 (45, 141)	114 (64, 169)	547 (438, 658)
			% CHD	10.4 (5.1, 16.5)	8.1 (4.5, 12.5)	8.7 (4.1, 13.6)	9.1 (4.7, 14.4)	7.9 (3.9, 12.4)	5.3 (2.3, 9)	7.8 (3.6, 12.8)	4.1 (1.4, 7.9)	6.4 (3.2, 9.9)	7.1 (3.6, 10.6)	2.9 (1.5, 4.5)	3.4 (1.9, 5.1)	4.9 (3.9, 5.8)
		Total	*N deaths*	76 (40, 112)	26 (13, 38)	341 (159, 521)	106 (49, 164)	1195 (600, 1828)	363 (174, 558)	2113 (987, 3152)	680 (341, 1003)	2139 (1032, 3221)	992 (489, 1484)	3229 (1898, 4704)	3121 (1705, 4599)	**14382 (11732, 17079)**
			% CHD	9.9 (5.2, 14.7)	9.8 (4.8, 14.4)	8.9 (4.1, 13.6)	7.9 (3.7, 12.2)	7.3 (3.7, 11.2)	6.5 (3.1, 10.1)	6.1 (2.9, 9.1)	5.2 (2.6, 7.7)	5.1 (2.5, 7.7)	4.7 (2.3, 7)	3 (1.7, 4.3)	2.5 (1.4, 3.7)	**3.9 (3.2, 4.6)**
PUFA replacing SFA[g]	**Cardiometabolic disease**	**Overall by age**	*N deaths*	100 (63, 140)		446 (252, 634)		1555 (947, 2220)		2795 (1624, 3889)		3128 (1928, 4337)		6358 (4178, 8399)		**M : 9078 (6891, 11275) F: 5293 (3776, 6946)**
(<11% E/d)			*% CMD*	2.7 (1.7, 3.8)		3.6 (2, 5.1)		3.7 (2.2, 5.2)		3.2 (1.9, 4.5)		2.7 (1.7, 3.8)		1.4 (0.9, 1.9)		**M: 2.5 (1.9, 3.1) F: 1.5 (1.1, 2)**
		Education														
		<High-school	*N deaths*	20 (10, 29)	6 (3, 9)	73 (39, 109)	29 (15, 43)	222 (115, 365)	93 (45, 140)	368 (177, 560)	147 (71, 224)	460 (234, 734)	264 (139, 402)	786 (426, 1102)	931 (540, 1396)	3416 (2760, 4066)
			% CMD	3.7 (2, 5.5)	2.5 (1.4, 3.7)	4.5 (2.4, 6.6)	3.6 (1.8, 5.3)	3.9 (2, 6.3)	3.5 (1.7, 5.3)	3.6 (1.7, 5.5)	2.9 (1.4, 4.4)	3 (1.5, 4.8)	2.6 (1.4, 4)	1.6 (0.9, 2.3)	1.3 (0.8, 2)	2 (1.6, 2.4)
		High-school	*N deaths*	53 (26, 77)	16 (8, 24)	232 (122, 347)	67 (34, 106)	824 (411, 1265)	232 (111, 367)	1361 (703, 2043)	428 (208, 644)	1375 (647, 2036)	626 (320, 944)	1800 (1043, 2584)	1830 (1058, 2775)	8848 (7236, 10474)
			% CMD	3.3 (1.6, 4.8)	2 (1, 3)	4 (2.1, 6)	2.5 (1.3, 3.9)	4.3 (2.1, 6.6)	2.6 (1.2, 4.1)	3.7 (1.9, 5.5)	2.3 (1.1, 3.5)	3.3 (1.6, 4.9)	2.2 (1.1, 3.3)	1.8 (1.1, 2.6)	1.2 (0.7, 1.8)	2.1 (1.7, 2.5)
		College	*N deaths*	7 (3, 10)	3 (2, 5)	35 (16, 51)	9 (4, 14)	132 (66, 202)	33 (17, 51)	320 (157, 484)	82 (42, 125)	317 (157, 485)	102 (51, 158)	596 (311, 881)	282 (160, 441)	1919 (1499, 2325)
			% CMD	2.5 (1.2, 3.8)	1.9 (1, 2.9)	3.7 (1.7, 5.4)	1.9 (0.9, 3)	4 (2, 6.1)	2.5 (1.3, 3.7)	3.5 (1.7, 5.3)	2.3 (1.2, 3.5)	2.6 (1.3, 4)	2 (1, 3.1)	1.5 (0.8, 2.3)	1 (0.6, 1.6)	1.9 (1.5, 2.3)
		Race														
		White	*N deaths*	45 (24, 66)	17 (8, 25)	225 (106, 333)	72 (38, 107)	843 (414, 1342)	247 (114, 387)	1539 (708, 2315)	466 (222, 707)	1599 (849, 2437)	732 (391, 1113)	2726 (1569, 3905)	2495 (1326, 3700)	11020 (8818, 13011)
			% CHD	3.3 (1.8, 4.9)	2.5 (1.2, 3.7)	4.5 (2.1, 6.7)	3 (1.6, 4.5)	4.4 (2.1, 6.9)	3 (1.4, 4.8)	3.7 (1.7, 5.6)	2.6 (1.2, 3.9)	3 (1.6, 4.5)	2.3 (1.2, 3.5)	1.7 (1, 2.4)	1.2 (0.6, 1.8)	2 (1.6, 2.4)
		Black	*N deaths*	17 (9, 26)	6 (3, 9)	62 (29, 99)	21 (10, 34)	163 (76, 249)	74 (35, 115)	287 (146, 421)	116 (55, 186)	236 (115, 364)	130 (66, 204)	210 (119, 308)	330 (180, 483)	1654 (1359, 1963)
			% CHD	2.8 (1.4, 4.3)	1.6 (0.8, 2.4)	3 (1.4, 4.8)	1.8 (0.9, 2.9)	2.8 (1.3, 4.2)	2 (0.9, 3.1)	2.8 (1.4, 4.1)	1.8 (0.9, 2.9)	2.4 (1.2, 3.7)	1.7 (0.9, 2.7)	1.5 (0.9, 2.2)	1.4 (0.8, 2.1)	2 (1.6, 2.3)
		Hispanic	*N deaths*	8 (4, 13)	2 (1, 3)	33 (17, 49)	8 (4, 12)	101 (53, 152)	29 (15, 44)	152 (79, 229)	59 (28, 91)	149 (77, 223)	76 (39, 117)	208 (105, 304)	220 (119, 329)	1048 (852, 1251)
			% CHD	2.5 (1.3, 3.9)	1.5 (0.7, 2.2)	3.3 (1.7, 4.9)	2.1 (1, 3.3)	4.1 (2.1, 6.1)	2.8 (1.4, 4.1)	3.6 (1.9, 5.5)	2.8 (1.3, 4.3)	3.3 (1.7, 4.9)	2.5 (1.3, 3.8)	2.1 (1.1, 3.1)	1.7 (0.9, 2.6)	2.5 (2, 3)
		Other	*N deaths*	5 (2, 7)	1 (0, 1)	18 (9, 29)	4 (2, 7)	53 (26, 83)	8 (4, 14)	93 (43, 152)	17 (6, 33)	89 (45, 137)	49 (25, 74)	90 (45, 141)	114 (64, 169)	547 (438, 658)
			% CHD	3.5 (1.7, 5.5)	1.1 (0.6, 1.7)	4.1 (1.9, 6.3)	2.4 (1.3, 3.9)	4.3 (2.1, 6.7)	1.7 (0.8, 2.9)	4.3 (2, 7)	1.6 (0.5, 3.1)	3.5 (1.8, 5.4)	2.9 (1.5, 4.4)	1.6 (0.8, 2.5)	1.6 (0.9, 2.4)	2.4 (1.9, 2.9)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
		Total	*N deaths*	76 (40, 112)	26 (13, 38)	341 (159, 521)	106 (49, 164)	1195 (600, 1828)	363 (174, 558)	2113 (987, 3152)	680 (341, 1003)	2139 (1032, 3221)	992 (489, 1484)	3229 (1898, 4704)	3121 (1705, 4599)	**14382 (11732, 17079)**
			% CMD	3.1 (1.7, 4.6)	2.1 (1, 3)	4 (1.9, 6.2)	2.6 (1.2, 4)	4.1 (2.1, 6.3)	2.7 (1.3, 4.2)	3.6 (1.7, 5.4)	2.4 (1.2, 3.6)	3 (1.5, 4.5)	2.2 (1.1, 3.4)	1.7 (1, 2.5)	1.2 (0.7, 1.8)	**2 (1.7, 2.4)**
SFA replacing PUFA[e]	**Coronary heart disease**	**Overall by age**	*N deaths*	16 (10, 26)		125 (64, 194)		526 (273, 792)		882 (475, 1340)		858 (516, 1275)		1822 (1174, 2660)		**M: 2678 (1967, 3542) F: 1571 (1045, 2198)**
(>10% E/d)			*% CHD*	1.6 (0.9, 2.6)		2.4 (1.2, 3.7)		2.4 (1.2, 3.6)		1.8 (1, 2.8)		1.4 (0.8, 2)		0.8 (0.5, 1.1)		**M: 1.3 (1, 1.7) F: 1 (0.6, 1.3)**
		Education														
		<High-school	*N deaths*	0 (0, 2)	1 (0, 2)	2 (0, 9)	0 (0, 0)	83 (30, 174)	17 (7, 30)	97 (40, 176)	44 (18, 86)	171 (71, 306)	54 (19, 115)	209 (102, 370)	205 (99, 344)	905 (685, 1159)
			% CHD	0.2 (0, 1)	1.5 (0.7, 2.9)	0.3 (0, 1.2)	0 (0, 0.1)	2.6 (0.9, 5.4)	1.4 (0.6, 2.5)	1.6 (0.7, 2.9)	1.8 (0.7, 3.5)	1.9 (0.8, 3.4)	1.1 (0.4, 2.4)	0.8 (0.4, 1.4)	0.6 (0.3, 1)	1 (0.8, 1.3)
		High-school	*N deaths*	9 (3, 18)	4 (2, 7)	73 (32, 128)	13 (6, 24)	291 (123, 517)	109 (49, 180)	540 (250, 938)	135 (62, 222)	396 (178, 699)	195 (79, 338)	409 (175, 817)	641 (318, 1050)	2903 (2234, 3616)
			% CHD	1.8 (0.7, 3.6)	2.1 (1, 4)	2.8 (1.2, 4.8)	1.4 (0.6, 2.6)	2.7 (1.1, 4.7)	2.9 (1.3, 4.8)	2.4 (1.1, 4.2)	1.5 (0.7, 2.5)	1.6 (0.7, 2.8)	1.4 (0.6, 2.5)	0.7 (0.3, 1.4)	0.9 (0.4, 1.4)	1.3 (1, 1.6)
		College	*N deaths*	1 (0, 3)	1 (0, 1)	17 (8, 28)	2 (1, 5)	33 (11, 69)	7 (0, 20)	87 (38, 149)	9 (2, 28)	42 (12, 109)	42 (14, 85)	231 (100, 424)	97 (37, 198)	586 (407, 796)
			% CHD	1.6 (0.6, 3.4)	1.7 (0.7, 3.5)	4 (1.8, 6.7)	2 (0.8, 4)	1.8 (0.6, 3.7)	1.4 (0, 4)	1.6 (0.7, 2.7)	0.5 (0.1, 1.7)	0.6 (0.2, 1.5)	1.9 (0.6, 3.8)	1.1 (0.5, 1.9)	0.8 (0.3, 1.6)	1.1 (0.8, 1.5)
		Race														
		White	*N deaths*	11 (5, 20)	4 (2, 7)	88 (41, 144)	14 (5, 27)	410 (194, 680)	107 (46, 180)	628 (285, 1047)	142 (60, 248)	549 (250, 920)	284 (140, 479)	844 (424, 1509)	929 (473, 1470)	4022 (3166, 4990)
			% CHD	2.3 (1, 4.4)	2.4 (1.1, 4.3)	3.5 (1.6, 5.7)	1.5 (0.6, 2.9)	3.4 (1.6, 5.7)	2.8 (1.2, 4.7)	2.4 (1.1, 4)	1.6 (0.7, 2.7)	1.7 (0.8, 2.8)	1.8 (0.9, 3)	0.9 (0.5, 1.6)	0.9 (0.5, 1.4)	1.3 (1.1, 1.7)
		Black	*N deaths*	2 (1, 5)	1 (0, 2)	8 (3, 17)	4 (2, 9)	41 (17, 74)	12 (3, 30)	67 (30, 124)	32 (14, 60)	96 (47, 157)	68 (33, 115)	56 (0, 145)	29 (12, 55)	427 (316, 560)
			% CHD	1.2 (0.4, 3)	1.7 (0.7, 3.2)	1.1 (0.4, 2.2)	1.5 (0.5, 3.1)	1.6 (0.7, 2.9)	0.9 (0.3, 2.4)	1.3 (0.6, 2.4)	1.2 (0.5, 2.2)	2 (1, 3.2)	2.1 (1, 3.5)	0.8 (0, 2)	0.3 (0.1, 0.5)	1.1 (0.8, 1.4)
		Hispanic	*N deaths*	0 (0, 1)	0 (0, 0)	5 (0, 13)	1 (0, 2)	3 (0, 14)	4 (1, 9)	21 (8, 44)	3 (1, 6)	7 (0, 35)	3 (1, 8)	3 (0, 18)	26 (6, 87)	85 (50, 151)
			% CHD	0 (0, 1.1)	0.7 (0, 2.5)	1.4 (0.1, 3.8)	0.8 (0.3, 2)	0.3 (0, 1.1)	1.1 (0.4, 2.6)	0.9 (0.4, 2)	0.3 (0.1, 0.7)	0.3 (0, 1.4)	0.2 (0.1, 0.6)	0.1 (0, 0.3)	0.4 (0.1, 1.4)	0.4 (0.2, 0.7)
		Other	*N deaths*	0 (0, 1)	0 (0, 0)	0 (0, 1)	0 (0, 1)	1 (0, 3)	1 (0, 3)	0 (0, 6)	0 (0, 2)	9 (2, 29)	0 (0, 6)	8 (3, 18)	8 (2, 28)	32 (17, 59)
			% CHD	0.5 (0.1, 1.4)	0.6 (0.2, 1.8)	0.1 (0, 0.7)	0.2 (0, 1.6)	0.1 (0, 0.4)	0.4 (0, 1.8)	0 (0, 0.5)	0.1 (0, 0.4)	0.6 (0.2, 2.1)	0 (0, 0.9)	0.2 (0.1, 0.6)	0.3 (0.1, 0.8)	0.3 (0.2, 0.5)
		Total	*N deaths*	12 (5, 21)	5 (2, 8)	105 (48, 171)	18 (8, 31)	401 (179, 677)	118 (51, 208)	706 (333, 1173)	172 (81, 290)	549 (257, 941)	306 (132, 502)	878 (464, 1452)	930 (481, 1496)	**4244 (3366, 5278)**
			% CHD	1.5 (0.7, 2.8)	1.8 (0.9, 3.1)	2.7 (1.3, 4.5)	1.3 (0.6, 2.3)	2.4 (1.1, 4.1)	2.1 (0.9, 3.8)	2 (1, 3.4)	1.3 (0.6, 2.2)	1.3 (0.6, 2.3)	1.5 (0.6, 2.4)	0.8 (0.4, 1.3)	0.8 (0.4, 1.2)	**1.1 (0.9, 1.4)**
SFA replacing PUFA[e]	**Cardiometabolic disease**	**Overall by age**	*N deaths*	16 (10, 26)		125 (64, 194)		526 (273, 792)		882 (475, 1340)		858 (516, 1275)		1822 (1174, 2660)		**M: 2678 (1967, 3542) F: 1571 (1045, 2198)**
(>10% E/d)			*% CMD*	0.4 (0.3, 0.7)		1 (0.5, 1.5)		1.2 (0.6, 1.9)		1 (0.6, 1.6)		0.7 (0.4, 1.1)		0.4 (0.3, 0.6)		**M: 0.7 (0.5, 1) F: 0.5 (0.3, 0.6)**
		Education														
		<High-school	*N deaths*	0 (0, 2)	1 (0, 2)	2 (0, 9)	0 (0, 0)	83 (30, 174)	17 (7, 30)	97 (40, 176)	44 (18, 86)	171 (71, 306)	54 (19, 115)	209 (102, 370)	205 (99, 344)	905 (685, 1159)
			% CMD	0.1 (0, 0.3)	0.3 (0.2, 0.6)	0.1 (0, 0.5)	0 (0, 0)	1.4 (0.5, 3)	0.6 (0.3, 1.1)	0.9 (0.4, 1.7)	0.8 (0.3, 1.7)	1.1 (0.5, 2)	0.5 (0.2, 1.2)	0.4 (0.2, 0.8)	0.3 (0.1, 0.5)	0.5 (0.4, 0.7)
		High-school	*N deaths*	9 (3, 18)	4 (2, 7)	73 (32, 128)	13 (6, 24)	291 (123, 517)	109 (49, 180)	540 (250, 938)	135 (62, 222)	396 (178, 699)	195 (79, 338)	409 (175, 817)	641 (318, 1050)	2903 (2234, 3616)
			% CMD	0.6 (0.2, 1.1)	0.5 (0.2, 0.8)	1.3 (0.6, 2.2)	0.5 (0.2, 0.9)	1.5 (0.6, 2.7)	1.2 (0.5, 2)	1.5 (0.7, 2.5)	0.7 (0.3, 1.2)	1 (0.4, 1.7)	0.7 (0.3, 1.2)	0.4 (0.2, 0.8)	0.4 (0.2, 0.7)	0.7 (0.5, 0.9)
		College	*N deaths*	1 (0, 3)	1 (0, 1)	17 (8, 28)	2 (1, 5)	33 (11, 69)	7 (0, 20)	87 (38, 149)	9 (2, 28)	42 (12, 109)	42 (14, 85)	231 (100, 424)	97 (37, 198)	586 (407, 796)
			% CMD	0.5 (0.2, 1)	0.4 (0.1, 0.7)	1.8 (0.8, 3)	0.5 (0.2, 1)	1 (0.3, 2.1)	0.5 (0, 1.4)	1 (0.4, 1.6)	0.2 (0.1, 0.8)	0.3 (0.1, 0.9)	0.8 (0.3, 1.7)	0.6 (0.3, 1.1)	0.4 (0.1, 0.7)	0.6 (0.4, 0.8)
		Race														
		White	*N deaths*	11 (5, 20)	4 (2, 7)	88 (41, 144)	14 (5, 27)	410 (194, 680)	107 (46, 180)	628 (285, 1047)	142 (60, 248)	549 (250, 920)	284 (140, 479)	844 (424, 1509)	929 (473, 1470)	4051 (3155, 5138)
			% CHD	0.8 (0.3, 1.5)	0.6 (0.3, 1)	1.8 (0.8, 2.9)	0.6 (0.2, 1.1)	2.1 (1, 3.5)	1.3 (0.6, 2.2)	1.5 (0.7, 2.5)	0.8 (0.3, 1.4)	1 (0.5, 1.7)	0.9 (0.4, 1.5)	0.5 (0.3, 0.9)	0.4 (0.2, 0.7)	0.7 (0.6, 0.9)
		Black	*N deaths*	2 (1, 5)	1 (0, 2)	8 (3, 17)	4 (2, 9)	41 (17, 74)	12 (3, 30)	67 (30, 124)	32 (14, 60)	96 (47, 157)	68 (33, 115)	56 (0, 145)	29 (12, 55)	425 (317, 556)
			% CHD	0.3 (0.1, 0.8)	0.3 (0.1, 0.6)	0.4 (0.2, 0.8)	0.4 (0.1, 0.8)	0.7 (0.3, 1.3)	0.3 (0.1, 0.8)	0.6 (0.3, 1.2)	0.5 (0.2, 0.9)	1 (0.5, 1.6)	0.9 (0.4, 1.5)	0.4 (0, 1)	0.1 (0.1, 0.2)	0.5 (0.4, 0.7)
		Hispanic	*N deaths*	0 (0, 1)	0 (0, 0)	5 (0, 13)	1 (0, 2)	3 (0, 14)	4 (1, 9)	21 (8, 44)	3 (1, 6)	7 (0, 35)	3 (1, 8)	3 (0, 18)	26 (6, 87)	86 (48, 149)
			% CHD	0 (0, 0.3)	0.1 (0, 0.4)	0.5 (0, 1.3)	0.2 (0.1, 0.5)	0.1 (0, 0.5)	0.4 (0.1, 0.9)	0.5 (0.2, 1)	0.1 (0, 0.3)	0.1 (0, 0.8)	0.1 (0, 0.2)	0 (0, 0.2)	0.2 (0, 0.7)	0.2 (0.1, 0.4)
		Other	*N deaths*	0 (0, 1)	0 (0, 0)	0 (0, 1)	0 (0, 1)	1 (0, 3)	1 (0, 3)	0 (0, 6)	0 (0, 2)	9 (2, 29)	0 (0, 6)	8 (3, 18)	8 (2, 28)	33 (18, 59)
			% CHD	0.2 (0, 0.5)	0.1 (0, 0.2)	0.1 (0, 0.3)	0.1 (0, 0.4)	0 (0, 0.2)	0.1 (0, 0.6)	0 (0, 0.3)	0 (0, 0.2)	0.3 (0.1, 1.2)	0 (0, 0.4)	0.1 (0.1, 0.3)	0.1 (0, 0.4)	0.1 (0.1, 0.3)
		Total	*N deaths*	12 (5, 21)	5 (2, 8)	105 (48, 171)	18 (8, 31)	401 (179, 677)	118 (51, 208)	706 (333, 1173)	172 (81, 290)	549 (257, 941)	306 (132, 502)	878 (464, 1452)	930 (481, 1496)	**4244 (3366, 5278)**
			% CMD	0.5 (0.2, 0.9)	0.4 (0.2, 0.6)	1.2 (0.6, 2)	0.4 (0.2, 0.8)	1.4 (0.6, 2.3)	0.9 (0.4, 1.6)	1.2 (0.6, 2)	0.6 (0.3, 1)	0.8 (0.4, 1.3)	0.7 (0.3, 1.1)	0.5 (0.2, 0.8)	0.4 (0.2, 0.6)	**0.6 (0.5, 0.8)**
Seafood ω-3 fats	**Coronary heart disease**	**Overall by age**	*N deaths*	310 (199, 407)		1506 (962, 1958)		5641 (3863, 7392)		10167 (6770, 13557)		10397 (6692, 14141)		26560 (19177, 34558)		**M: 31545 (24388, 38996) F: 23033 (16109, 29618)**
(<250 m/d)			*% CHD*	30.3 (19.4, 39.7)		29.1 (18.6, 37.8)		25.7 (17.6, 33.7)		21.3 (14.2, 28.4)		16.6 (10.7, 22.5)		11.4 (8.2, 14.9)		**M: 15.3 (11.8, 18.9) F: 14 (9.8, 18)**
		Education														
		<High-school	*N deaths*	50 (26, 76)	19 (10, 27)	189 (95, 290)	97 (55, 134)	748 (381, 1182)	328 (184, 442)	1339 (649, 2053)	578 (316, 862)	1537 (690, 2583)	943 (509, 1397)	2680 (1486, 4126)	4505 (2601, 6452)	13125 (10691, 15701)
			% CHD	29.7 (15.4, 44.9)	33.7 (17.4, 47.9)	25.8 (12.9, 39.5)	33 (18.9, 45.8)	23.4 (11.9, 37)	27.6 (15.5, 37.3)	22.3 (10.8, 34.3)	23.7 (13, 35.4)	17.3 (7.8, 29.1)	19.6 (10.6, 29.1)	9.8 (5.4, 15.1)	13.1 (7.6, 18.7)	14.7 (11.9, 17.5)
		High-school	*N deaths*	155 (88, 223)	59 (35, 80)	762 (406, 1093)	268 (145, 380)	3005 (1611, 4204)	1043 (611, 1433)	4692 (2536, 7103)	2000 (1106, 2831)	3921 (1843, 6680)	2241 (1258, 3346)	7144 (4197, 9879)	9631 (5841, 13310)	34926 (28686, 41325)
			% CHD	30.2 (17.1, 43.5)	34.7 (20.7, 47.1)	28.9 (15.4, 41.5)	29.6 (16.1, 42)	27.5 (14.7, 38.5)	27.9 (16.3, 38.3)	21.2 (11.5, 32.2)	22.9 (12.6, 32.4)	16 (7.5, 27.2)	16.5 (9.3, 24.7)	12.3 (7.3, 17.1)	13 (7.9, 18)	15.9 (13.1, 18.8)
		College	*N deaths*	20 (11, 29)	9 (5, 13)	127 (73, 178)	37 (20, 52)	425 (228, 676)	105 (54, 167)	1119 (571, 1591)	327 (165, 497)	1099 (583, 1700)	369 (194, 582)	2156 (1184, 3440)	627 (122, 1433)	6440 (4954, 8047)
			% CHD	26.7 (14.4, 38.4)	28.3 (15.8, 40.5)	30.3 (17.5, 42.5)	30.4 (16.4, 42.7)	22.8 (12.3, 36.2)	21.3 (10.9, 33.8)	20.5 (10.5, 29.2)	20.3 (10.3, 31)	15.6 (8.3, 24.1)	16.5 (8.7, 26.1)	9.9 (5.4, 15.8)	5 (1, 11.5)	12 (9.2, 15)
		Race														
		White	*N deaths*	151 (83, 210)	55 (33, 76)	826 (445, 1148)	293 (163, 405)	3183 (1758, 4494)	999 (557, 1445)	5502 (2901, 8128)	2137 (1092, 3073)	5692 (2949, 8557)	2843 (1540, 4052)	10491 (6368, 14834)	12533 (7046, 17680)	44430 (36918, 52429)
			% CHD	32.5 (17.7, 45)	34.1 (20.2, 46.9)	32.7 (17.6, 45.4)	31.8 (17.8, 44)	26.7 (14.7, 37.7)	26.3 (14.7, 38)	21.1 (11.1, 31.2)	23.4 (12, 33.7)	17.2 (8.9, 25.9)	18 (9.8, 25.7)	11.2 (6.8, 15.9)	12.2 (6.8, 17.2)	14.8 (12.3, 17.5)
		Black	*N deaths*	53 (30, 77)	22 (13, 32)	220 (120, 312)	75 (40, 111)	606 (302, 926)	271 (159, 405)	1039 (519, 1511)	550 (314, 828)	703 (354, 1184)	505 (259, 791)	766 (439, 1175)	1123 (565, 1804)	5985 (4909, 7153)
			% CHD	30.6 (17.4, 44.3)	31.4 (17.7, 44.5)	29.3 (16, 41.4)	26.6 (14.2, 39.2)	23.5 (11.7, 35.9)	21.7 (12.7, 32.4)	20.3 (10.1, 29.5)	20.4 (11.6, 30.7)	14.5 (7.3, 24.5)	15.4 (7.9, 24.1)	10.6 (6.1, 16.2)	10.5 (5.3, 16.9)	15.4 (12.6, 18.4)
		Hispanic	*N deaths*	22 (11, 34)	6 (4, 9)	81 (41, 132)	30 (17, 41)	306 (150, 440)	100 (57, 139)	522 (270, 733)	209 (117, 294)	508 (276, 703)	263 (140, 374)	598 (0, 1082)	652 (339, 1000)	3299 (2530, 3998)
			% CHD	28 (13.9, 43.6)	31.5 (18.3, 44.3)	23.2 (11.6, 37.7)	32.1 (18.7, 44.1)	25.7 (12.6, 37.1)	28.5 (16.3, 39.8)	23.4 (12.1, 32.8)	24 (13.5, 33.7)	20.5 (11.1, 28.4)	20.2 (10.8, 28.8)	11 (0, 20)	10.3 (5.3, 15.7)	15.9 (12.2, 19.3)
		Other	*N deaths*	6 (0, 18)	2 (0, 3)	36 (10, 76)	10 (5, 16)	132 (54, 241)	27 (12, 45)	256 (127, 410)	63 (25, 113)	125 (31, 280)	86 (0, 214)	237 (47, 558)	264 (75, 547)	1284 (909, 1756)
			% CHD	13.1 (0.6, 40.7)	15.7 (4.9, 30.5)	17 (4.7, 35.8)	22.4 (10.6, 35.3)	19.7 (8, 36)	17.9 (7.5, 29.3)	21.5 (10.7, 34.5)	15.2 (5.9, 27.1)	9 (2.2, 20.3)	12.4 (0, 30.7)	7.6 (1.5, 18)	7.9 (2.3, 16.4)	11.4 (8.1, 15.6)
		Total	*N deaths*	225 (123, 315)	83 (46, 115)	1107 (604, 1503)	408 (239, 574)	4216 (2470, 5901)	1428 (798, 2029)	7279 (4132, 10571)	2955 (1617, 4197)	6723 (3566, 10158)	3629 (1961, 5307)	11868 (7153, 17013)	14582 (8335, 20583)	**54626 (45541, 65053)**

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
			% CHD	29.5 (16.2, 41.2)	31.8 (17.7, 43.8)	28.8 (15.7, 39.1)	30.4 (17.8, 42.8)	25.8 (15.1, 36.1)	25.7 (14.4, 36.6)	21 (11.9, 30.5)	22.6 (12.3, 32)	16.1 (8.5, 24.3)	17.2 (9.3, 25.2)	10.9 (6.5, 15.6)	11.8 (6.8, 16.7)	**14.7 (12.3, 17.5)**
Seafood ω-3 fats	**Cardiometabolic disease**	**Overall by age**	*N deaths*	310 (199, 407)		1506 (962, 1958)		5641 (3863, 7392)		10167 (6770, 13557)		10397 (6692, 14141)		26560 (19177, 34558)		**M: 31545 (24388, 38996)** **F: 23033 (16109, 29618)**
(<250 m/d)			*% CMD*	8.5 (5.4, 11.1)		12 (7.7, 15.6)		13.3 (9.1, 17.5)		11.8 (7.9, 15.7)		9 (5.8, 12.3)		6 (4.3, 7.8)		**M: 8.8 (6.8, 10.9)** **F: 6.7 (4.7, 8.6)**
		Education														
		<High-school	*N deaths*	50 (26, 76)	19 (10, 27)	189 (95, 290)	97 (55, 134)	748 (381, 1182)	328 (184, 442)	1339 (649, 2053)	578 (316, 862)	1537 (690, 2583)	943 (509, 1397)	2680 (1486, 4126)	4505 (2601, 6452)	13125 (10691, 15701)
			% CMD	9.6 (5, 14.5)	7.6 (4, 10.9)	11.5 (5.8, 17.5)	11.9 (6.8, 16.5)	13 (6.6, 20.5)	12.4 (7, 16.8)	13.1 (6.4, 20.1)	11.2 (6.2, 16.8)	10 (4.5, 16.8)	9.5 (5.1, 14)	5.6 (3.1, 8.6)	6.5 (3.7, 9.3)	7.7 (6.3, 9.3)
		High-school	*N deaths*	155 (88, 223)	59 (35, 80)	762 (406, 1093)	268 (145, 380)	3005 (1611, 4204)	1043 (611, 1433)	4692 (2536, 7103)	2000 (1106, 2831)	3921 (1843, 6680)	2241 (1258, 3346)	7144 (4197, 9879)	9631 (5841, 13310)	34926 (28686, 41325)
			% CMD	9.7 (5.5, 13.9)	7.3 (4.3, 9.9)	13.3 (7.1, 19)	9.9 (5.4, 14)	15.6 (8.4, 21.9)	11.5 (6.8, 15.8)	12.6 (6.8, 19.1)	10.8 (6, 15.3)	9.5 (4.4, 16.1)	7.9 (4.4, 11.8)	7.2 (4.2, 10)	6.3 (3.8, 8.8)	8.4 (6.9, 9.9)
		College	*N deaths*	20 (11, 29)	9 (5, 13)	127 (73, 178)	37 (20, 52)	425 (228, 676)	105 (54, 167)	1119 (571, 1591)	327 (165, 497)	1099 (583, 1700)	369 (194, 582)	2156 (1184, 3440)	627 (122, 1433)	6440 (4954, 8047)
			% CMD	7.7 (4.1, 11)	5.7 (3.2, 8.2)	13.5 (7.8, 18.9)	7.7 (4.1, 10.8)	13 (7, 20.6)	7.7 (4, 12.3)	12.3 (6.3, 17.5)	9.1 (4.6, 13.8)	9.1 (4.8, 14.1)	7.3 (3.8, 11.5)	5.6 (3.1, 8.9)	2.3 (0.5, 5.3)	6.3 (4.9, 7.9)
		Race														
		White	*N deaths*	151 (83, 210)	55 (33, 76)	826 (445, 1148)	293 (163, 405)	3183 (1758, 4494)	999 (557, 1445)	5502 (2901, 8128)	2137 (1092, 3073)	5692 (2949, 8557)	2843 (1540, 4052)	10491 (6368, 14834)	12533 (7046, 17680)	44430 (36918, 52429)
			% CHD	11.3 (6.1, 15.6)	8.2 (4.9, 11.2)	16.7 (9, 23.2)	12.3 (6.9, 17)	16.5 (9.1, 23.2)	12.3 (6.8, 17.8)	13.2 (7, 19.5)	11.8 (6, 16.9)	10.5 (5.4, 15.8)	8.9 (4.8, 12.7)	6.6 (4, 9.3)	6 (3.3, 8.4)	8 (6.7, 9.5)
		Black	*N deaths*	53 (30, 77)	22 (13, 32)	220 (120, 312)	75 (40, 111)	606 (302, 926)	271 (159, 405)	1039 (519, 1511)	550 (314, 828)	703 (354, 1184)	505 (259, 791)	766 (439, 1175)	1123 (565, 1804)	5985 (4909, 7153)
			% CHD	8.7 (4.9, 12.6)	6.2 (3.5, 8.8)	10.7 (5.8, 15.1)	6.5 (3.5, 9.6)	10.3 (5.1, 15.7)	7.4 (4.3, 11.1)	10 (5, 14.6)	8.5 (4.8, 12.8)	7.2 (3.6, 12.2)	6.7 (3.4, 10.4)	5.5 (3.2, 8.5)	4.9 (2.5, 7.9)	7.1 (5.8, 8.5)
		Hispanic	*N deaths*	22 (11, 34)	6 (4, 9)	81 (41, 132)	30 (17, 41)	306 (150, 440)	100 (57, 139)	522 (270, 733)	209 (117, 294)	508 (276, 703)	263 (140, 374)	598 (0, 1082)	652 (339, 1000)	3299 (2530, 3998)
			% CHD	6.8 (3.4, 10.5)	4.6 (2.7, 6.5)	8.1 (4.1, 13.2)	8 (4.6, 10.9)	12.2 (6, 17.6)	9.4 (5.4, 13.2)	12.4 (6.4, 17.5)	10 (5.6, 14)	11.1 (6, 15.4)	8.5 (4.6, 12.2)	6.1 (0, 11.1)	5.1 (2.6, 7.8)	7.9 (6, 9.6)
		Other	*N deaths*	6 (0, 18)	2 (0, 3)	36 (10, 76)	10 (5, 16)	132 (54, 241)	27 (12, 45)	256 (127, 410)	63 (25, 113)	125 (31, 280)	86 (0, 214)	237 (47, 558)	264 (75, 547)	1284 (909, 1756)
			% CHD	4.4 (0.2, 13.6)	2.2 (0.7, 4.2)	7.9 (2.2, 16.7)	6 (2.9, 9.5)	10.7 (4.3, 19.5)	5.8 (2.4, 9.4)	11.8 (5.9, 19)	5.9 (2.3, 10.5)	4.9 (1.2, 11.1)	5.1 (0, 12.7)	4.2 (0.8, 9.8)	3.8 (1.1, 7.8)	5.7 (4, 7.7)
		Total	*N deaths*	225 (123, 315)	83 (46, 115)	1107 (604, 1503)	408 (239, 574)	4216 (2470, 5901)	1428 (798, 2029)	7279 (4132, 10571)	2955 (1617, 4197)	6723 (3566, 10158)	3629 (1961, 5307)	11868 (7153, 17013)	14582 (8335, 20583)	**54626 (45541, 65053)**
			% CMD	9.3 (5.1, 13)	6.7 (3.7, 9.2)	13.1 (7.1, 17.7)	10 (5.9, 14.1)	14.5 (8.5, 20.4)	10.7 (6, 15.2)	12.5 (7.1, 18.1)	10.6 (5.8, 15.1)	9.5 (5, 14.3)	8.2 (4.4, 12)	6.3 (3.8, 9)	5.8 (3.3, 8.1)	**7.8 (6.5, 9.3)**
Sodium[h]	**Heart disease**	**Overall by age**	*N deaths*	125 (63, 201)		729 (479, 1052)		4229 (3199, 5429)		8690 (6802, 10848)		11963 (9897, 14222)		26797 (19566, 34261)		**M: 29660 (24076, 36052)** **F: 22528 (17523, 29157)**
(>2000 mg/d)			*% CHD*	5 (2.5, 8)		8 (5.3, 11.6)		13.5 (10.2, 17.4)		13.7 (10.7, 17.1)		14.6 (12.1, 17.4)		8.4 (6.2, 10.8)		**M: 11 (8.9, 13.3)** **F: 9.6 (7.4, 12.4)**
		Education														
		<High-school	*N deaths*	23 (12, 38)	0 (0, 0)	220 (148, 302)	94 (68, 126)	246 (78, 441)	97 (36, 171)	1125 (794, 1498)	508 (359, 680)	464 (141, 810)	247 (70, 432)	3095 (1942, 4520)	3382 (2318, 4927)	9573 (7836, 11690)
			% CHD	6.1 (3, 9.9)	0 (0, 0)	18.5 (12.5, 25.4)	18.1 (13.1, 24.3)	5.7 (1.8, 10.2)	5.6 (2.1, 9.9)	14.8 (10.5, 19.8)	15.1 (10.7, 20.2)	4.2 (1.3, 7.3)	3.9 (1.1, 6.8)	8.8 (5.5, 12.8)	7.1 (4.8, 10.3)	8 (6.5, 9.8)
		High-school	*N deaths*	137 (93, 189)	0 (0, 0)	1019 (728, 1359)	0 (0, 0)	1409 (847, 2161)	555 (346, 798)	4850 (3443, 6508)	2098 (1537, 2758)	2140 (1340, 2997)	1199 (787, 1638)	5563 (3466, 8108)	7536 (5048, 10479)	26642 (22723, 30910)
			% CHD	11.7 (8, 16.1)	0 (0, 0)	23.2 (16.6, 30.9)	0 (0, 0)	9.4 (5.6, 14.4)	9.3 (5.8, 13.4)	16.9 (12, 22.7)	16.9 (12.4, 22.2)	6.9 (4.3, 9.7)	6.4 (4.2, 8.7)	7.4 (4.6, 10.8)	7.1 (4.8, 9.9)	8.9 (7.6, 10.3)
		College	*N deaths*	34 (26, 44)	0 (0, 0)	198 (140, 253)	0 (0, 0)	370 (248, 511)	122 (89, 159)	1101 (801, 1460)	386 (290, 496)	865 (615, 1184)	284 (213, 360)	2008 (1281, 3021)	1585 (1077, 2305)	7034 (6011, 8306)
			% CHD	17.1 (13, 22)	0 (0, 0)	26.7 (18.8, 34.1)	0 (0, 0)	14.1 (9.5, 19.6)	13.7 (10, 17.9)	15.4 (11.2, 20.4)	15.9 (11.9, 20.4)	9.6 (6.8, 13.1)	8.6 (6.5, 11)	6.9 (4.4, 10.4)	8.5 (5.8, 12.4)	9.4 (8.1, 11.2)
		Race														
		White	*N deaths*	58 (28, 100)	0 (0, 0)	833 (576, 1153)	0 (0, 0)	1909 (1232, 2795)	662 (457, 904)	3004 (1422, 4931)	553 (181, 1000)	7094 (5090, 8989)	2942 (2242, 3701)	9294 (5448, 14266)	6726 (4394, 9578)	33196 (27748, 40011)
			% CHD	5.8 (2.8, 9.9)	0 (0, 0)	21.4 (14.8, 29.6)	0 (0, 0)	12.2 (7.9, 17.8)	11.9 (8.2, 16.2)	9.1 (4.3, 15)	4.4 (1.4, 7.9)	17.3 (12.4, 21.9)	13.6 (10.3, 17.1)	7.6 (4.5, 11.7)	4.5 (3, 6.5)	8.2 (6.8, 9.8)
		Black	*N deaths*	44 (31, 61)	0 (0, 0)	343 (255, 437)	183 (143, 222)	703 (511, 922)	429 (321, 545)	1020 (669, 1413)	351 (230, 503)	1383 (1054, 1715)	763 (607, 928)	1066 (672, 1538)	1036 (695, 1458)	7341 (6544, 8208)
			% CHD	9.9 (6.9, 13.7)	0 (0, 0)	22.4 (16.7, 28.5)	23.8 (18.6, 28.9)	16.5 (12, 21.6)	18.3 (13.7, 23.3)	13.6 (9, 18.9)	8.3 (5.5, 11.9)	20.8 (15.8, 25.7)	16.1 (12.8, 19.5)	11.1 (7, 16)	7 (4.7, 9.8)	12.8 (11.5, 14.4)
		Hispanic	*N deaths*	30 (23, 38)	0 (0, 0)	39 (17, 66)	0 (0, 0)	317 (215, 437)	115 (83, 152)	445 (299, 622)	138 (96, 188)	267 (117, 402)	62 (19, 112)	717 (438, 1082)	746 (478, 1074)	2896 (2441, 3452)
			% CHD	13.7 (10.4, 17.5)	0 (0, 0)	5.9 (2.5, 9.9)	0 (0, 0)	18.6 (12.7, 25.7)	19.9 (14.3, 26.1)	15.4 (10.4, 21.5)	11.2 (7.8, 15.3)	8.6 (3.8, 13)	3.5 (1.1, 6.3)	10.6 (6.5, 16)	8.9 (5.7, 12.8)	10.5 (8.8, 12.5)
		Other	*N deaths*	28 (21, 36)	0 (0, 0)	47 (27, 75)	0 (0, 0)	214 (142, 294)	60 (42, 80)	359 (254, 489)	111 (79, 150)	482 (274, 747)	67 (39, 95)	539 (326, 842)	515 (328, 779)	2448 (2026, 2899)
			% CHD	26.7 (20, 34.6)	0 (0, 0)	14.1 (8.2, 22.5)	0 (0, 0)	24.6 (16.3, 33.8)	24.8 (17.2, 33.1)	23.9 (16.9, 32.5)	18.3 (13, 24.7)	28 (15.9, 43.4)	7 (4.1, 9.9)	13.7 (8.3, 21.4)	11.5 (7.3, 17.3)	16.4 (13.6, 19.5)
		Total	*N deaths*	125 (63, 201)	0 (0, 0)	729 (479, 1052)	0 (0, 0)	3050 (2111, 4162)	1178 (849, 1578)	5984 (4305, 7977)	2693 (1975, 3467)	7791 (5875, 9702)	4169 (3203, 5069)	11944 (7307, 17667)	14487 (9749, 20836)	52711 (44681, 60826)
			% CHD	7.1 (3.5, 11.3)	0 (0, 0)	11.3 (7.4, 16.4)	0 (0, 0)	13.6 (9.4, 18.5)	13.5 (9.7, 18)	13.4 (9.6, 17.8)	14.4 (10.6, 18.6)	14.8 (11.2, 18.4)	14.3 (11, 17.4)	8.4 (5.1, 12.4)	8.2 (5.5, 11.9)	10.4 (8.8, 12)
Sodium[h]	**Coronary heart disease**	**Overall by age**	*N deaths*	50 (3, 118)		396 (168, 698)		2761 (1735, 3903)		6162 (4353, 8394)		8986 (6948, 11197)		19218 (12180, 26318)		**M: 21948 (16473, 28256)** **F: 15318 (10298, 21693)**
(>2000 mg/d)			*% CHD*	4.9 (0.3, 11.5)		7.6 (3.3, 13.5)		12.6 (7.9, 17.8)		12.9 (9.1, 17.6)		14.3 (11.1, 17.8)		8.3 (5.2, 11.3)		**M: 10.6 (8, 13.7)** **F: 9.3 (6.3, 13.2)**
		Education														
		<High-school	*N deaths*	10 (1, 22)	0 (0, 0)	124 (57, 201)	50 (24, 81)	170 (4, 360)	62 (3, 130)	846 (521, 1237)	351 (200, 523)	362 (41, 696)	183 (6, 369)	2362 (1166, 3750)	2345 (1283, 3872)	6936 (5161, 8963)
			% CHD	5.6 (0.5, 13.1)	0 (0, 0)	16.9 (7.8, 27.4)	17.2 (8.3, 27.7)	5.3 (0.1, 11.3)	5.2 (0.2, 10.9)	14.1 (8.7, 20.6)	14.4 (8.2, 21.5)	4.1 (0.5, 7.8)	3.8 (0.1, 7.7)	8.6 (4.3, 13.7)	6.8 (3.7, 11.2)	7.7 (5.8, 10)
		High-school	*N deaths*	57 (21, 104)	0 (0, 0)	570 (282, 883)	0 (0, 0)	941 (393, 1674)	318 (131, 559)	3536 (2203, 5274)	1402 (869, 2079)	1649 (871, 2523)	849 (420, 1262)	4214 (2174, 6801)	5054 (2678, 8068)	18853 (14974, 22978)
			% CHD	11.1 (4.2, 20.2)	0 (0, 0)	21.7 (10.7, 33.5)	0 (0, 0)	8.6 (3.6, 15.3)	8.5 (3.5, 14.9)	16 (10, 23.9)	16 (9.9, 23.8)	6.7 (3.5, 10.3)	6.3 (3.1, 9.3)	7.3 (3.8, 11.8)	6.8 (3.6, 10.9)	8.6 (6.8, 10.5)
		College	*N deaths*	12 (5, 21)	0 (0, 0)	104 (49, 160)	0 (0, 0)	247 (127, 378)	63 (32, 99)	796 (507, 1154)	239 (147, 347)	652 (406, 973)	189 (120, 257)	1486 (761, 2479)	1027 (540, 1757)	4901 (3854, 6176)
			% CHD	16.2 (6.3, 28.1)	0 (0, 0)	25 (11.8, 38.4)	0 (0, 0)	13.3 (6.8, 20.3)	12.7 (6.5, 20.1)	14.6 (9.3, 21.2)	14.9 (9.1, 21.6)	9.3 (5.8, 13.8)	8.5 (5.4, 11.5)	6.8 (3.5, 11.4)	8.3 (4.3, 14.1)	9.2 (7.2, 11.5)
		Race														
		White	*N deaths*	25 (1, 62)	0 (0, 0)	518 (269, 825)	0 (0, 0)	1376 (716, 2276)	432 (226, 671)	2283 (709, 4166)	382 (0, 836)	5638 (3645, 7553)	2116 (1423, 2874)	7071 (3264, 12046)	4555 (2256, 7415)	24475 (19028, 31242)
			% CHD	5.4 (0.1, 13.4)	0 (0, 0)	20.5 (10.6, 32.7)	0 (0, 0)	11.5 (6, 19.1)	11.4 (6, 17.7)	8.8 (2.7, 16)	4.2 (0, 9.2)	17.1 (11, 22.9)	13.4 (9, 18.2)	7.6 (3.5, 12.9)	4.4 (2.2, 7.2)	8.1 (6.3, 10.4)
		Black	*N deaths*	15 (5, 30)	0 (0, 0)	150 (66, 237)	59 (28, 93)	365 (183, 578)	196 (109, 307)	627 (302, 982)	201 (95, 344)	924 (615, 1244)	494 (349, 657)	743 (368, 1211)	682 (340, 1100)	4494 (3741, 5318)
			% CHD	8.9 (3, 17.4)	0 (0, 0)	19.9 (8.8, 31.5)	20.8 (10, 32.8)	14.1 (7.1, 22.4)	15.7 (8.7, 24.6)	12.2 (5.9, 19.2)	7.5 (3.5, 12.8)	19.1 (12.7, 25.7)	15 (10.6, 20)	10.3 (5.1, 16.7)	6.4 (3.2, 10.3)	11.5 (9.6, 13.7)
		Hispanic	*N deaths*	11 (4, 18)	0 (0, 0)	18 (0, 43)	0 (0, 0)	207 (105, 326)	66 (36, 98)	324 (185, 501)	92 (52, 139)	204 (65, 342)	44 (0, 94)	553 (260, 924)	538 (277, 865)	2070 (1620, 2622)
			% CHD	13.5 (5.5, 22.8)	0 (0, 0)	5 (0, 12.3)	0 (0, 0)	17.4 (8.8, 27.5)	19 (10.4, 28.2)	14.5 (8.3, 22.4)	10.5 (6, 16)	8.3 (2.6, 13.8)	3.4 (0, 7.3)	10.2 (4.8, 17.1)	8.5 (4.4, 13.6)	10 (7.8, 12.7)
		Other	*N deaths*	12 (5, 19)	0 (0, 0)	27 (9, 52)	0 (0, 0)	160 (88, 239)	38 (20, 58)	275 (166, 399)	75 (43, 113)	369 (166, 628)	47 (21, 75)	411 (202, 710)	362 (176, 626)	1795 (1386, 2255)
			% CHD	27.1 (10.7, 44.2)	0 (0, 0)	13 (4.2, 24.8)	0 (0, 0)	23.9 (13.2, 35.6)	24.7 (12.8, 37.6)	23 (14, 33.5)	18.1 (10.4, 27.1)	26.7 (12, 45.4)	6.8 (3.1, 10.9)	13.2 (6.5, 22.9)	10.9 (5.3, 18.8)	15.9 (12.3, 20)
		Total	*N deaths*	50 (3, 118)	0 (0, 0)	396 (168, 698)	0 (0, 0)	2048 (1158, 3181)	687 (369, 1073)	4373 (2708, 6317)	1810 (1137, 2561)	6025 (4103, 7976)	2971 (2036, 3843)	9029 (4568, 14821)	9854 (5019, 16056)	**37744 (29879, 45697)**
			% CHD	6.5 (0.4, 15.5)	0 (0, 0)	10.3 (4.4, 18.2)	0 (0, 0)	12.5 (7.1, 19.4)	12.4 (6.6, 19.3)	12.6 (7.8, 18.3)	13.8 (8.7, 19.5)	14.4 (9.8, 19.1)	14.1 (9.7, 18.2)	8.3 (4.2, 13.6)	8 (4.1, 13)	**10.2 (8, 12.3)**
Sodium[h]	**Hypertensive heart disease[f]**	**Overall by age**	*N deaths*	39 (6, 70)		216 (123, 299)		988 (754, 1200)		1587 (1259, 1909)		1424 (1135, 1684)		3258 (2555, 4043)		**M: 3982 (3449, 4579)** **F: 3503 (2815, 4202**

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
(>2000 mg/d)			*% HHD*	10.4 (1.5, 18.5)		14.3 (8.1, 19.9)		24.5 (18.7, 29.7)		25.5 (20.2, 30.7)		29.3 (23.3, 34.6)		18.1 (14.2, 22.5)		**M: 22.8 (19.7, 26.2) F: 20 (16, 23.9)**
		Education														
		<High-school	*N deaths*	7 (1, 14)	0 (0, 0)	63 (44, 81)	25 (18, 32)	54 (6, 101)	23 (1, 43)	174 (123, 220)	93 (65, 123)	53 (7, 98)	30 (0, 59)	311 (219, 400)	507 (358, 661)	1340 (1144, 1535)
			% HHD	11.4 (1.1, 21.2)	0 (0, 0)	32.1 (22.5, 41.8)	32.4 (23.1, 40.6)	10.5 (1.1, 19.5)	10.8 (0.5, 20.4)	27.9 (19.6, 35.2)	27.9 (19.4, 36.8)	9.4 (1.3, 17.1)	8.3 (0.1, 16.2)	18.9 (13.3, 24.4)	15.2 (10.7, 19.8)	16.8 (14.4, 19.3)
		High-school	*N deaths*	40 (23, 56)	0 (0, 0)	282 (211, 345)	0 (0, 0)	317 (166, 453)	152 (75, 219)	874 (633, 1098)	402 (289, 499)	240 (136, 337)	166 (84, 241)	513 (352, 685)	1072 (756, 1435)	4049 (3562, 4530)
			% HHD	22 (12.6, 30.5)	0 (0, 0)	40.2 (30, 49.2)	0 (0, 0)	17.5 (9.1, 24.9)	17.3 (8.5, 24.9)	31.3 (22.7, 39.4)	31.5 (22.6, 39.1)	14.1 (8, 19.9)	13.3 (6.7, 19.3)	16.4 (11.2, 21.8)	15.4 (10.9, 20.6)	19.2 (16.9, 21.5)
		College	*N deaths*	11 (8, 14)	0 (0, 0)	57 (41, 72)	0 (0, 0)	82 (57, 107)	38 (25, 50)	194 (139, 248)	89 (62, 115)	106 (70, 145)	43 (28, 58)	185 (123, 257)	243 (165, 321)	1045 (906, 1184)
			% HHD	30.7 (21.9, 40.1)	0 (0, 0)	44.2 (31.4, 55.3)	0 (0, 0)	25.7 (17.7, 33.5)	23.9 (16.2, 31.8)	28.3 (20.3, 36.1)	29.7 (20.7, 38.3)	20.2 (13.4, 27.5)	17.7 (11.7, 23.9)	15.3 (10.2, 21.3)	18.7 (12.7, 24.7)	21 (18.2, 23.8)
		Race														
		White	*N deaths*	16 (0, 31)	0 (0, 0)	197 (145, 245)	0 (0, 0)	353 (233, 458)	136 (92, 179)	468 (146, 732)	96 (5, 191)	631 (447, 803)	329 (241, 419)	800 (467, 1102)	934 (593, 1270)	3939 (3333, 4574)
			% HHD	11.3 (0, 22.3)	0 (0, 0)	37.6 (27.6, 46.8)	0 (0, 0)	22.4 (14.8, 29.1)	21.9 (14.8, 28.8)	17.9 (5.6, 28)	8.7 (0.5, 17.3)	33.7 (23.9, 42.9)	27.5 (20.1, 34.9)	17.1 (10, 23.5)	10.1 (6.4, 13.7)	16.5 (14, 19.2)
		Black	*N deaths*	17 (9, 26)	0 (0, 0)	131 (94, 165)	82 (60, 103)	249 (180, 319)	169 (119, 214)	298 (163, 417)	105 (52, 158)	287 (205, 366)	161 (113, 205)	195 (129, 265)	230 (158, 311)	1919 (1720, 2134)
			% HHD	17.6 (8.9, 27.1)	0 (0, 0)	36.8 (26.5, 46.2)	37.9 (27.5, 47.3)	28 (20.2, 35.9)	30.4 (21.4, 38.5)	24.2 (13.2, 33.8)	15.4 (7.6, 23.1)	37.4 (26.6, 47.6)	30.4 (21.3, 38.6)	22.1 (14.6, 30.1)	14.2 (9.7, 19.2)	24.4 (21.8, 27.1)
		Hispanic	*N deaths*	9 (6, 13)	0 (0, 0)	13 (1, 25)	0 (0, 0)	71 (52, 91)	29 (21, 37)	80 (51, 106)	29 (19, 40)	34 (12, 57)	9 (0, 18)	86 (57, 118)	117 (81, 157)	479 (413, 546)
			% HHD	25.5 (16.1, 33.9)	0 (0, 0)	10.7 (0.5, 20.3)	0 (0, 0)	33.1 (24.1, 42.1)	35.5 (25.6, 44.8)	28.5 (18.2, 37.8)	21.6 (14.4, 29.4)	17.2 (6.1, 28.8)	7.6 (0.1, 15.5)	22.2 (14.8, 30.6)	18.6 (12.8, 24.8)	21.3 (18.4, 24.3)
		Other	*N deaths*	7 (5, 8)	0 (0, 0)	12 (6, 18)	0 (0, 0)	32 (24, 41)	10 (7, 13)	55 (37, 70)	17 (12, 22)	71 (31, 104)	9 (5, 14)	62 (40, 86)	79 (50, 114)	356 (293, 413)
			% HHD	47.8 (34.8, 59.1)	0 (0, 0)	25.7 (12.6, 38.4)	0 (0, 0)	43.1 (31.7, 54.4)	45.4 (33.1, 57.3)	43 (28.7, 54.9)	34.8 (23.9, 45.4)	62.8 (27.7, 92.4)	14.5 (7.2, 22.1)	28.4 (18.1, 39.5)	23.7 (14.8, 34.1)	33 (27.1, 38.3)
		Total	*N deaths*	39 (6, 70)	0 (0, 0)	216 (123, 299)	0 (0, 0)	673 (456, 870)	313 (212, 410)	1061 (778, 1340)	526 (375, 672)	872 (633, 1106)	547 (397, 695)	1128 (776, 1506)	2115 (1498, 2767)	**7505 (6627, 8325)**
			% HHD	13.7 (2, 24.4)	0 (0, 0)	20.6 (11.7, 28.6)	0 (0, 0)	24.4 (16.5, 31.5)	24.5 (16.6, 32)	24.9 (18.3, 31.5)	26.7 (19, 34.1)	29.5 (21.4, 37.5)	28.6 (20.8, 36.4)	18.3 (12.6, 24.4)	17.9 (12.7, 23.4)	**21.4 (18.9, 23.8)**
Sodium[h]	**Other CVD[f]**	**Overall by age**	*N deaths*	4 (1, 9)		34 (15, 56)		307 (212, 413)		902 (651, 1181)		1877 (1462, 2317)		5029 (3484, 6698)		**M: 3668 (3313, 4064) F: 3771 (3281, 4256)**
(>2000 mg/d)			*% other CVD*	4.8 (0.8, 10.1)		8.3 (3.7, 13.9)		17.4 (12, 23.4)		17.6 (12.7, 23)		18.2 (14.2, 22.5)		8.1 (5.6, 10.8)		**M: 7.9 (7.1, 8.8) F: 7.1 (6.1, 8.0)**
		Education														
		<High-school	*N deaths*	6 (3, 10)	0 (0, 0)	32 (26, 39)	18 (15, 23)	23 (13, 35)	13 (6, 20)	101 (84, 118)	62 (51, 75)	52 (30, 75)	34 (18, 51)	432 (361, 517)	537 (439, 643)	1317 (1184, 1455)
			% other CVD	4.2 (2.1, 6.4)	0 (0, 0)	12.3 (10, 15.1)	12.4 (9.9, 15.1)	3.9 (2.1, 5.9)	3.8 (1.8, 6)	10.5 (8.8, 12.3)	10.4 (8.5, 12.5)	3.3 (1.9, 4.8)	2.8 (1.5, 4.3)	6.9 (5.7, 8.2)	5.4 (4.4, 6.4)	5.9 (5.3, 6.5)
		High-school	*N deaths*	39 (28, 51)	0 (0, 0)	173 (140, 206)	0 (0, 0)	147 (107, 188)	82 (61, 106)	450 (378, 523)	284 (235, 334)	241 (186, 297)	194 (145, 245)	821 (672, 979)	1372 (1109, 1668)	3809 (3470, 4141)
			% other CVD	8.1 (5.8, 10.7)	0 (0, 0)	16.2 (13.2, 19.4)	0 (0, 0)	6.4 (4.7, 8.3)	6.2 (4.6, 8)	12 (10.1, 13.9)	11.9 (9.8, 14)	5.2 (4, 6.4)	4.8 (3.6, 6)	5.8 (4.8, 6.9)	5.5 (4.4, 6.6)	6.3 (5.8, 6.9)
		College	*N deaths*	11 (8, 13)	0 (0, 0)	36 (29, 43)	0 (0, 0)	42 (33, 50)	22 (17, 27)	111 (92, 130)	58 (48, 70)	108 (87, 130)	52 (43, 64)	333 (269, 410)	322 (252, 392)	1094 (994, 1210)
			% other CVD	12.2 (9.5, 14.9)	0 (0, 0)	18.2 (14.8, 21.9)	0 (0, 0)	9.8 (7.8, 11.7)	9.1 (7.1, 11.2)	11 (9.1, 12.8)	11.1 (9.1, 13.2)	7.3 (5.9, 8.8)	6.4 (5.2, 7.8)	5.4 (4.4, 6.7)	6.7 (5.2, 8.1)	6.9 (6.2, 7.6)
		Race														
		White	*N deaths*	17 (7, 27)	0 (0, 0)	126 (101, 152)	0 (0, 0)	181 (143, 220)	95 (75, 115)	277 (189, 370)	71 (37, 111)	821 (689, 952)	485 (410, 562)	1451 (1129, 1797)	1241 (994, 1527)	4779 (4305, 5236)
			% other CVD	4.2 (1.9, 6.7)	0 (0, 0)	14.9 (11.9, 17.9)	0 (0, 0)	8.4 (6.6, 10.2)	8.1 (6.4, 9.8)	6.6 (4.5, 8.8)	3 (1.6, 4.7)	13.3 (11.1, 15.4)	10.3 (8.7, 12)	6.1 (4.7, 7.5)	3.5 (2.8, 4.3)	5.8 (5.2, 6.4)
		Black	*N deaths*	12 (8, 16)	0 (0, 0)	62 (50, 76)	41 (32, 51)	85 (68, 101)	62 (50, 75)	101 (73, 127)	45 (32, 59)	160 (131, 191)	108 (89, 127)	125 (100, 153)	126 (106, 152)	926 (863, 995)
			% other CVD	6.6 (4.6, 9.1)	0 (0, 0)	14.7 (11.7, 18)	15.3 (12, 19.1)	10.7 (8.6, 12.8)	11.5 (9.3, 13.9)	9.1 (6.6, 11.3)	5.4 (3.8, 7.1)	15.2 (12.4, 18.1)	11.6 (9.5, 13.7)	8.2 (6.6, 10.1)	5 (4.2, 6)	9 (8.4, 9.7)
		Hispanic	*N deaths*	10 (8, 12)	0 (0, 0)	8 (4, 12)	0 (0, 0)	38 (31, 46)	20 (16, 25)	40 (32, 50)	17 (14, 21)	27 (18, 38)	9 (5, 14)	81 (65, 99)	94 (78, 116)	346 (317, 378)
			% other CVD	9.8 (7.6, 12)	0 (0, 0)	3.9 (1.9, 6.1)	0 (0, 0)	12.9 (10.6, 15.5)	13.6 (11, 16.3)	10.7 (8.5, 13.2)	7.5 (6, 9.2)	6.3 (4.1, 8.8)	2.6 (1.3, 4)	8.2 (6.6, 10)	6.6 (5.4, 8.1)	7.4 (6.8, 8.1)
		Other	*N deaths*	9 (7, 11)	0 (0, 0)	7 (4, 10)	0 (0, 0)	22 (18, 26)	12 (10, 15)	32 (27, 38)	19 (16, 22)	46 (33, 60)	10 (7, 13)	65 (51, 80)	71 (56, 88)	294 (269, 322)
			% other CVD	20 (15.9, 24.4)	0 (0, 0)	9.5 (6, 13.7)	0 (0, 0)	17.7 (14.6, 20.8)	18.3 (14.5, 22.2)	17.5 (14.4, 20.8)	13.1 (11.1, 15.2)	20.4 (14.9, 26.8)	5.1 (3.6, 6.6)	10.6 (8.4, 13.1)	8.6 (6.8, 10.7)	11.4 (10.5, 12.5)
		Total	*N deaths*	36 (18, 55)	0 (0, 0)	117 (85, 154)	0 (0, 0)	312 (249, 378)	174 (140, 212)	553 (465, 642)	357 (302, 422)	888 (751, 1031)	660 (571, 767)	1758 (1472, 2107)	2577 (2099, 3066)	**7439 (6859, 8105)**
			% other CVD	5 (2.4, 7.6)	0 (0, 0)	7.6 (5.5, 10)	0 (0, 0)	9.2 (7.4, 11.2)	9.1 (7.3, 11)	9.4 (7.9, 10.9)	10 (8.4, 11.8)	11.2 (9.5, 13.1)	10.7 (9.3, 12.4)	6.5 (5.5, 7.8)	6.4 (5.2, 7.6)	**7.5 (6.9, 8.1)**
Sodium[h]	**Stroke, total**	**Overall by age**	*N deaths*	28 (9, 49)		140 (85, 213)		991 (776, 1235)		1935 (1602, 2303)		3314 (2799, 3828)		7363 (5786, 9250)		**M: 6195 (5227, 7293) F: 7574 (6092, 9346)**
(>2000 mg/d)			*% TSTK*	5.3 (1.7, 9.1)		8.1 (4.9, 12.3)		17.5 (13.7, 21.8)		17.5 (14.5, 20.8)		18.2 (15.4, 21.1)		8.1 (6.3, 10.2)		**M: 11.8 (10.0, 13.9) F: 10 (8, 12.3)**
		Education														
		<High-school	*N deaths*	5 (2, 9)	0 (0, 0)	52 (32, 73)	37 (26, 51)	57 (22, 94)	36 (15, 63)	252 (188, 315)	166 (125, 214)	123 (49, 207)	95 (36, 155)	705 (497, 957)	1042 (716, 1390)	2580 (2153, 3011)
			% TSTK	7.9 (2.6, 14.6)	0 (0, 0)	23.5 (14.6, 32.9)	23.7 (16.5, 32.7)	7.7 (2.9, 12.5)	7.4 (3, 12.9)	19.1 (14.3, 24)	19 (14.3, 24.6)	5.6 (2.2, 9.3)	4.9 (1.9, 8)	8.6 (6, 11.6)	6.7 (4.6, 9)	8.1 (6.8, 9.5)
		High-school	*N deaths*	30 (19, 46)	0 (0, 0)	183 (122, 243)	0 (0, 0)	242 (148, 347)	211 (128, 308)	843 (653, 1052)	675 (509, 847)	471 (329, 626)	439 (308, 591)	1173 (804, 1663)	2437 (1674, 3290)	6741 (5773, 7742)
			% TSTK	15.1 (9.2, 22.9)	0 (0, 0)	29.9 (19.8, 39.6)	0 (0, 0)	12.4 (7.6, 17.8)	12.2 (7.4, 17.8)	21.3 (16.5, 26.6)	21.9 (16.5, 27.5)	8.7 (6.1, 11.6)	8.1 (5.7, 10.9)	7.2 (4.9, 10.2)	6.8 (4.7, 9.2)	9 (7.7, 10.3)
		College	*N deaths*	7 (5, 9)	0 (0, 0)	37 (24, 51)	0 (0, 0)	61 (41, 83)	51 (34, 73)	182 (138, 232)	129 (93, 166)	211 (161, 273)	120 (90, 153)	472 (325, 670)	594 (404, 819)	1869 (1597, 2171)
			% TSTK	22 (14.8, 28.9)	0 (0, 0)	33.2 (21.8, 45.4)	0 (0, 0)	18.4 (12.4, 25.1)	17.3 (11.6, 24.8)	19.5 (14.7, 24.8)	20.2 (14.5, 26.1)	12.3 (9.4, 15.8)	11 (8.3, 14.1)	6.8 (4.7, 9.7)	8.4 (5.8, 11.6)	9.7 (8.3, 11.3)
		Race														
		White	*N deaths*	12 (3, 21)	0 (0, 0)	127 (88, 167)	0 (0, 0)	252 (167, 348)	218 (144, 309)	471 (244, 691)	163 (64, 282)	1491 (1175, 1829)	1061 (830, 1307)	2007 (1302, 2879)	2147 (1436, 3002)	7992 (6818, 9228)
			% TSTK	7.9 (2.3, 14.1)	0 (0, 0)	28 (19.4, 36.8)	0 (0, 0)	15.5 (10.3, 21.5)	15.6 (10.3, 22.1)	11.8 (6.1, 17.3)	5.7 (2.2, 9.9)	21.6 (17, 26.5)	17.3 (13.5, 21.3)	7.5 (4.9, 10.8)	4.3 (2.9, 6.1)	8 (6.8, 9.2)
		Black	*N deaths*	9 (5, 13)	0 (0, 0)	70 (46, 96)	59 (41, 78)	181 (126, 249)	167 (114, 227)	248 (167, 341)	119 (76, 168)	393 (299, 491)	274 (215, 337)	258 (174, 352)	315 (219, 431)	2099 (1875, 2323)
			% TSTK	12.5 (7.8, 18.1)	0 (0, 0)	27.4 (18, 37.6)	28.3 (19.6, 37.4)	20.3 (14.1, 27.9)	22 (15, 30)	16.3 (11, 22.4)	10.1 (6.5, 14.4)	24.6 (18.7, 30.7)	19 (15, 23.4)	10 (6.7, 13.6)	6.2 (4.3, 8.5)	13.4 (12, 14.9)
		Hispanic	*N deaths*	11 (7, 15)	0 (0, 0)	14 (4, 29)	0 (0, 0)	97 (65, 130)	67 (43, 89)	113 (79, 151)	54 (39, 71)	68 (37, 96)	27 (10, 46)	175 (116, 252)	226 (156, 308)	853 (738, 981)
			% TSTK	18.1 (11.6, 25.8)	0 (0, 0)	7.3 (1.9, 15.1)	0 (0, 0)	24.4 (16.3, 32.5)	25.9 (16.7, 34.6)	19.4 (13.7, 25.9)	14.3 (10.4, 19)	10.7 (5.8, 15.1)	4.5 (1.7, 7.6)	10.2 (6.8, 14.7)	8.3 (5.7, 11.3)	11.1 (9.6, 12.8)
		Other	*N deaths*	6 (4, 9)	0 (0, 0)	11 (6, 18)	0 (0, 0)	62 (42, 82)	47 (30, 63)	97 (71, 130)	62 (44, 79)	168 (105, 239)	35 (22, 49)	154 (97, 223)	192 (120, 288)	839 (721, 973)
			% TSTK	36 (23, 49.9)	0 (0, 0)	18.7 (10, 29.4)	0 (0, 0)	32.4 (22, 42.7)	33.7 (21.8, 45.4)	29.9 (21.8, 40)	24.4 (17.4, 31.2)	36.4 (22.8, 51.8)	8.8 (5.6, 12.2)	13.2 (8.3, 19.1)	10.7 (6.7, 16.1)	17.2 (14.7, 19.9)
		Total	*N deaths*	28 (9, 49)	0 (0, 0)	140 (85, 213)	0 (0, 0)	544 (376, 723)	447 (304, 610)	1081 (829, 1362)	861 (640, 1097)	1783 (1397, 2177)	1535 (1238, 1843)	2613 (1784, 3622)	4734 (3347, 6472)	**13787 (12018, 15870)**
			% TSTK	9.6 (3, 16.4)	0 (0, 0)	14.6 (8.8, 22.1)	0 (0, 0)	17.5 (12.1, 23.3)	17.5 (11.9, 23.9)	16.9 (12.9, 21.2)	18.5 (13.7, 23.5)	18.6 (14.5, 22.7)	17.9 (14.4, 21.5)	8.1 (5.6, 11.3)	8 (5.7, 11)	**10.7 (9.4, 12.4)**
Sodium[h]	**Ischemic Stroke**	**Overall by age**	*N deaths*	3 (0, 6)		14 (7, 20)		99 (75, 123)		203 (162, 247)		371 (288, 454)		941 (666, 1219)		**M: 717 (586, 867) F: 902 (679, 1159)**
(>2000 mg/d)			*% ISTK*	4.7 (0.5, 8.6)		7.8 (4.1, 11.5)		16.7 (12.7, 20.9)		16.9 (13.5, 20.6)		17.9 (13.9, 21.9)		7.8 (5.5, 10.1)		**M: 11.2 (9.1, 13.5) F: 9.3 (7, 11.9)**
		Education														
		<High-school	*N deaths*	0 (0, 1)	0 (0, 0)	5 (3, 6)	2 (1, 2)	5 (0, 9)	3 (0, 7)	29 (20, 37)	20 (14, 28)	15 (2, 29)	12 (0, 25)	90 (59, 129)	139 (90, 203)	323 (261, 395)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
			% ISTK	8.4 (1.8, 15.9)	0 (0, 0)	22.9 (15.8, 30.4)	23.2 (16.6, 30.4)	7.1 (0.7, 13.7)	7.1 (0.4, 14.4)	18.6 (13, 24)	18.6 (12.5, 25.3)	5.4 (0.8, 10.6)	4.9 (0, 9.7)	8.2 (5.3, 11.7)	6.5 (4.2, 9.5)	7.7 (6.2, 9.4)
		High-school	*N deaths*	4 (2, 5)	0 (0, 0)	19 (14, 24)	0 (0, 0)	28 (14, 40)	18 (9, 28)	93 (66, 121)	59 (42, 76)	50 (28, 74)	48 (25, 71)	141 (89, 198)	314 (202, 444)	777 (639, 931)
			% ISTK	15.6 (7.7, 22.9)	0 (0, 0)	29.1 (21.1, 36.8)	0 (0, 0)	11.9 (6.1, 17.3)	11.8 (6, 18)	20.9 (14.7, 27.1)	20.9 (15, 27.1)	8.5 (4.7, 12.5)	7.9 (4.2, 11.7)	6.9 (4.4, 9.7)	6.6 (4.2, 9.3)	8.4 (6.9, 10.1)
		College	*N deaths*	1 (1, 1)	0 (0, 0)	3 (2, 3)	0 (0, 0)	7 (5, 9)	5 (3, 6)	21 (15, 28)	12 (8, 15)	24 (15, 33)	10 (6, 14)	56 (35, 84)	76 (47, 112)	216 (178, 261)
			% ISTK	22.7 (15, 30.2)	0 (0, 0)	32.6 (23.1, 41.6)	0 (0, 0)	17.4 (11.9, 23.6)	16.7 (11.1, 22.7)	19 (13.1, 24.6)	19.8 (13.6, 25.4)	12 (7.7, 17)	10.8 (6.8, 14.8)	6.4 (4, 9.6)	8.1 (4.9, 11.8)	9 (7.4, 10.9)
		Race														
		White	*N deaths*	1 (0, 3)	0 (0, 0)	15 (11, 20)	0 (0, 0)	29 (19, 39)	23 (15, 32)	59 (18, 95)	16 (1, 33)	173 (119, 225)	116 (80, 152)	247 (140, 372)	278 (165, 409)	963 (784, 1160)
			% ISTK	8.2 (0, 15.8)	0 (0, 0)	27.3 (19.4, 34.9)	0 (0, 0)	15 (9.8, 20.4)	14.8 (9.6, 20.3)	11.7 (3.5, 18.7)	5.5 (0.2, 11.6)	21.1 (14.6, 27.6)	16.9 (11.6, 22.2)	7.3 (4.1, 10.9)	4.2 (2.5, 6.2)	7.5 (6.1, 9.1)
		Black	*N deaths*	1 (0, 2)	0 (0, 0)	4 (3, 6)	5 (4, 6)	21 (15, 28)	12 (9, 16)	25 (13, 37)	11 (5, 17)	44 (30, 58)	33 (23, 43)	37 (23, 54)	47 (29, 68)	241 (209, 277)
			% ISTK	12.4 (6, 20.3)	0 (0, 0)	26.5 (18.6, 34.7)	28.1 (20, 35.8)	19.3 (14.2, 25.3)	21.1 (14.7, 27.5)	15.8 (8.2, 23.2)	9.7 (4.5, 15.3)	24.2 (16.6, 32.3)	18.8 (12.9, 24.6)	9.7 (6.1, 14.3)	6 (3.8, 8.8)	12 (10.4, 13.8)
		Hispanic	*N deaths*	1 (1, 2)	0 (0, 0)	1 (0, 3)	0 (0, 0)	8 (6, 11)	4 (3, 5)	10 (7, 15)	5 (3, 7)	8 (3, 13)	3 (0, 7)	20 (12, 30)	31 (20, 47)	93 (76, 112)
			% ISTK	18.5 (12.7, 25.3)	0 (0, 0)	7.4 (0, 14.9)	0 (0, 0)	23.2 (16.3, 30)	24.7 (18, 31.8)	18.7 (11.8, 26.1)	14.2 (9.2, 19.5)	10.4 (3.9, 17.6)	4.5 (0, 9.1)	9.8 (5.7, 14.8)	8.1 (5.1, 12)	10.1 (8.2, 12.2)
		Other	*N deaths*	0 (0, 0)	0 (0, 0)	1 (1, 2)	0 (0, 0)	5 (3, 6)	2 (1, 3)	7 (5, 9)	5 (3, 7)	11 (5, 17)	3 (1, 4)	12 (7, 19)	18 (10, 28)	63 (51, 77)
			% ISTK	0 (0, 0)	0 (0, 0)	18.5 (8.7, 28.2)	0 (0, 0)	31.2 (21.6, 40.3)	32.3 (22.7, 43)	29.5 (19.2, 39.1)	23.6 (16.6, 31)	35.1 (15.1, 57.3)	8.6 (3.9, 13.3)	12.6 (7.5, 19.5)	10.3 (5.8, 15.7)	15.2 (12.2, 18.5)
		Total	*N deaths*	3 (0, 6)	0 (0, 0)	14 (7, 20)	0 (0, 0)	59 (40, 78)	40 (27, 53)	122 (88, 156)	81 (57, 105)	199 (136, 261)	172 (123, 219)	321 (207, 455)	615 (384, 854)	**1629 (1349, 1928)**
			% ISTK	9.6 (1, 17.6)	0 (0, 0)	14.3 (7.5, 21.1)	0 (0, 0)	16.9 (11.4, 22.2)	16.9 (11.3, 22.3)	16.3 (11.8, 21)	17.9 (12.6, 23.2)	18 (12.3, 23.7)	17.7 (12.7, 22.6)	7.9 (5.1, 11.1)	7.8 (4.8, 10.8)	**10.1 (8.4, 12)**
Sodium[h]	**Hemorrhagic Stroke**	**Overall by age**	*N deaths*	21 (1, 41)		93 (40, 160)		582 (400, 802)		830 (594, 1094)		1057 (830, 1318)		1408 (824, 2057)		**M: 1958 (1545, 2432)** **F: 2030 (1510, 2696)**
(>2000 mg/d)			*% HSTK*	5.5 (0.2, 10.9)		8.1 (3.4, 13.9)		17.6 (12.1, 24.3)		17.5 (12.5, 23.1)		18.2 (14.3, 22.8)		8.2 (4.8, 11.9)		**M: 13.1 (10.4, 16.3)** **F: 11.5 (8.5, 15.2)**
		Education														
		<High-school	*N deaths*	4 (0, 8)	0 (0, 0)	37 (19, 58)	25 (13, 39)	31 (3, 63)	19 (2, 44)	95 (58, 138)	65 (37, 101)	31 (5, 60)	25 (0, 52)	128 (59, 209)	172 (75, 273)	636 (496, 793)
			% HSTK	7.8 (1, 17.1)	0 (0, 0)	23.4 (12, 36.1)	23.7 (12.7, 36.7)	7.6 (0.8, 15.3)	7.2 (0.6, 16.4)	19.2 (11.6, 27.7)	18.8 (10.9, 29.3)	5.6 (0.9, 11)	4.8 (0, 9.9)	8.7 (4, 14.2)	7 (3, 11.1)	9.2 (7.2, 11.5)
		High-school	*N deaths*	22 (10, 37)	0 (0, 0)	116 (58, 170)	0 (0, 0)	132 (56, 228)	131 (59, 223)	345 (215, 498)	312 (199, 448)	146 (74, 221)	151 (76, 228)	266 (106, 450)	449 (183, 751)	2091 (1654, 2534)
			% HSTK	14.9 (7.1, 24.9)	0 (0, 0)	30.3 (15.2, 44.3)	0 (0, 0)	12.4 (5.2, 21.3)	12 (5.4, 20.5)	21.3 (13.2, 30.7)	22 (14, 31.6)	8.8 (4.4, 13.3)	8.1 (4.1, 12.3)	7.4 (2.9, 12.5)	7 (2.9, 11.7)	10.6 (8.4, 12.9)
		College	*N deaths*	5 (3, 7)	0 (0, 0)	28 (16, 41)	0 (0, 0)	36 (18, 57)	34 (19, 56)	79 (50, 117)	68 (40, 99)	79 (49, 118)	49 (33, 70)	112 (45, 198)	113 (48, 201)	614 (488, 747)
			% HSTK	21.9 (12.3, 31.6)	0 (0, 0)	33 (18.6, 48.5)	0 (0, 0)	18.4 (9.4, 29.1)	17.2 (9.4, 28)	19.4 (12.2, 28.9)	20.2 (12, 29.2)	12.4 (7.7, 18.5)	11 (7.3, 15.6)	6.9 (2.8, 12.1)	8.4 (3.6, 14.9)	11.3 (9, 13.8)
		Race														
		White	*N deaths*	8 (0, 18)	0 (0, 0)	81 (43, 120)	0 (0, 0)	134 (65, 215)	129 (65, 208)	185 (49, 342)	76 (2, 161)	473 (309, 636)	362 (250, 486)	446 (192, 786)	388 (161, 691)	2298 (1854, 2814)
			% HSTK	7.8 (0, 16.1)	0 (0, 0)	28.1 (15.1, 41.5)	0 (0, 0)	15.5 (7.5, 24.9)	15.4 (7.8, 24.9)	11.8 (3.1, 21.8)	5.7 (0.1, 12.2)	21.7 (14.2, 29.2)	17.4 (12, 23.3)	7.8 (3.4, 13.8)	4.5 (1.9, 8)	9.6 (7.8, 11.8)
		Black	*N deaths*	6 (3, 9)	0 (0, 0)	44 (23, 66)	38 (21, 57)	99 (52, 160)	102 (57, 160)	94 (43, 154)	48 (23, 86)	88 (58, 121)	76 (51, 103)	42 (18, 74)	51 (22, 89)	698 (585, 812)
			% HSTK	12.4 (5.6, 21)	0 (0, 0)	27.1 (14.5, 41)	28.4 (15.9, 41.9)	20.4 (10.7, 32.8)	22 (12.3, 34.4)	16.3 (7.4, 26.5)	10 (4.8, 17.7)	24.7 (16.3, 34.3)	19.2 (12.9, 25.9)	10 (4.1, 17.5)	6.3 (2.7, 11)	16 (13.4, 18.5)
		Hispanic	*N deaths*	8 (5, 13)	0 (0, 0)	10 (0, 24)	0 (0, 0)	65 (35, 95)	46 (25, 70)	57 (31, 90)	26 (15, 40)	21 (6, 36)	11 (0, 23)	37 (15, 67)	46 (21, 76)	331 (268, 404)
			% HSTK	17.9 (10.1, 27.5)	0 (0, 0)	7.1 (0, 17.3)	0 (0, 0)	24.4 (13.2, 35.6)	25.9 (14, 39)	19.3 (10.7, 30.7)	14.3 (8.4, 21.8)	10.7 (3.2, 18.2)	4.5 (0, 9.4)	10.2 (4.2, 18.2)	8.3 (3.8, 13.8)	12.8 (10.4, 15.7)
		Other	*N deaths*	6 (4, 9)	0 (0, 0)	9 (3, 15)	0 (0, 0)	36 (19, 54)	33 (18, 49)	48 (28, 73)	36 (22, 52)	64 (28, 108)	14 (7, 23)	41 (18, 72)	48 (21, 90)	341 (273, 415)
			% HSTK	36.1 (22.4, 50.8)	0 (0, 0)	18.7 (7.5, 32.6)	0 (0, 0)	32.4 (17.5, 48.4)	33.5 (18.4, 49.7)	29.9 (17.4, 44.8)	24.1 (14.5, 35)	36.2 (15.9, 60.6)	8.8 (4.2, 14.2)	13.1 (5.8, 22.8)	10.6 (4.7, 19.8)	19.4 (15.6, 23.6)
		Total	*N deaths*	21 (1, 41)	0 (0, 0)	93 (40, 160)	0 (0, 0)	301 (162, 464)	278 (148, 428)	433 (268, 626)	392 (232, 575)	534 (366, 742)	518 (362, 686)	558 (247, 928)	843 (350, 1429)	**4011 (3306, 4780)**
			% HSTK	9.5 (0.4, 19)	0 (0, 0)	14.7 (6.2, 25.2)	0 (0, 0)	17.4 (9.4, 26.9)	17.6 (9.4, 27.1)	16.6 (10.3, 24.1)	18.4 (10.9, 27)	18.4 (12.6, 25.5)	17.9 (12.5, 23.8)	8.2 (3.6, 13.6)	8.1 (3.4, 13.7)	**12.3 (10.1, 14.7)**
Sodium[h]	**Other Stroke**	**Overall by age**	*N deaths*	4 (1, 9)		34 (15, 56)		307 (212, 413)		902 (651, 1181)		1877 (1462, 2317)		5029 (3484, 6698)		**M: 3505 (2619, 4475)** **F: 4529 (3309, 6305)**
(>2000 mg/d)			*% OSTK*	4.8 (0.8, 10.1)		8.3 (3.7, 13.9)		17.4 (12, 23.4)		17.6 (12.7, 23)		18.2 (14.2, 22.5)		8.1 (5.6, 10.8)		**M: 11.3 (8.4, 14.4)** **F: 9.6 (6.8, 13)**
		Education														
		<High-school	*N deaths*	1 (0, 2)	0 (0, 0)	10 (5, 15)	11 (6, 16)	19 (2, 40)	12 (2, 28)	126 (80, 175)	79 (51, 114)	78 (8, 149)	57 (2, 111)	488 (290, 723)	724 (441, 1072)	1612 (1252, 2034)
			% OSTK	7.9 (0.9, 16)	0 (0, 0)	23.8 (12.6, 36.9)	23.9 (13.4, 35.6)	7.3 (0.8, 15.2)	7.3 (0.9, 16.4)	19 (12.1, 26.5)	18.9 (12.3, 27.3)	5.6 (0.5, 10.8)	4.9 (0.1, 9.6)	8.6 (5.1, 12.8)	6.7 (4.1, 9.9)	7.8 (6.1, 9.8)
		High-school	*N deaths*	5 (3, 7)	0 (0, 0)	49 (28, 69)	0 (0, 0)	78 (34, 129)	58 (28, 96)	403 (263, 552)	296 (186, 417)	273 (151, 424)	242 (126, 361)	761 (436, 1195)	1673 (967, 2454)	3848 (3023, 4779)
			% OSTK	15.3 (8.1, 23.7)	0 (0, 0)	29.7 (17.2, 42.3)	0 (0, 0)	12.2 (5.3, 20.2)	11.8 (5.8, 19.7)	21.3 (13.9, 29.2)	21.4 (13.5, 30.2)	8.7 (4.8, 13.5)	8.2 (4.3, 12.3)	7.1 (4.1, 11.2)	6.8 (4, 10)	8.4 (6.6, 10.4)
		College	*N deaths*	1 (1, 2)	0 (0, 0)	6 (4, 9)	0 (0, 0)	18 (10, 27)	11 (6, 18)	80 (54, 114)	48 (30, 69)	109 (68, 154)	60 (38, 85)	296 (166, 484)	396 (223, 610)	1039 (789, 1321)
			% OSTK	21.7 (12.8, 31.9)	0 (0, 0)	33.7 (19.9, 49)	0 (0, 0)	18.3 (10.6, 27.4)	17.4 (9.1, 26.9)	19.2 (12.9, 27.4)	20.1 (12.4, 28.8)	12.3 (7.6, 17.4)	10.9 (7, 15.5)	6.7 (3.8, 11)	8.4 (4.7, 12.9)	9.1 (6.9, 11.5)
		Race														
		White	*N deaths*	2 (0, 4)	0 (0, 0)	31 (18, 43)	0 (0, 0)	87 (52, 132)	64 (37, 101)	224 (64, 399)	70 (0, 157)	841 (581, 1134)	582 (393, 768)	1315 (658, 2123)	1472 (857, 2300)	4747 (3674, 5871)
			% OSTK	8 (0, 16.1)	0 (0, 0)	27.5 (16.4, 39.1)	0 (0, 0)	15.4 (9.2, 23.3)	15.7 (9, 24.6)	11.7 (3.3, 20.9)	5.6 (0, 12.5)	21.5 (14.8, 29)	17.3 (11.7, 22.8)	7.5 (3.8, 12.1)	4.3 (2.5, 6.7)	7.5 (5.8, 9.3)
		Black	*N deaths*	2 (1, 3)	0 (0, 0)	21 (13, 32)	16 (9, 23)	59 (34, 87)	51 (29, 77)	126 (65, 199)	58 (26, 94)	263 (175, 347)	165 (113, 224)	177 (102, 268)	216 (127, 325)	1161 (980, 1345)
			% OSTK	12.4 (5.6, 20.4)	0 (0, 0)	27.5 (16.4, 40.4)	28.8 (16, 41.2)	20.1 (11.5, 29.7)	21.8 (12.3, 33.1)	16.1 (8.3, 25.4)	10.2 (4.5, 16.4)	24.7 (16.5, 32.6)	19.1 (13, 25.8)	9.9 (5.7, 15)	6.2 (3.6, 9.3)	12.6 (10.6, 14.6)
		Hispanic	*N deaths*	1 (1, 2)	0 (0, 0)	2 (0, 6)	0 (0, 0)	24 (14, 35)	16 (10, 24)	45 (26, 67)	23 (13, 34)	38 (11, 62)	12 (0, 27)	116 (63, 189)	149 (83, 222)	430 (338, 538)
			% OSTK	17.9 (10.7, 27.3)	0 (0, 0)	7.3 (0, 16.4)	0 (0, 0)	24.1 (14, 35.2)	25.5 (15, 38.2)	19.2 (11.1, 28.8)	14.2 (8.1, 21.6)	10.7 (3.2, 17.2)	4.3 (0, 9.5)	10.2 (5.5, 16.5)	8.4 (4.7, 12.5)	10.3 (8.1, 12.9)
		Other	*N deaths*	0 (0, 0)	0 (0, 0)	2 (1, 3)	0 (0, 0)	21 (12, 30)	11 (6, 17)	42 (27, 60)	21 (13, 29)	91 (43, 147)	18 (8, 28)	99 (51, 163)	123 (62, 214)	432 (330, 548)
			% OSTK	35.3 (21.4, 49.3)	0 (0, 0)	18.3 (7.8, 32.4)	0 (0, 0)	32.2 (18.8, 46.5)	33.3 (18.6, 49.5)	30 (19.1, 43.5)	24.4 (15.3, 34.6)	35.8 (16.8, 58.2)	8.6 (4.1, 13.7)	13.1 (6.7, 21.4)	10.6 (5.3, 18.4)	15.9 (12.1, 20.2)
		Total	*N deaths*	4 (1, 9)	0 (0, 0)	34 (15, 56)	0 (0, 0)	177 (103, 262)	130 (71, 193)	517 (327, 741)	382 (243, 538)	1036 (707, 1381)	849 (588, 1104)	1731 (982, 2608)	3266 (2029, 4860)	**8131 (6580, 10023)**
			% OSTK	9.4 (1.5, 19.6)	0 (0, 0)	14.5 (6.5, 24.2)	0 (0, 0)	17.3 (10.1, 25.6)	17.5 (9.6, 26)	16.9 (10.7, 24.2)	18.4 (11.7, 26)	18.5 (12.6, 24.7)	18 (12.5, 23.4)	8.2 (4.6, 12.3)	8 (5, 11.9)	**10.2 (8.3, 12.6)**
Sodium[h]	**Cardiometabolic disease**	**Overall by age**	*N deaths*	153 (87, 233)		873 (611, 1193)		5225 (4180, 6389)		10624 (8777, 12876)		15283 (13166, 17573)		34234 (26510, 42098)		**M: 35917 (30082, 42202)** **F: 30281 (24639, 36936)**
(>2000 mg/d)			*% CMD*	4.2 (2.4, 6.4)		7 (4.9, 9.5)		12.3 (9.9, 15.1)		12.3 (10.2, 14.9)		13.3 (11.4, 15.2)		7.7 (6, 9.5)		**M: 10 (8.4, 11.8)** **F: 8.8 (7.2, 10.7)**
		Education														
		<High-school	*N deaths*	29 (16, 42)	0 (0, 0)	272 (197, 354)	132 (103, 165)	303 (128, 503)	134 (69, 212)	1371 (1038, 1769)	672 (521, 847)	594 (261, 954)	341 (163, 540)	3800 (2571, 5266)	4433 (3311, 6003)	12141 (10306, 14289)
			% CMD	5.4 (3, 8.1)	0 (0, 0)	16.5 (12, 21.4)	16.2 (12.7, 20.4)	5.3 (2.2, 8.7)	5.1 (2.6, 8)	13.4 (10.2, 17.3)	13.1 (10.1, 16.5)	3.9 (1.7, 6.2)	3.4 (1.6, 5.4)	8 (5.4, 11)	6.4 (4.8, 8.6)	7.2 (6.1, 8.4)
		High-school	*N deaths*	168 (123, 222)	0 (0, 0)	1200 (898, 1550)	0 (0, 0)	1648 (1087, 2395)	769 (540, 1045)	5693 (4296, 7436)	2773 (2177, 3467)	2605 (1803, 3482)	1646 (1187, 2099)	6748 (4559, 9298)	10025 (7314, 13064)	33429 (29134, 37608)
			% CMD	10.5 (7.7, 13.8)	0 (0, 0)	20.9 (15.6, 27)	0 (0, 0)	8.6 (5.7, 12.5)	8.5 (6, 11.5)	15.3 (11.5, 20)	15 (11.8, 18.8)	6.3 (4.4, 8.4)	5.8 (4.2, 7.4)	6.8 (4.6, 9.4)	6.6 (4.8, 8.6)	8 (7, 9)
		College	*N deaths*	41 (32, 51)	0 (0, 0)	235 (173, 294)	0 (0, 0)	433 (306, 572)	173 (135, 213)	1283 (982, 1652)	516 (406, 628)	1079 (826, 1409)	404 (326, 486)	2489 (1714, 3485)	2192 (1632, 2925)	8907 (7773, 10231)

eTable 14. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)

Dietary Factor[a]	Cardiometabolic Disease[b]	Population strata[c]	Associated mortality[d]	Age												Total (25+ y) (95% UIs)
				25-34 y		35-44 y		45-54 y		55-64 y		65-74 y		75+ y		
				Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	Males (95% UIs)	Females (95% UIs)	
			% CMD	15.6 (12.3, 19.4)	0 (0, 0)	24.9 (18.4, 31.2)	0 (0, 0)	13.2 (9.3, 17.4)	12.7 (9.9, 15.7)	14.1 (10.8, 18.2)	14.3 (11.3, 17.5)	8.9 (6.8, 11.6)	8 (6.4, 9.6)	6.5 (4.4, 9)	8.1 (6, 10.8)	8.7 (7.6, 10)
		Race														
		White	*N deaths*	70 (40, 114)	0 (0, 0)	960 (696, 1286)	0 (0, 0)	2168 (1483, 3053)	883 (665, 1144)	3479 (1889, 5376)	721 (336, 1160)	8573 (6572, 10519)	3998 (3268, 4748)	11308 (7411, 16359)	8916 (6488, 11795)	41208 (35562, 48103)
			% CMD	5.2 (3, 8.5)	0 (0, 0)	19.4 (14.1, 26)	0 (0, 0)	11.2 (7.7, 15.8)	10.9 (8.2, 14.1)	8.4 (4.5, 12.9)	4 (1.8, 6.4)	15.8 (12.1, 19.4)	12.5 (10.2, 14.9)	7.1 (4.6, 10.2)	4.2 (3.1, 5.6)	7.5 (6.4, 8.7)
		Black	*N deaths*	53 (39, 71)	0 (0, 0)	413 (317, 508)	242 (198, 284)	884 (678, 1125)	601 (472, 725)	1265 (906, 1681)	473 (347, 623)	1783 (1443, 2084)	1041 (865, 1215)	1331 (922, 1796)	1353 (995, 1828)	9447 (8646, 10351)
			% CMD	8.7 (6.3, 11.6)	0 (0, 0)	20 (15.4, 24.6)	20.9 (17.2, 24.6)	15 (11.5, 19.1)	16.4 (12.9, 19.8)	12.2 (8.7, 16.2)	7.3 (5.4, 9.6)	18.3 (14.8, 21.4)	13.7 (11.4, 16)	9.6 (6.7, 13)	5.9 (4.4, 8)	11.2 (10.2, 12.2)
		Hispanic	*N deaths*	41 (32, 50)	0 (0, 0)	53 (28, 83)	0 (0, 0)	415 (303, 544)	182 (143, 222)	557 (408, 750)	193 (146, 243)	333 (182, 471)	90 (42, 142)	896 (597, 1273)	973 (682, 1314)	3754 (3281, 4303)
			% CMD	12.5 (9.7, 15.2)	0 (0, 0)	5.3 (2.8, 8.3)	0 (0, 0)	16.6 (12.1, 21.7)	17.3 (13.6, 21)	13.3 (9.7, 17.9)	9.2 (7, 11.6)	7.3 (4, 10.3)	2.9 (1.4, 4.6)	9.2 (6.1, 13.1)	7.6 (5.3, 10.3)	9 (7.8, 10.3)
		Other	*N deaths*	34 (26, 43)	0 (0, 0)	58 (37, 86)	0 (0, 0)	275 (197, 359)	107 (82, 133)	459 (346, 586)	173 (137, 216)	648 (418, 932)	102 (72, 132)	695 (480, 999)	712 (504, 1001)	3288 (2839, 3788)
			% CMD	26 (20, 32.2)	0 (0, 0)	12.9 (8.2, 19)	0 (0, 0)	22.2 (15.9, 29)	22.5 (17.2, 28)	21.3 (16, 27.1)	16.1 (12.8, 20.1)	25.6 (16.5, 36.8)	6.1 (4.3, 7.8)	12.2 (8.4, 17.5)	10.1 (7.2, 14.2)	14.5 (12.5, 16.7)
		Total	*N deaths*	153 (87, 233)	0 (0, 0)	873 (611, 1193)	0 (0, 0)	3608 (2625, 4717)	1636 (1267, 2046)	7066 (5406, 9010)	3550 (2824, 4355)	9539 (7613, 11586)	5712 (4717, 6684)	14643 (10060, 20405)	19293 (14035, 25570)	**66508 (58500, 74840)**
			% CMD	6.3 (3.6, 9.7)	0 (0, 0)	10.3 (7.2, 14.1)	0 (0, 0)	12.4 (9.1, 16.3)	12.3 (9.5, 15.4)	12.1 (9.3, 15.5)	12.8 (10.2, 15.7)	13.4 (10.7, 16.3)	12.9 (10.7, 15.1)	7.7 (5.3, 10.8)	7.6 (5.5, 10.1)	**9.5 (8.3, 10.7)**

[a] Dietary factors with probable or convincing evidence, based on criteria for assessing causality,[11,13,14,86] for etiologic relationships with cardiometabolic outcomes including coronary heart disease (CHD), stroke, type 2 diabetes, body mass index (BMI), or systolic blood pressure (SBP).[9,10]

[b] Disease-specific deaths were obtained from the National Center for Health Statistics (NCHS) (http://www.cdc.gov/nchs/data_access/Vitalstatsonline.htm); uncertainty in the baseline number of deaths is not reported in NCHS. Deaths were excluded if in foreign residents (individuals dying in the US but whose place of residence is outside the US), at age<25y, with missing age information (2012: 0.005%; 2002: 0.006%), or, in education-stratified analyses, with missing education information (2012: 2.1%; 2002: 6.2%). For this analysis, we used data on deaths due to diet-related cardiometabolic diseases including **coronary heart disease (CHD):** I20-I25; **Ischemic stroke (ISTK)**: I63, I65-I67 (except I67.4), I69.3, G45; **Hemorrhagic stroke (HSTK):** I60-I62, I69.0-I69.2, I67.4; **Other stroke (OSTK)**, unclassified stroke or sequelae of stroke, not specified as haemorrhage or infarction**:** I64, I69.4, I69.8; **Diabetes**: E10-E14 (except E10.2, E11.2, E12.2, E13.2);and **other cardiovascular diseases (other CVD)** including hypertensive heart disease (I11), rheumatic heart disease (I01, I02.0, I05-I09), cardiomyopathy and myocarditis (I42, I40), atrial fibrillation and flutter (I48), aortic aneurysm (I71), peripheral vascular disease (I73, I70.2), endocarditis (I33),and other cardiovascular and circulatory diseases (I00, I02.9, I27-I28 (except I27.1), I30-I32 (except I31.2, I31.3), I34-I39, I47, I70.8, I72, I77-I80, I82-I84, I86-I98). Diabetes deaths are those coded as proximally due to diabetes, and diabetes is also separately a risk factor for CVD deaths along with other risk factors such as smoking, high blood pressure, high cholesterol, obesity, physical inactivity, etc.

[c] Population strata were assigned as follows: age (25-34, 35-44, 45-54, 55-64, 65-74, and ≥75 yrs), sex (male and female), education (<High-school: less than high school degree, High-school: high school degree/equivalent or some college, and College: ≥4-year college degree), and race (White: non-Hispanic White, Black: non-Hispanic Black, Hispanic: Mexican American/other Hispanic, and Other: other race/mixed race).

[d] We estimated the mortality (absolute, percent, with 95% uncertainty intervals (UIs)) associated with suboptimal intakes (reported in parenthesis) of dietary targets reported in this Table among US adults (≥25 yrs) using a comparative risk assessment framework,[2,91] incorporating nationally representative inputs and their uncertainty on (1) dietary exposure distributions, (2) etiologic relationships of these dietary factors with cardiometabolic mortality, (3) optimal intake distributions, and (4) observed total and disease-specific cardiometabolic deaths (see main Methods and eAppendix 1).

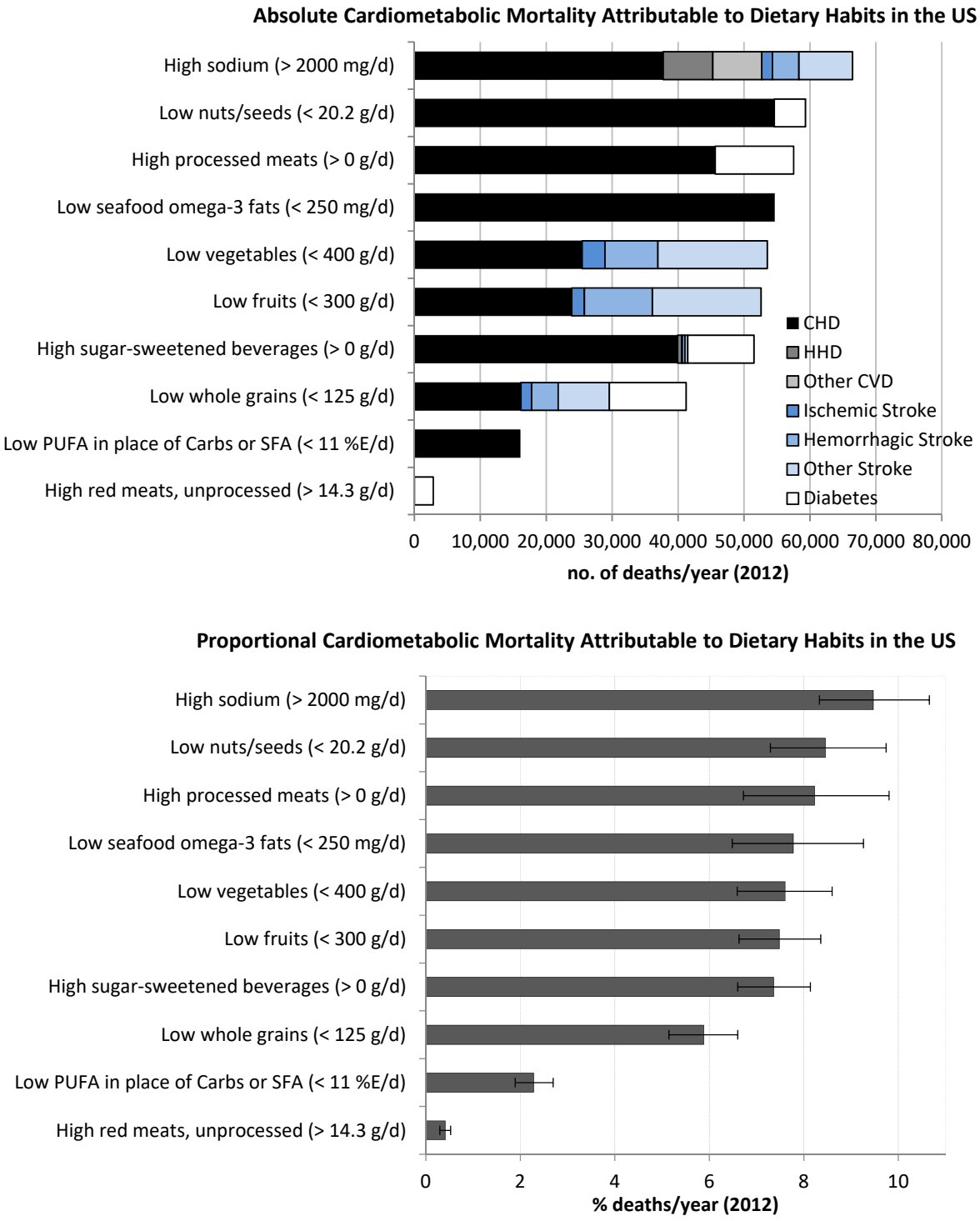
[e] Based on the joint (multiplicative) population attributable fraction[91] for the factors in this Table. We used polyunsaturated fats (PUFA) in place of saturated fats (SFA) rather than carbohydrates (Carbs) to be more conservative when estimating joint mortality. We excluded CHD estimates for processed meats because relationships may be mainly driven by sodium content;[38,92] and for SFA replacing PUFA because these are already incorporated into estimates for PUFA.

[f] Available evidence suggests that SSBs are associated with increased cardiometabolic risk through relationships with BMI and additional BMI-independent relationships with CHD, hypertensive heart disease, and type 2 diabetes (see eAppendix 1, eTable 5).[5,6] Because of this, in this Table we separate deaths due to hypertensive heart disease (associated with both BMP and BP) from those due to other CVD (associated with BP but not BMI).

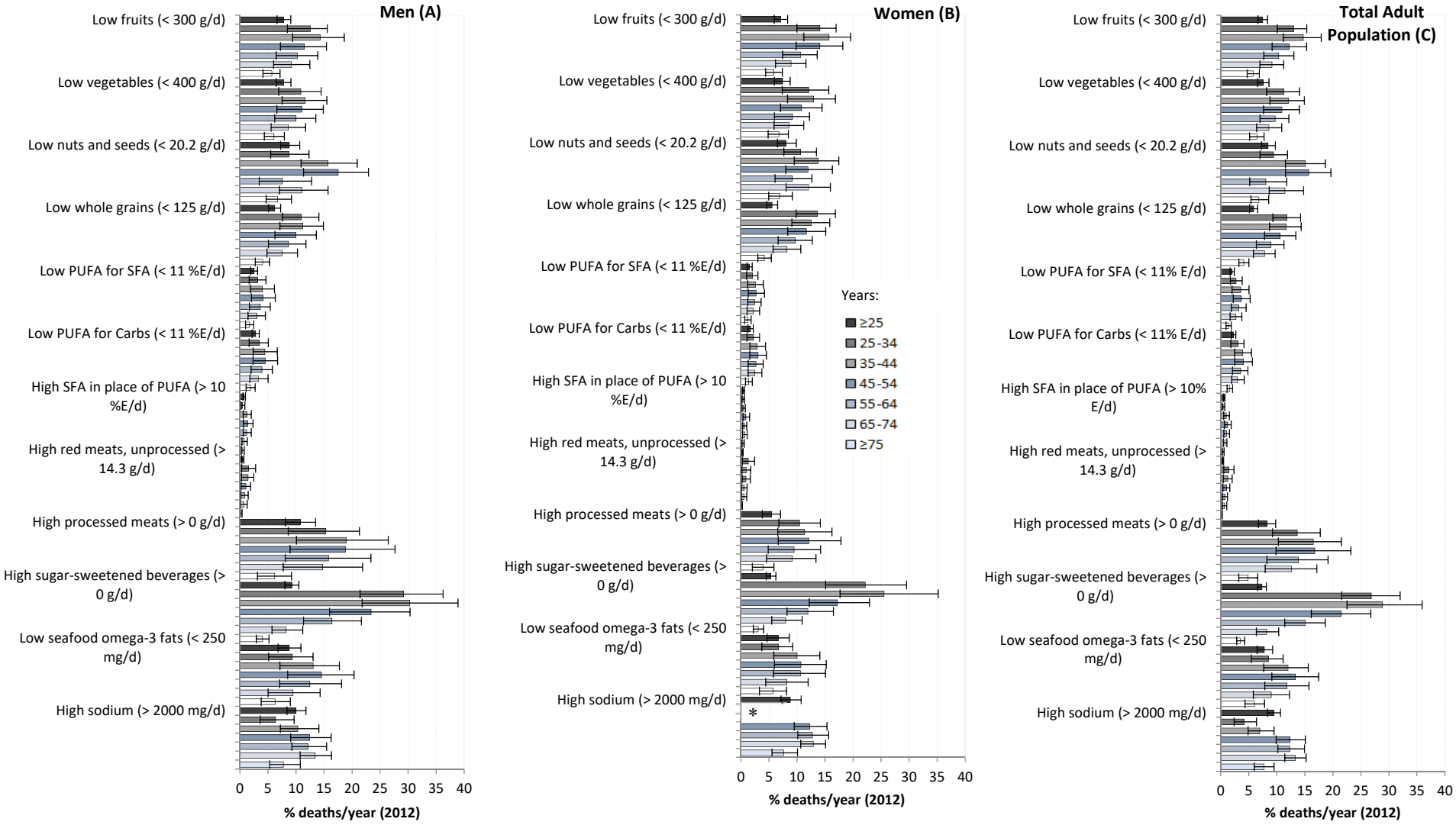
[g] Estimated RRs are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.

[h] Available evidence suggests that sodium is associated with increased mortality from CHD, stroke, and other blood pressure (BP)-related cardiovascular diseases through effects on systolic BP.[5,8] For every year above or below age 50, there was 0.105 mm Hg (95% CI: 0.047, 0.164) larger or smaller BP reduction, respectively; we assumed no further increase in effect after age 70 due to limited trial evidence outside this age range. We assumed a log-linear dose-response between SBP and CVD until 115 mm Hg, below which we assumed no further lowering of risk (see eAppendix 1, eTable 5).[8]

FIGURES

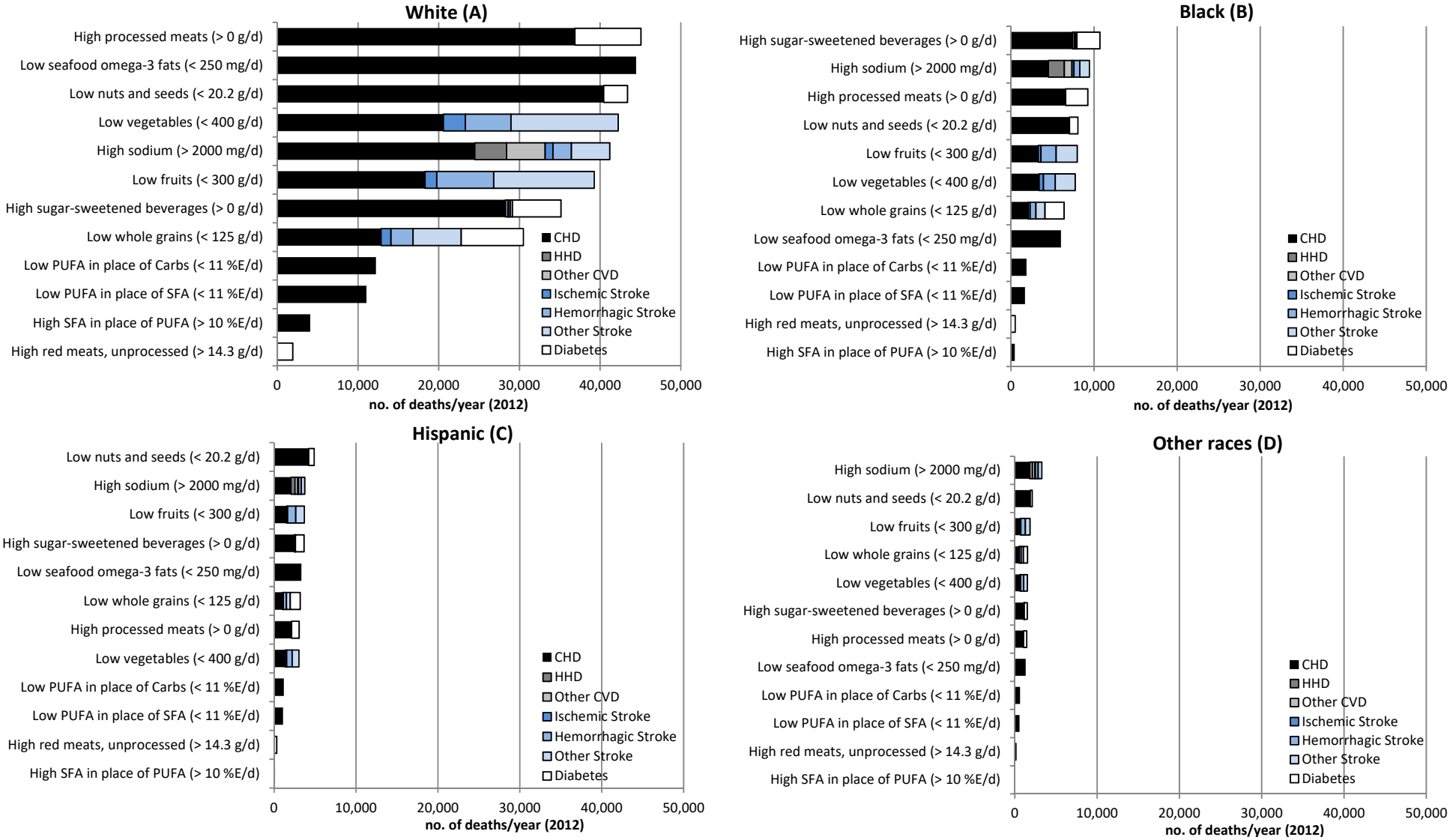


eFigure 1. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits among US adults in 2012. The bars represent the estimated absolute (top panel) and percent (bottom panel) cardiometabolic deaths associated with 10 dietary factors, as compared with optimal intakes (values in parentheses); and the error bars, 95% uncertainty intervals. Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA. CHD, coronary heart disease; CVD, cardiovascular disease; HHD, hypertensive heart disease

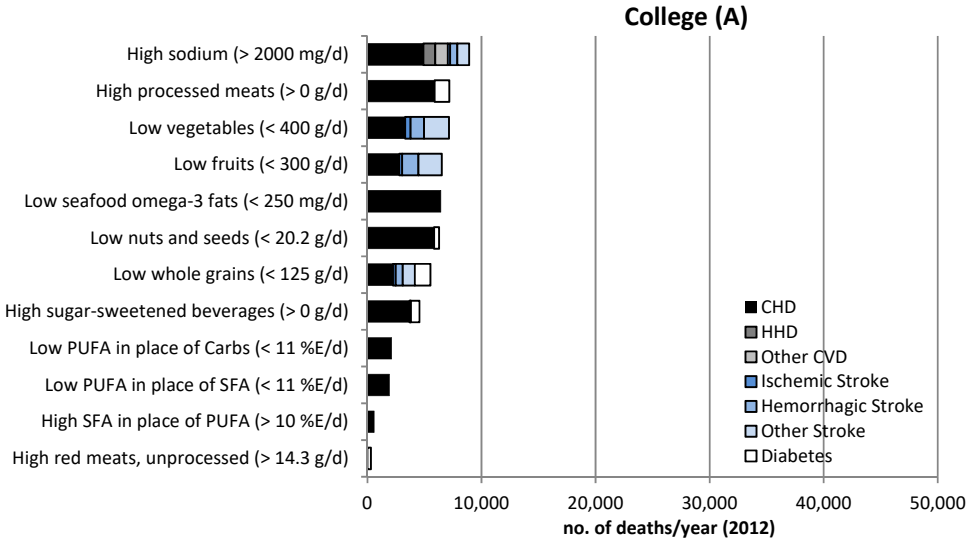


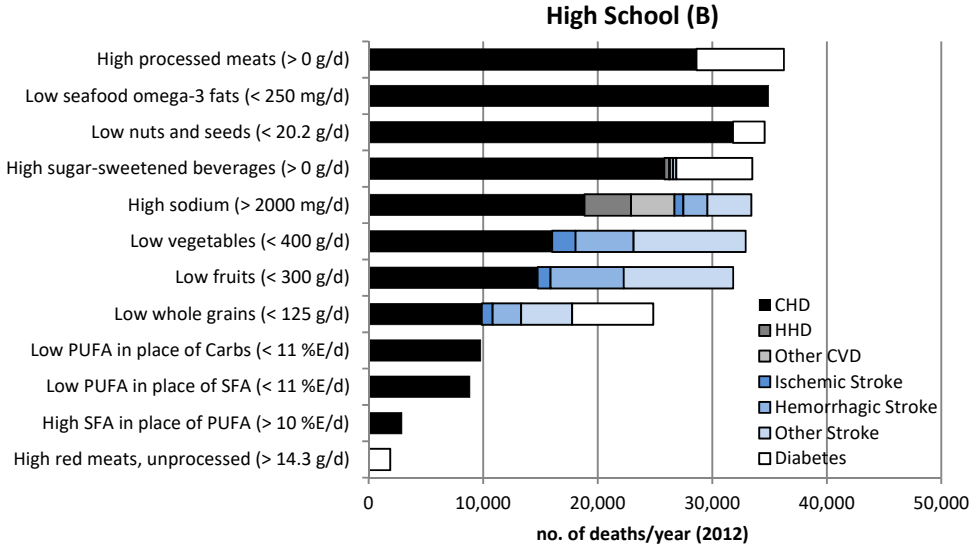
eFigure 2. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by age. The bars represent the estimated percent cardiometabolic deaths associated with 10 dietary factors among males (panel A) and females (panel B), and for total adult population (panel C) by age, as compared with optimal intakes (values in parentheses); and the error bars, 95% uncertainty intervals. Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.

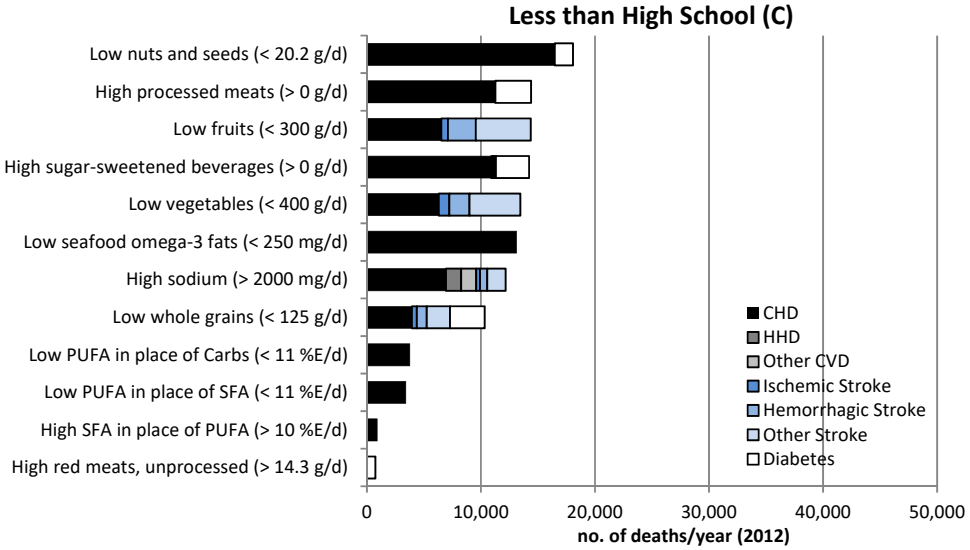
* Based on the evidence, we assumed a log-linear dose-response between systolic blood pressure and cardiovascular disease until a blood pressure level of 115 mm Hg, below which we assumed no further lowering of risk. Systolic blood pressure for females aged 25-34 and 35-44 years was <115 mm Hg.



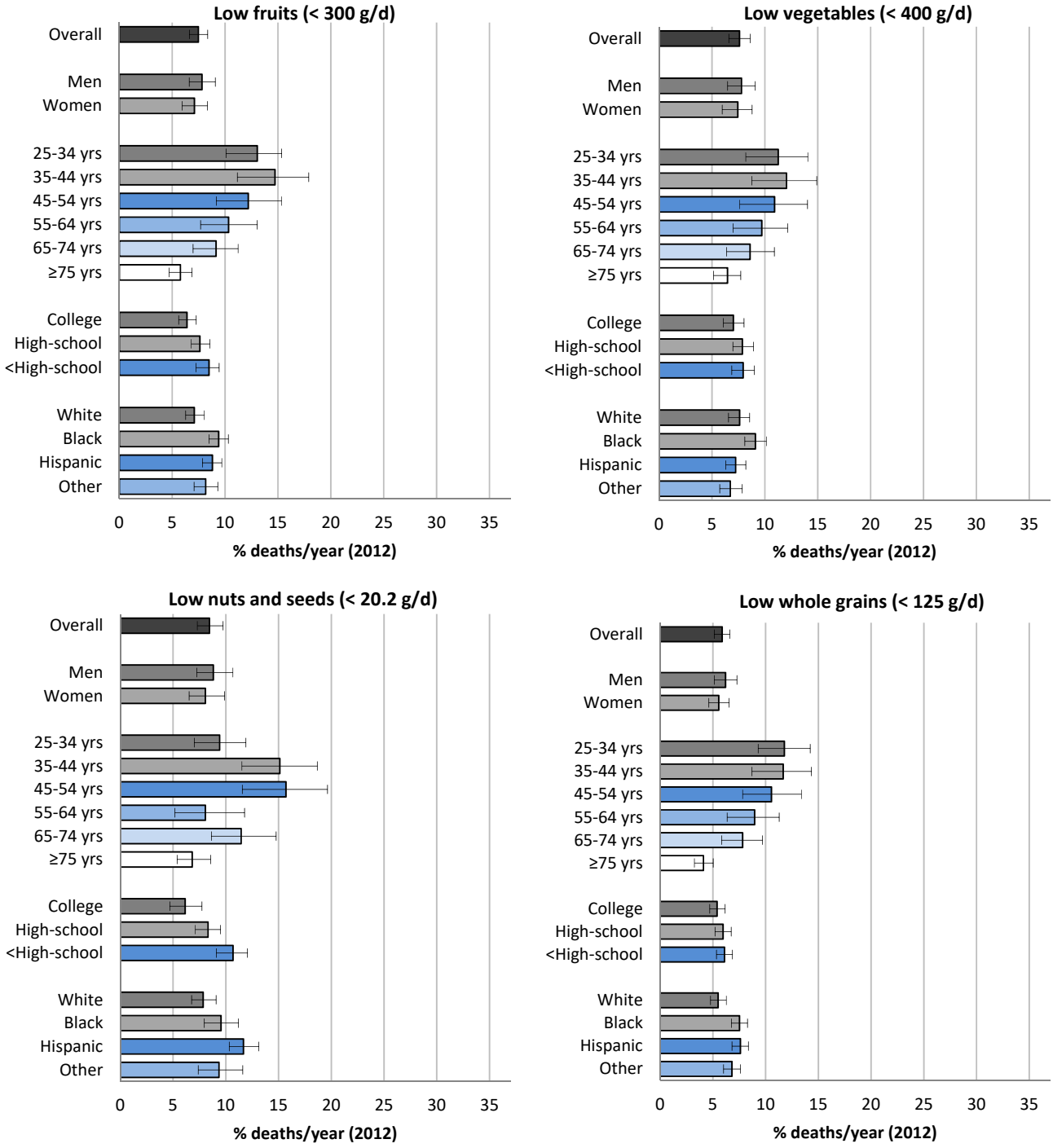
eFigure 3. Absolute cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by race. The bars represent absolute cardiometabolic deaths associated with 10 dietary factors among Whites (panel A), Blacks (panel B), Hispanics (panel C), and other races (panel D), as compared with optimal intakes (values in parentheses). Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA. CHD, coronary heart disease; CVD, cardiovascular disease; HHD, hypertensive heart disease.



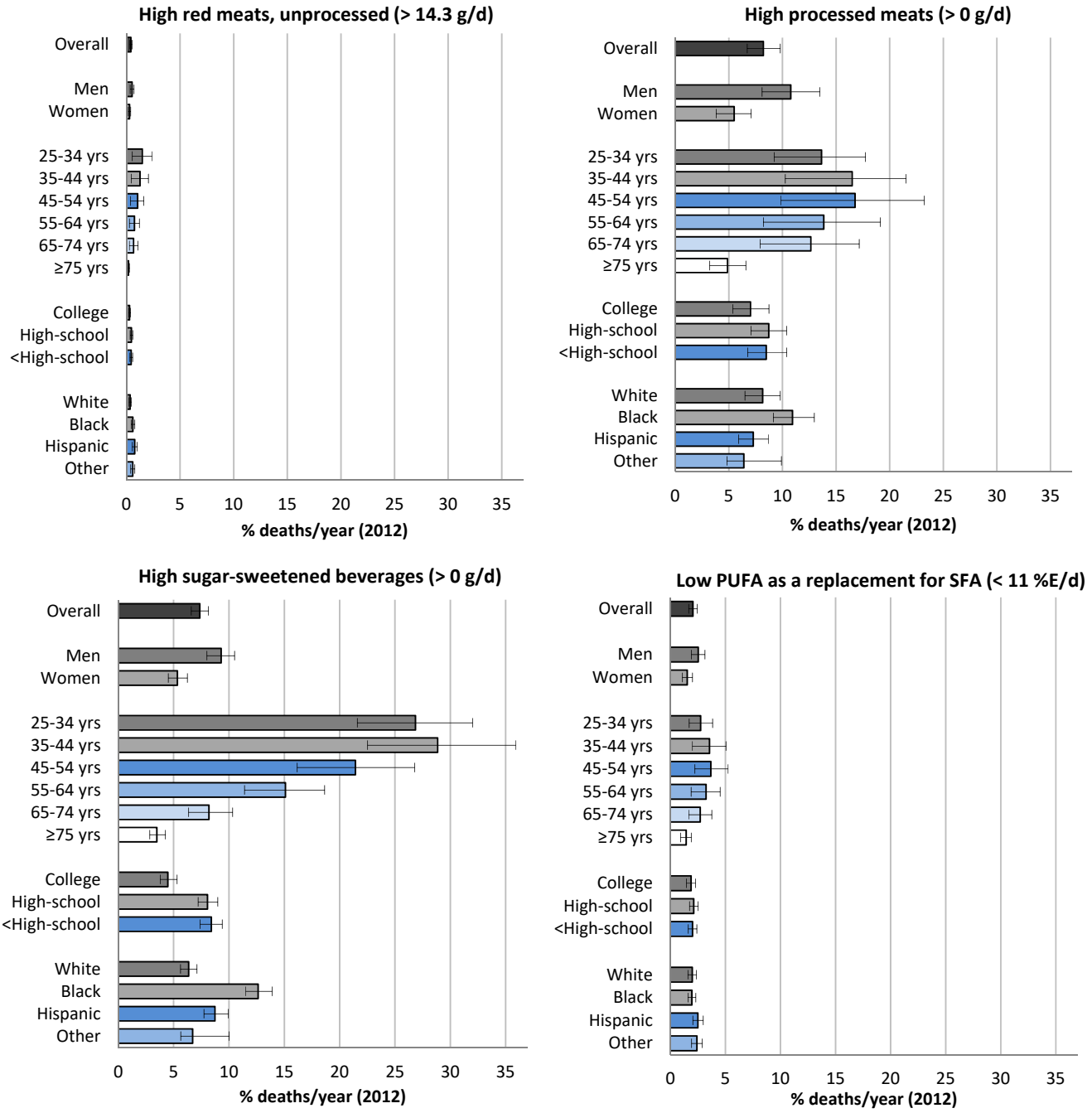




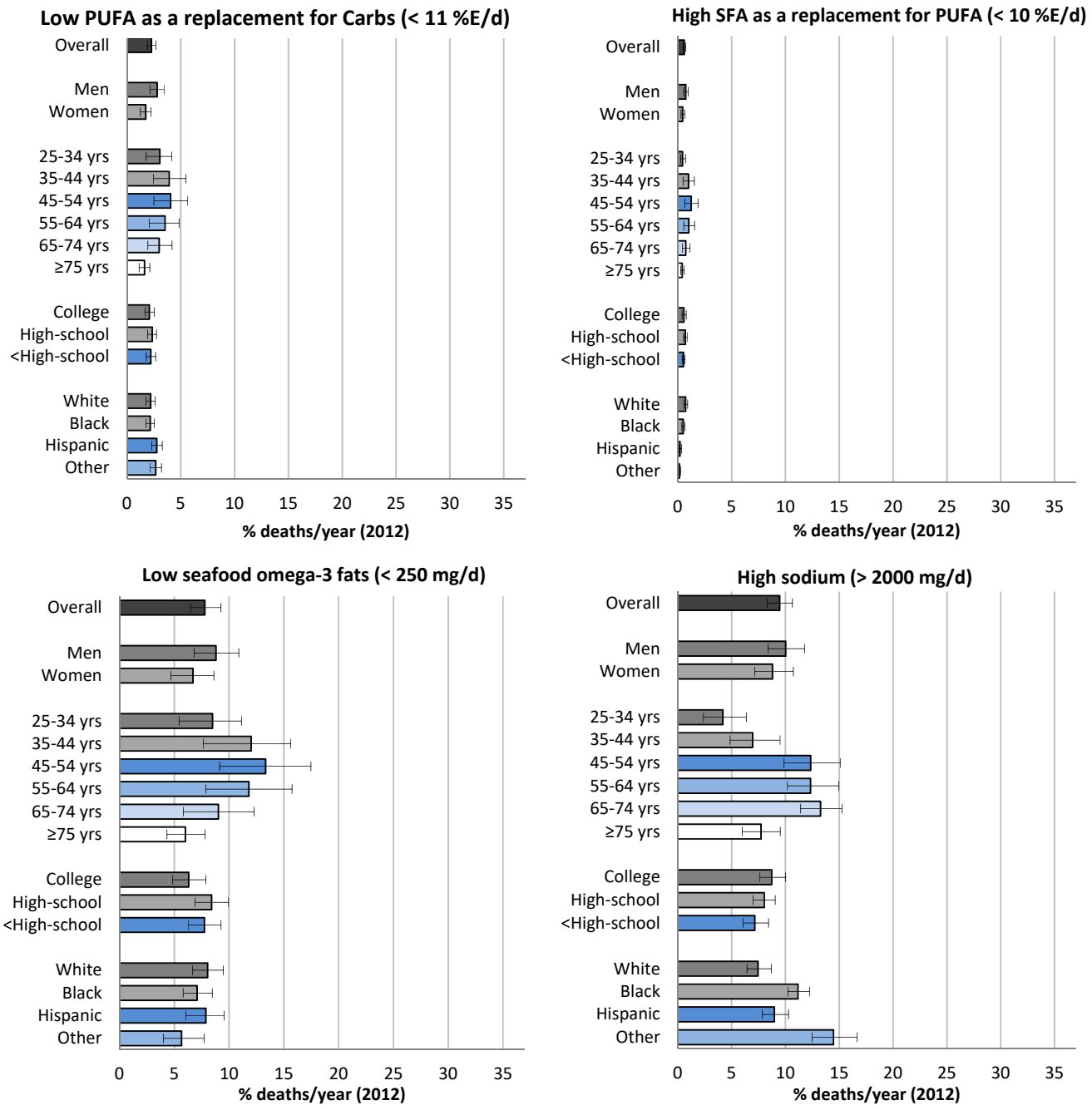
eFigure 4. Absolute cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by education. The bars represent absolute cardiometabolic deaths associated with 10 dietary factors among Americans of high (panel A), medium (panel B), and low education (panel C), as compared with optimal intakes (values in parentheses). Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA. CHD, coronary heart disease; CVD, cardiovascular disease; HHD, hypertensive heart disease.



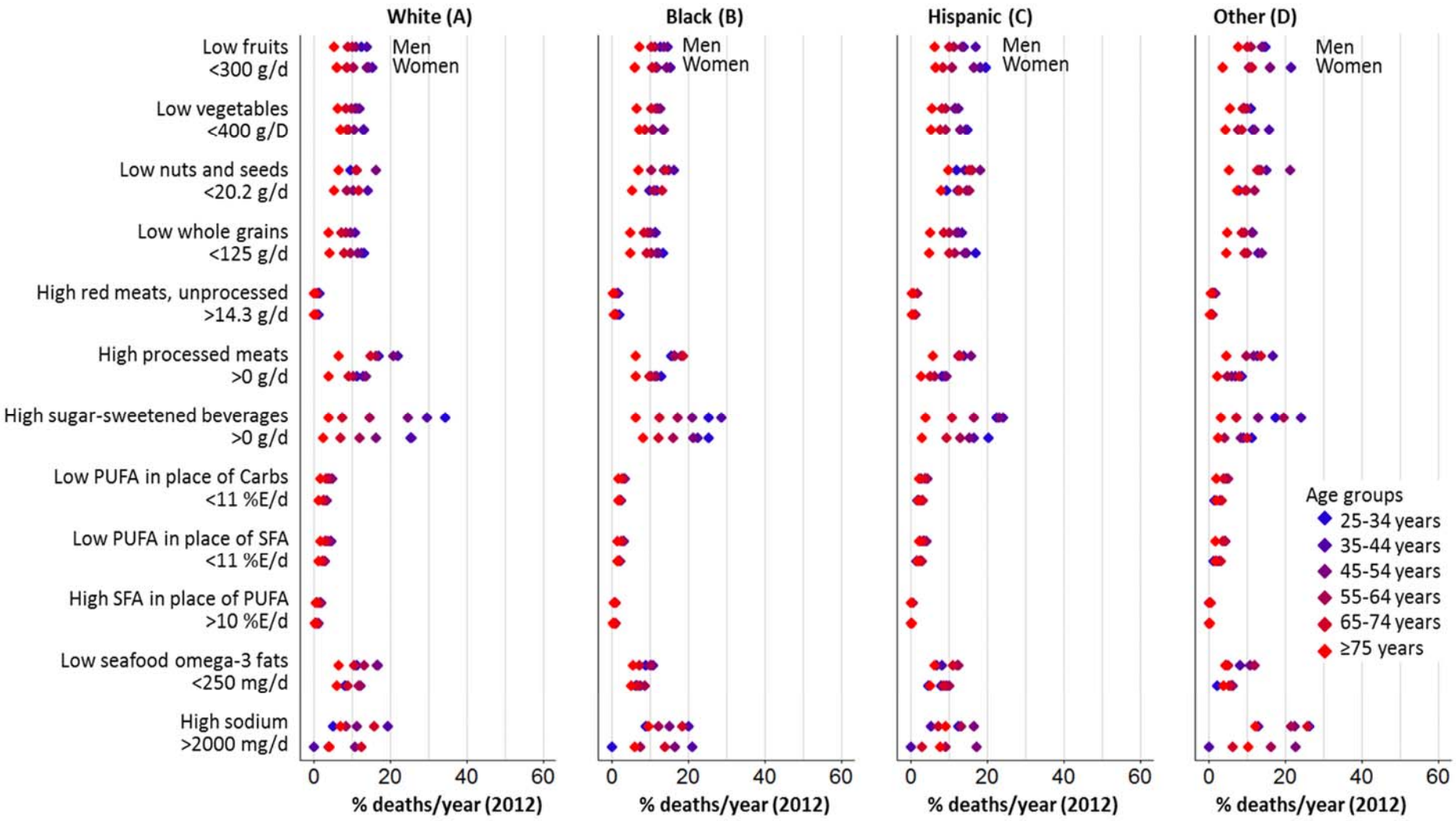
eFigure 5. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups. The bars represent the estimated percent cardiometabolic deaths associated with 10 dietary factors overall and by population stata (sex, age, education, race), as compared with optimal intakes (values in parentheses); and the error bars, 95% uncertainty intervals. Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.



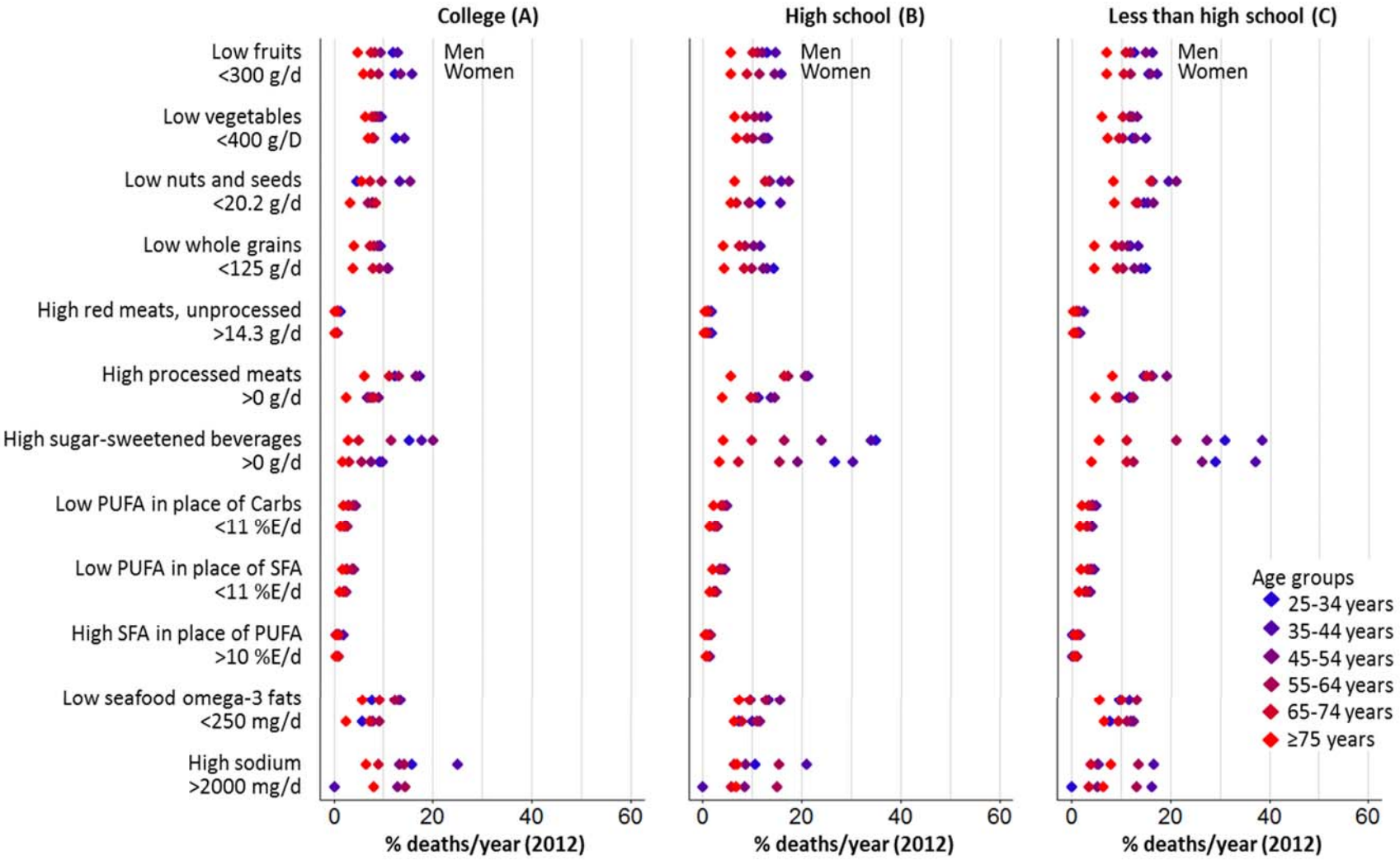
eFigure 5. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)



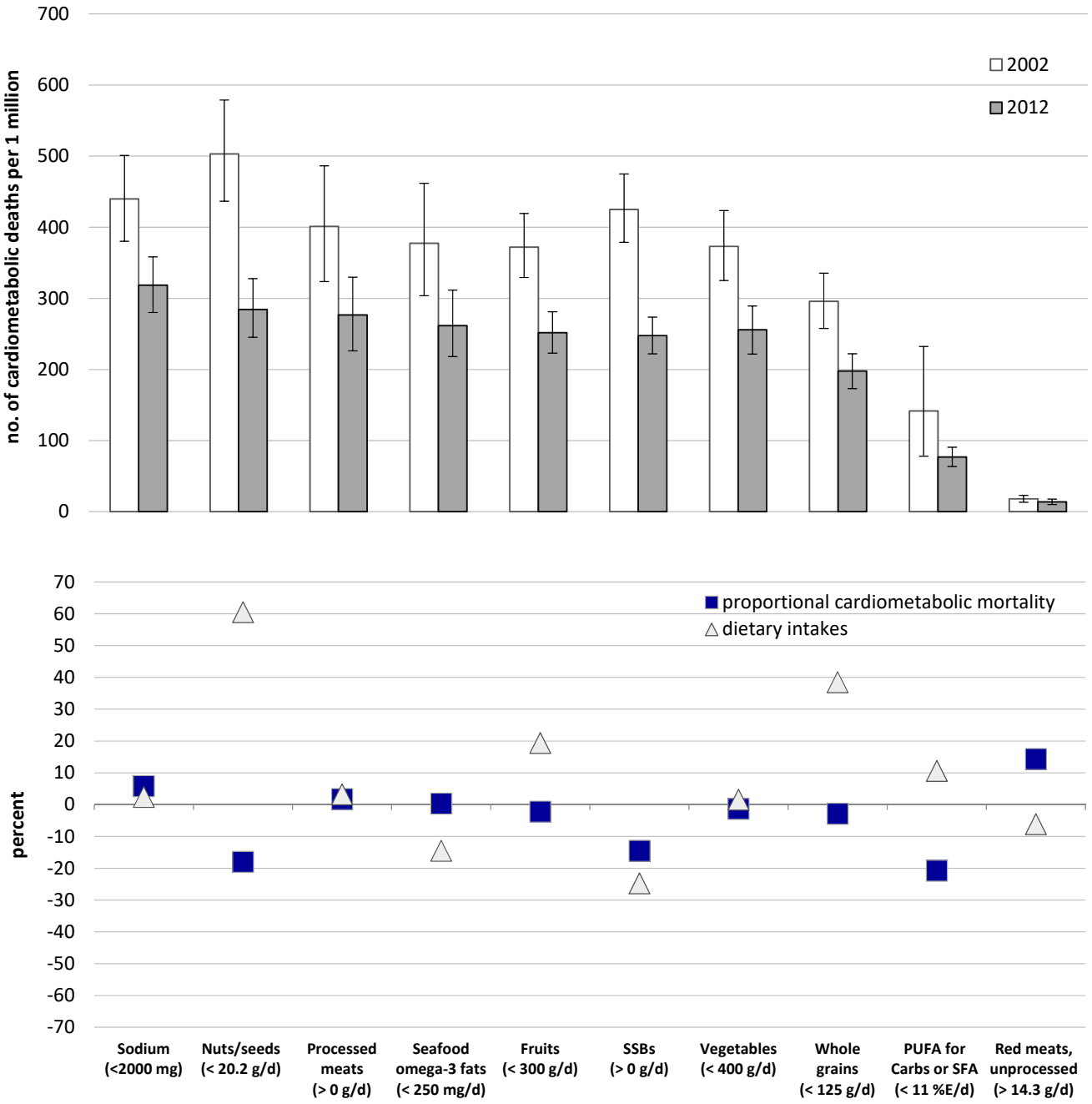
eFigure 5. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by population subgroups (continued)



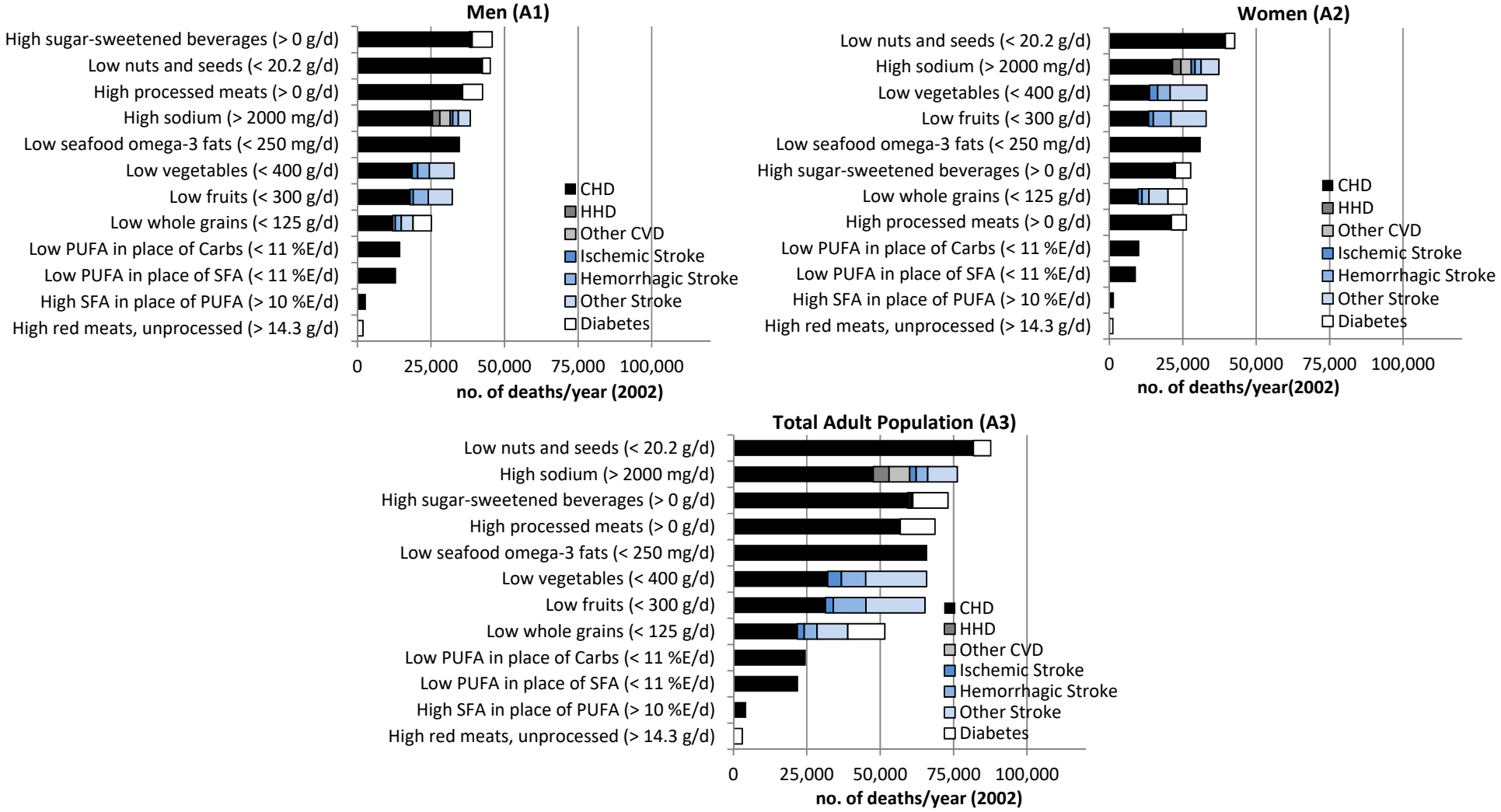
eFigure 6. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by age, sex, and race. The diamonds represent percent cardiometabolic deaths associated with 10 dietary factors by age and sex among Whites (panel A), Blacks (panel B), Hispanics (panel C), and other races (panel D), as compared with optimal intakes (values in parentheses). Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.



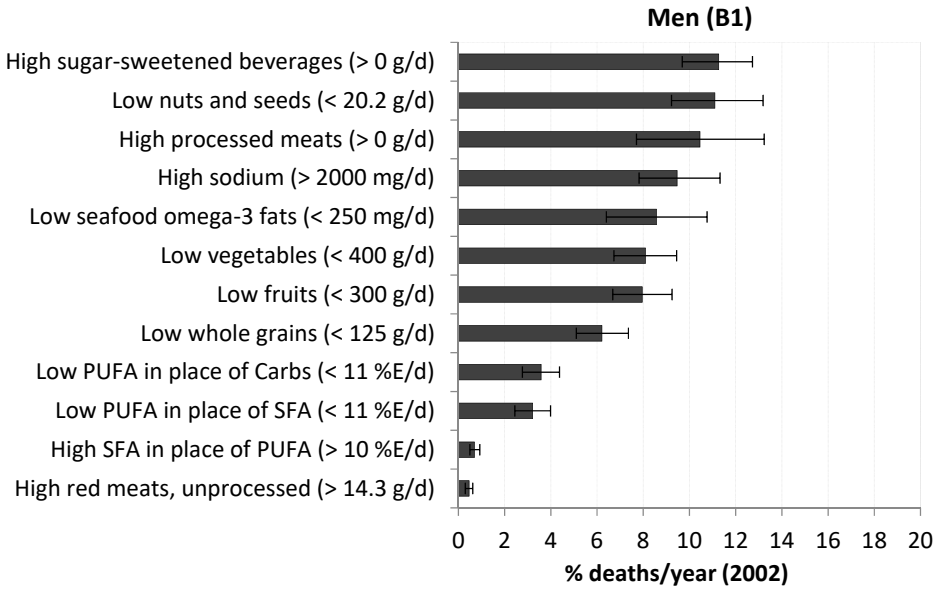
eFigure 7. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2012 by age, sex, and education. The diamonds represent percent cardiometabolic deaths associated with 10 dietary factors by age and sex among Americans of high (panel A), medium (panel B), and low (panel C) education, as compared with optimal intakes (values in parentheses). Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortalitys associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.

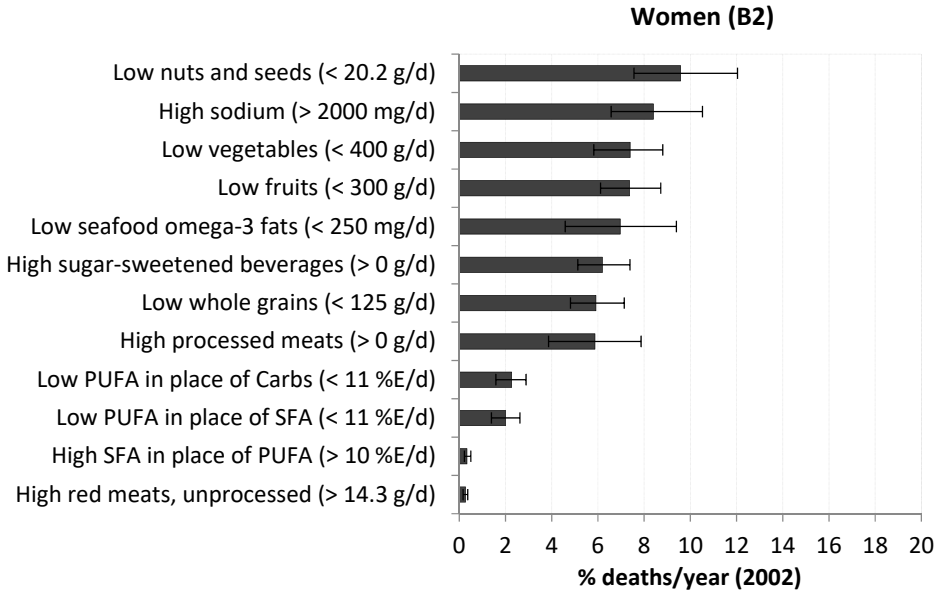


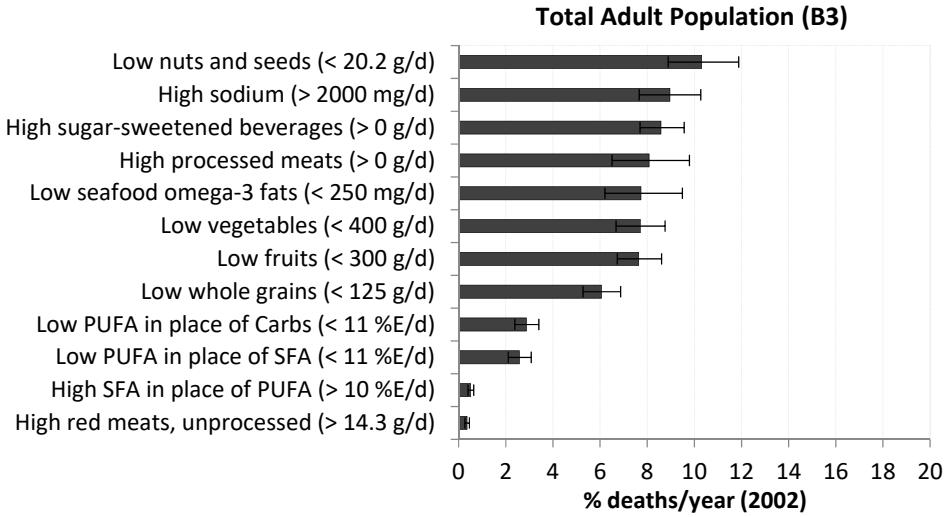
eFigure 8. Cardiometabolic deaths per 1 million adults associated with dietary habits in the US in 2002 and 2012 and change in proportional cardiometabolic disease mortality and dietary intakes between 2002 and 2012. The bars (top panel) represent the estimated cardiometabolic death rates associated with 10 dietary factors in 2002 and 2012, as compared with optimal intakes (values in parentheses); and the error bars, 95% uncertainty intervals. Death rates were age-sex standardized to account for changes in population structure (due to population growth and aging) by standardizing the 2002 population to 2012 population. The squares (bottom panel) represent the estimated relative changes in percent cardiometabolic deaths associated with 10 dietary factors between 2002 and 2012; and the triangles, the estimated relative changes in dietary intakes. These percent changes correspond to $(2012_{estimates}-2002_{estimates})/2002_{estimates}$ *100. Changes in intakes for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA) reflect changes in consumption of PUFA. SSBs, sugar-sweetened beverages.



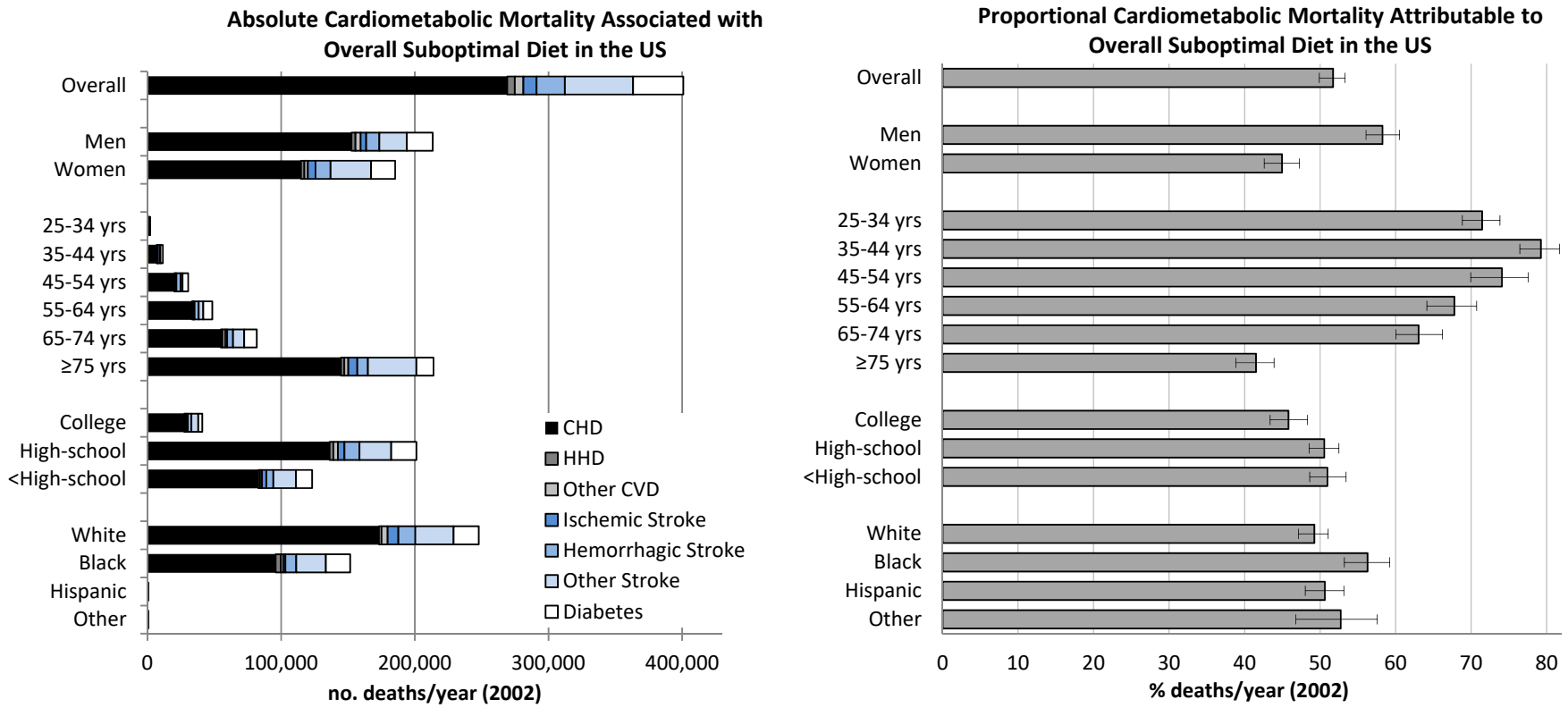
eFigure 9. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 overall, and by gender. The bars represent absolute (panels A1, A2, and A3) and percent (panels B1, B2, and B3) cardiometabolic deaths associated with 10 dietary factors, as compared with optimal intakes (values in parentheses); and the error bars, 95% uncertainty intervals. Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA. CHD, coronary heart disease; CVD, cardiovascular disease; HHD, hypertensive heart disease.



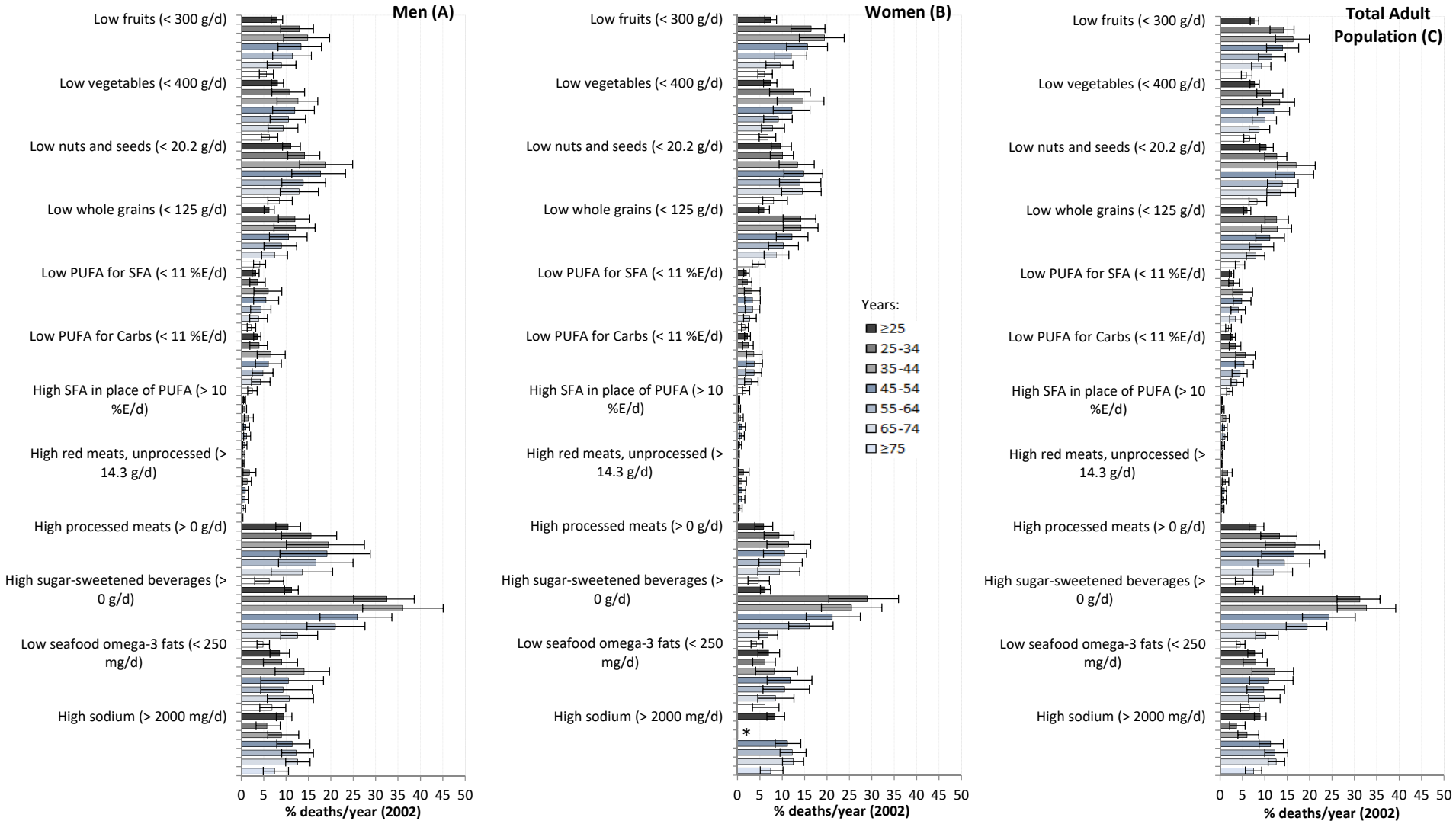




eFigure 9. Absolute and proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 overall, and by gender (continued)

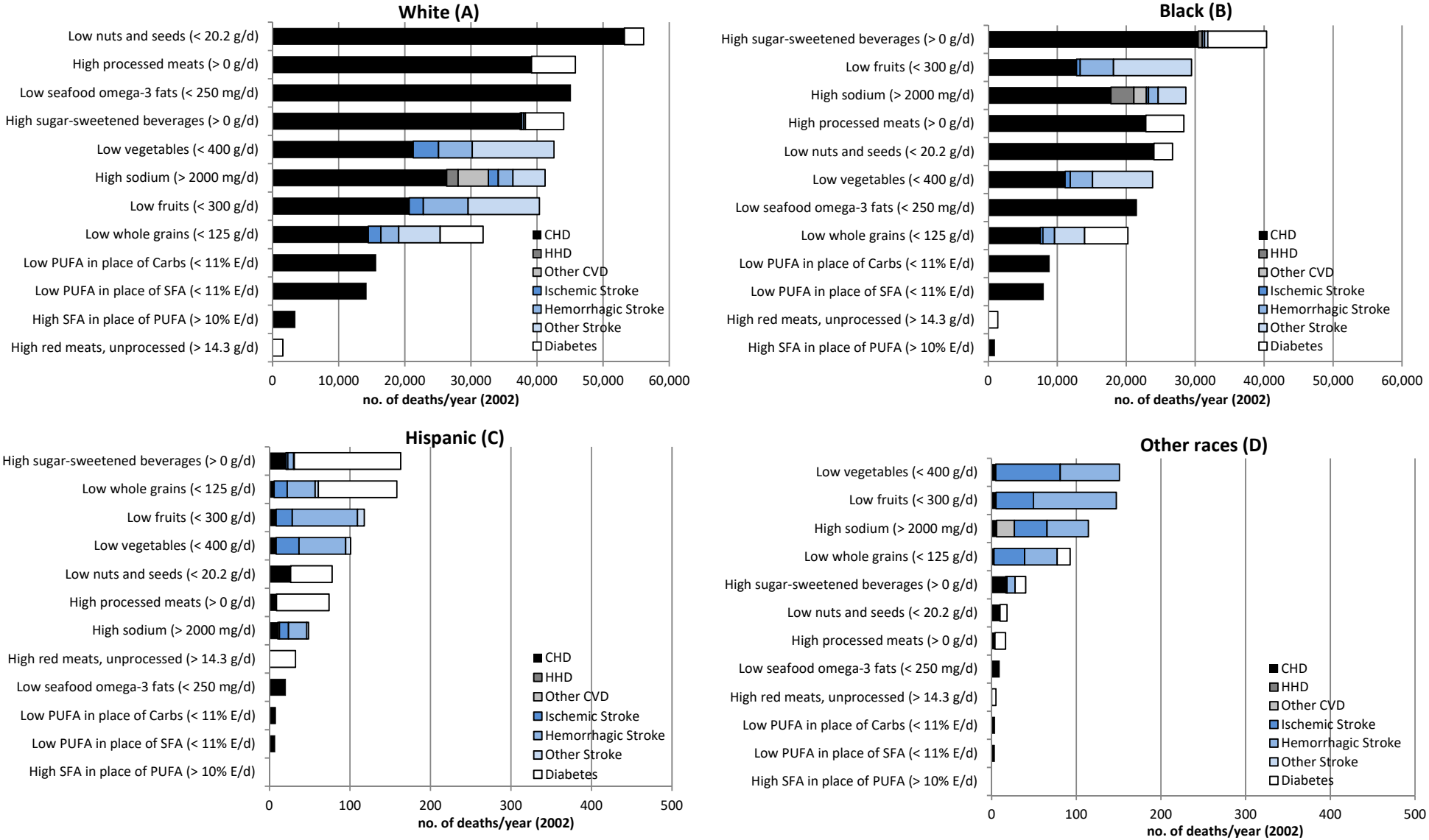


eFigure 10. Absolute and proportional cardiometabolic disease mortality associated with overall suboptimal diet in the US in 2002 by population subgroups.
The bars represent the estimated absolute (left panel) and percent (right panel) cardiometabolic deaths jointly associated with suboptimal intakes of 10 diet factors; and the error bars, 95% uncertainty intervals. The 10 factors were low intakes of fruits, vegetables, nuts/seeds, whole grains, seafood omega-3 fats, and polyunsaturated fats (replacing saturated fats), and high intakes of sodium, red meats, processed meats, and sugar-sweetened beverages; see Tables 1-2 for details. HHD, hypertensive heart disease; CVD, cardiovascular disease.

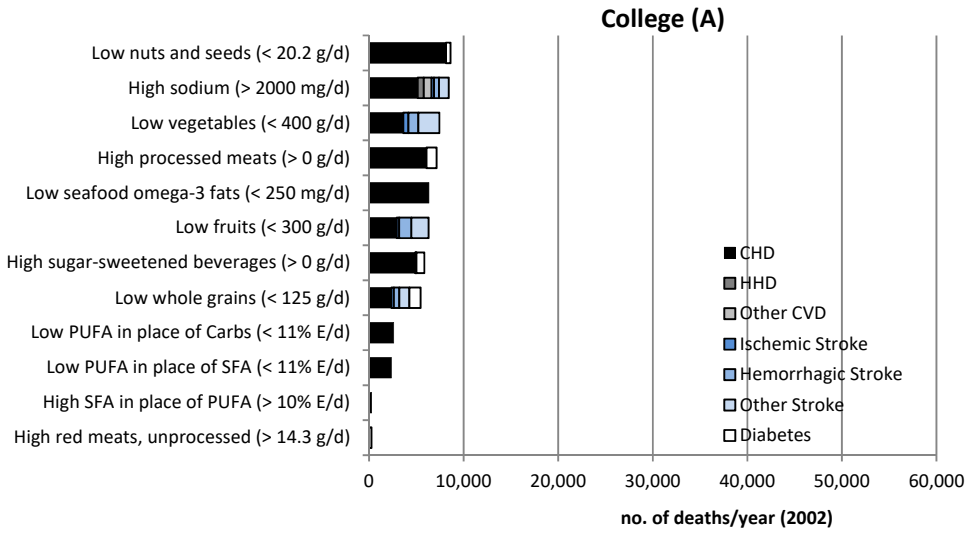


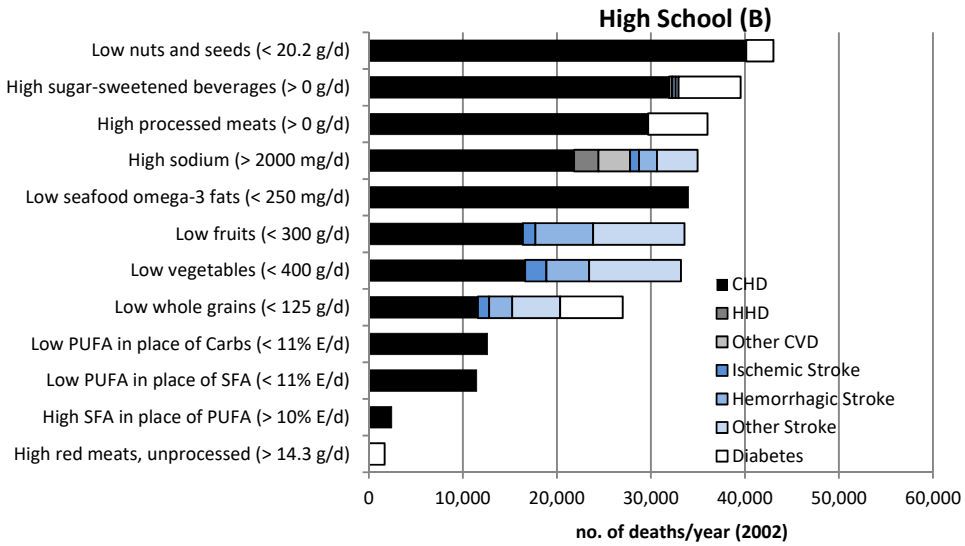
eFigure 11. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 by age. The bars represent the estimated percent cardiometabolic deaths associated with 10 dietary factors among males (panel A) and females (panel B), and for total adult population (panel C) by age, as compared with optimal intakes (values in parentheses); and the error bars, 95% uncertainty intervals. Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.

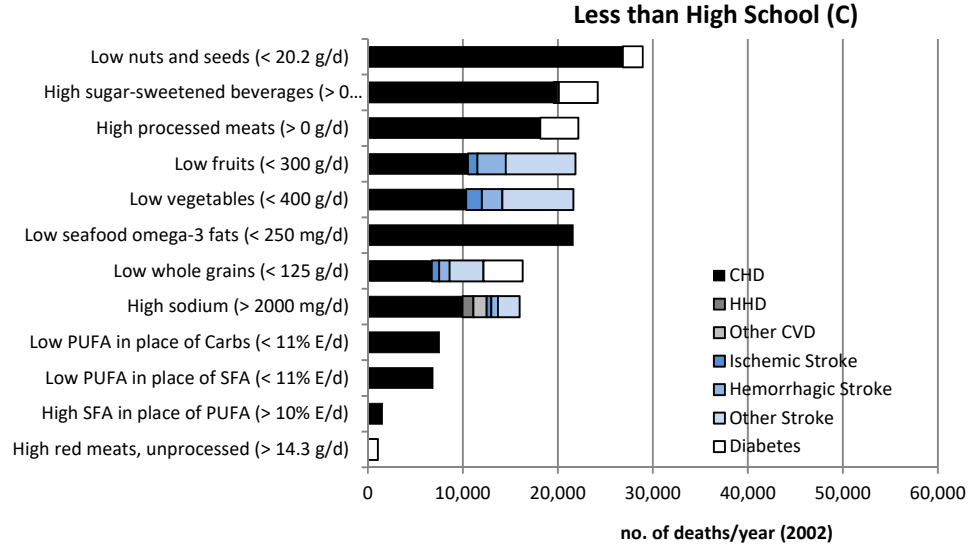
* Based on the evidence, we assumed a log-linear dose-response between systolic blood pressure and cardiovascular disease until a blood pressure level of 115 mm Hg, below which we assumed no further lowering of risk. Systolic blood pressure for females aged 25-34 and 35-44 years was <115 mm Hg.



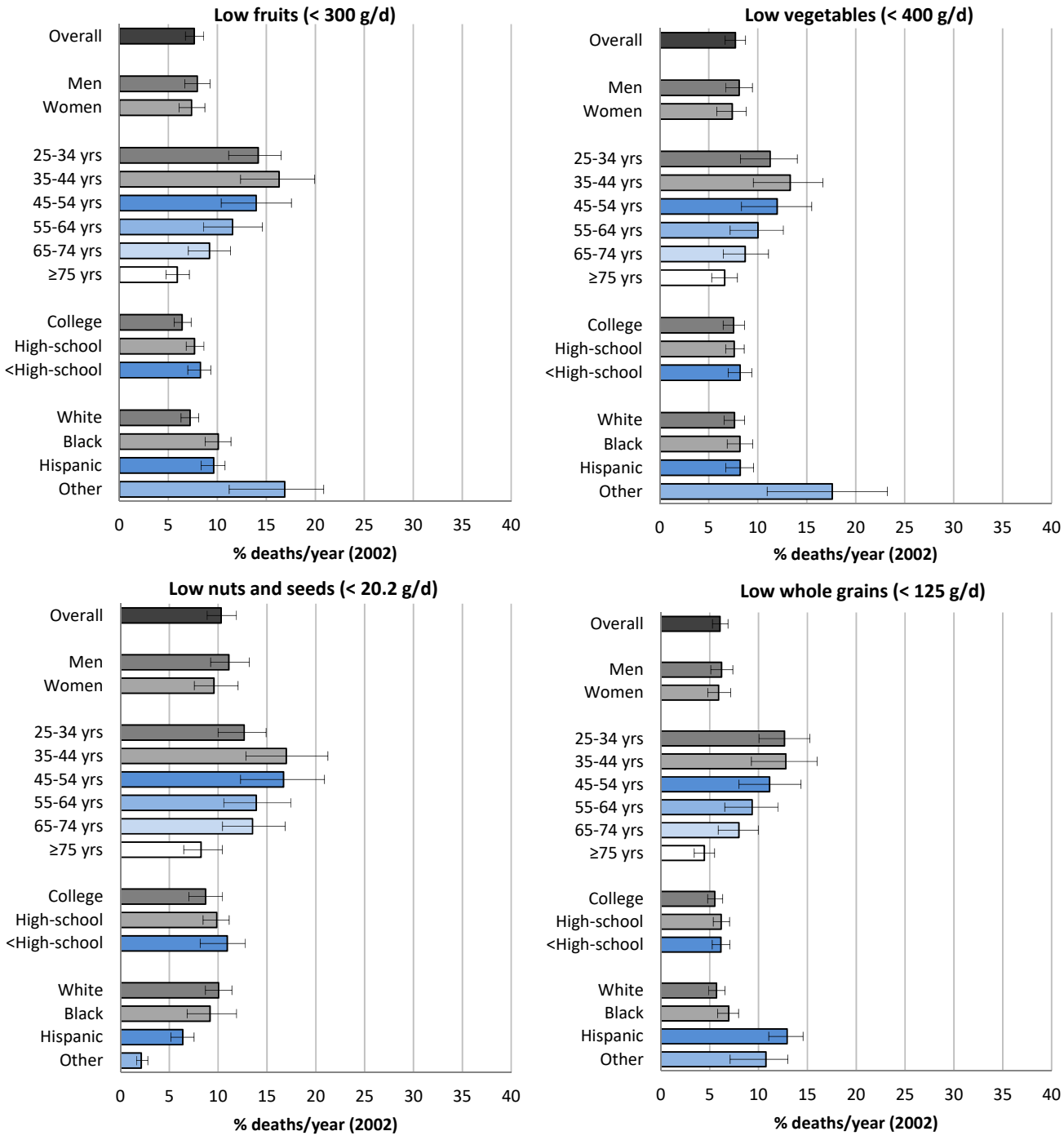
eFigure 12. Absolute cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 by race. The bars represent absolute cardiometabolic deaths associated with 10 dietary factors among Whites (panel A), Blacks (panel B), Hispanics (panel C), and other races (panel D), as compared with optimal intakes (values in parentheses). Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA. CHD, coronary heart disease; CVD, cardiovascular disease; HHD, hypertensive heart disease.



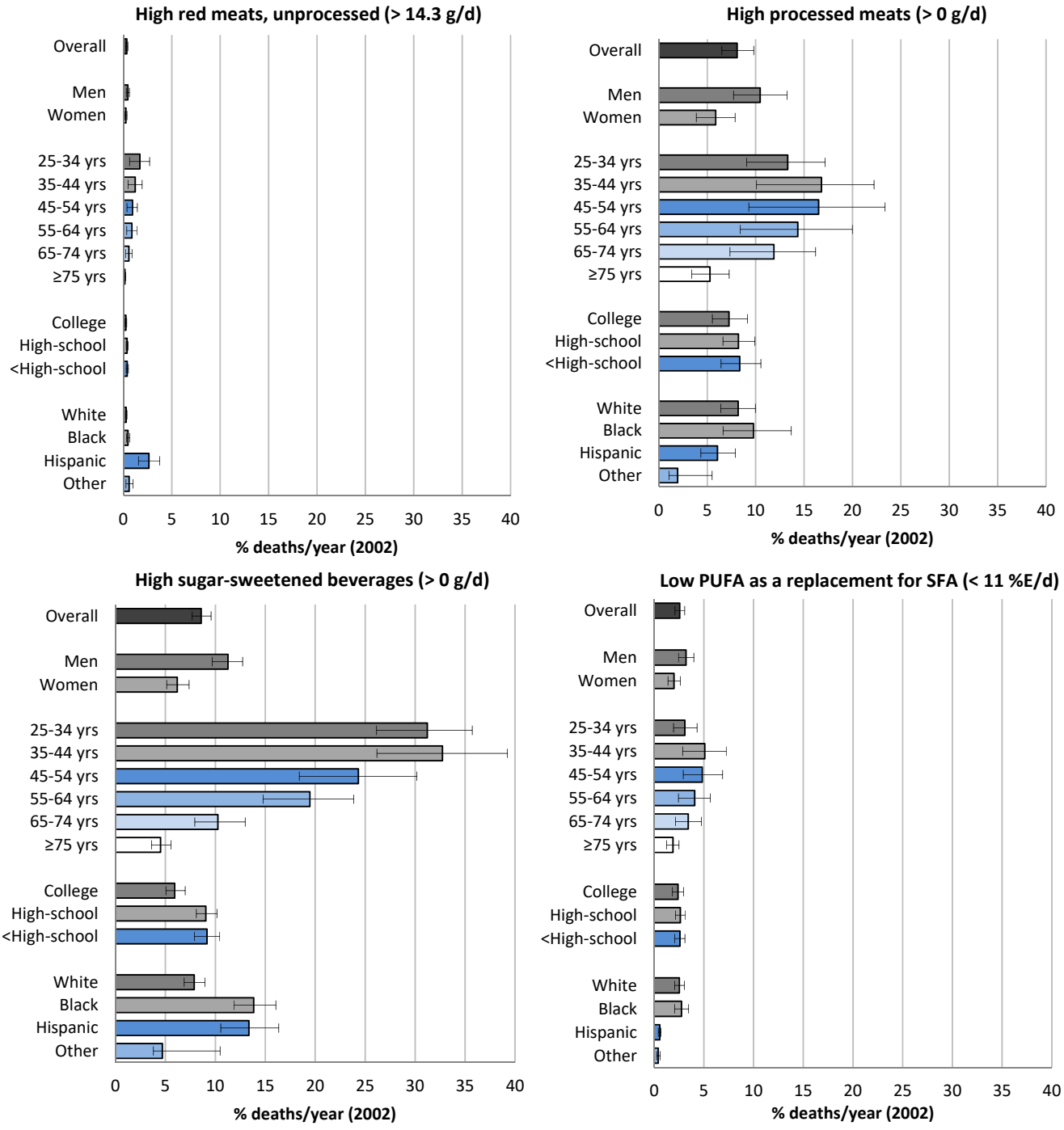




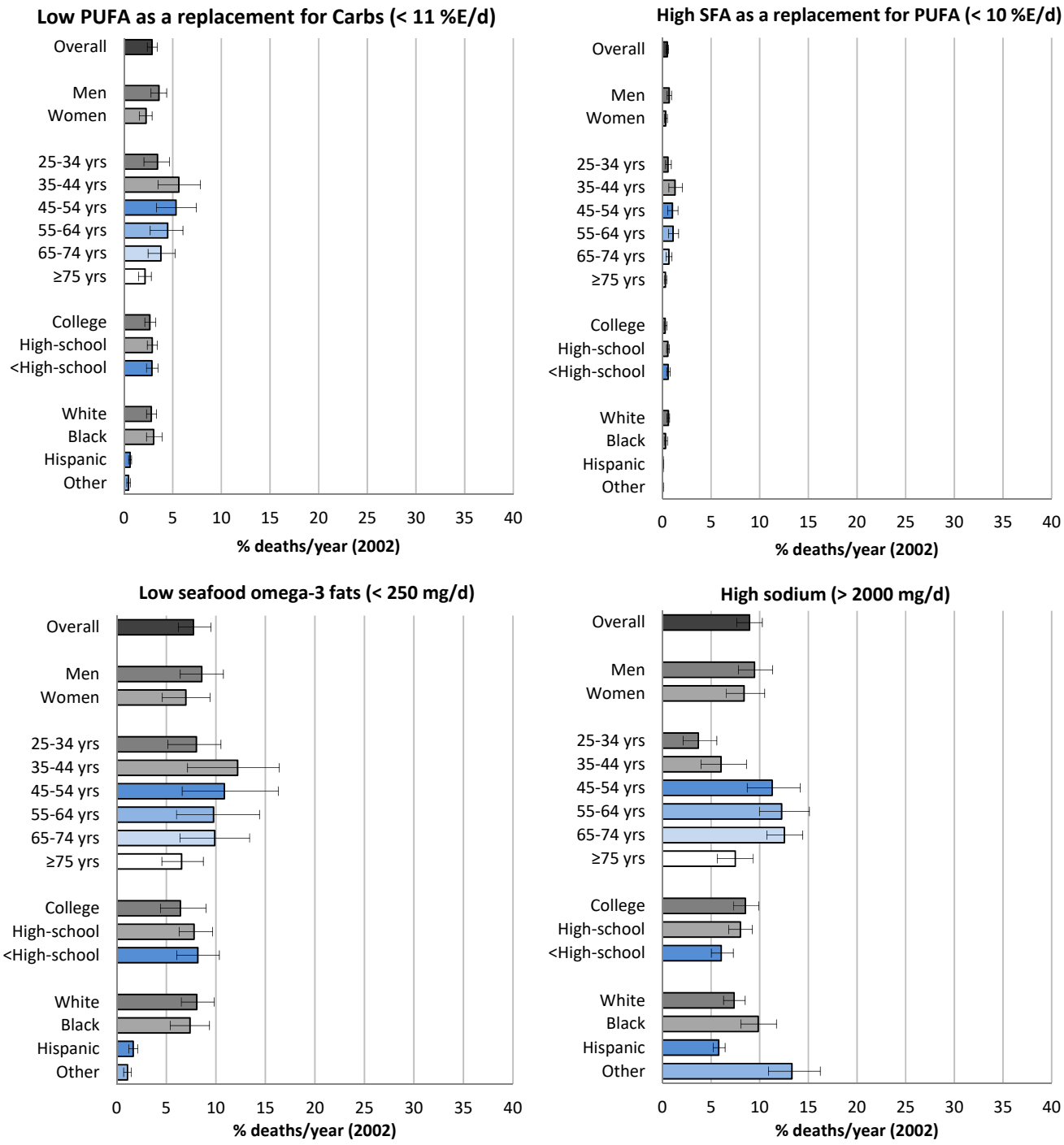
eFigure 13. Absolute cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 by education. The bars represent absolute cardiometabolic deaths associated with 10 dietary factors among Americans of high (panel A), medium (panel B), and low education (panel C), as compared with optimal intakes (values in parentheses). Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA. CHD, coronary heart disease; CVD, cardiovascular disease; HHD, hypertensive heart disease.



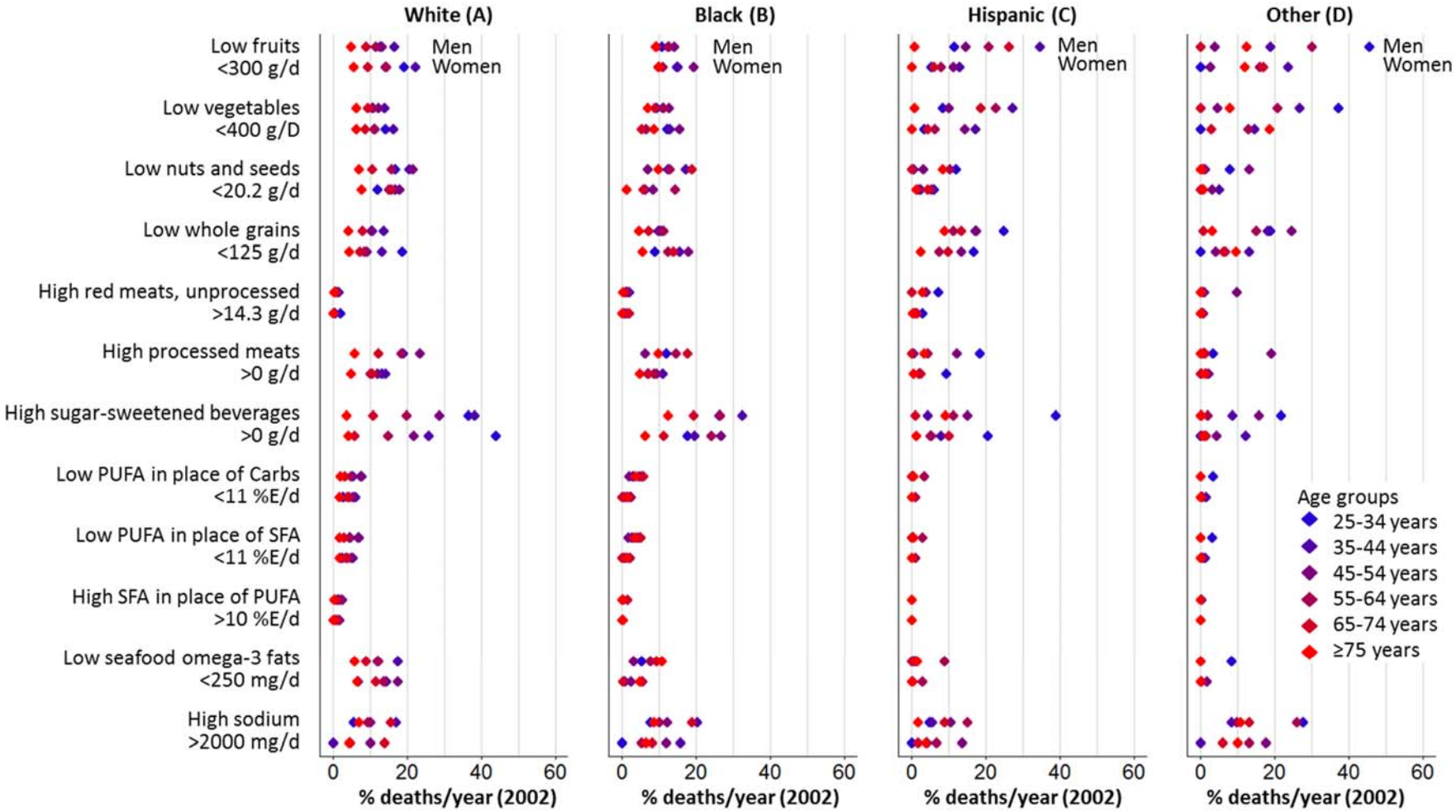
eFigure 14. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 by population subgroups. The bars represent the estimated percent cardiometabolic deaths associated with 10 dietary factors overall and by population stata (sex, age, education, race), as compared with optimal intakes (values in parentheses); and the error bars, 95% uncertainty intervals. Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.



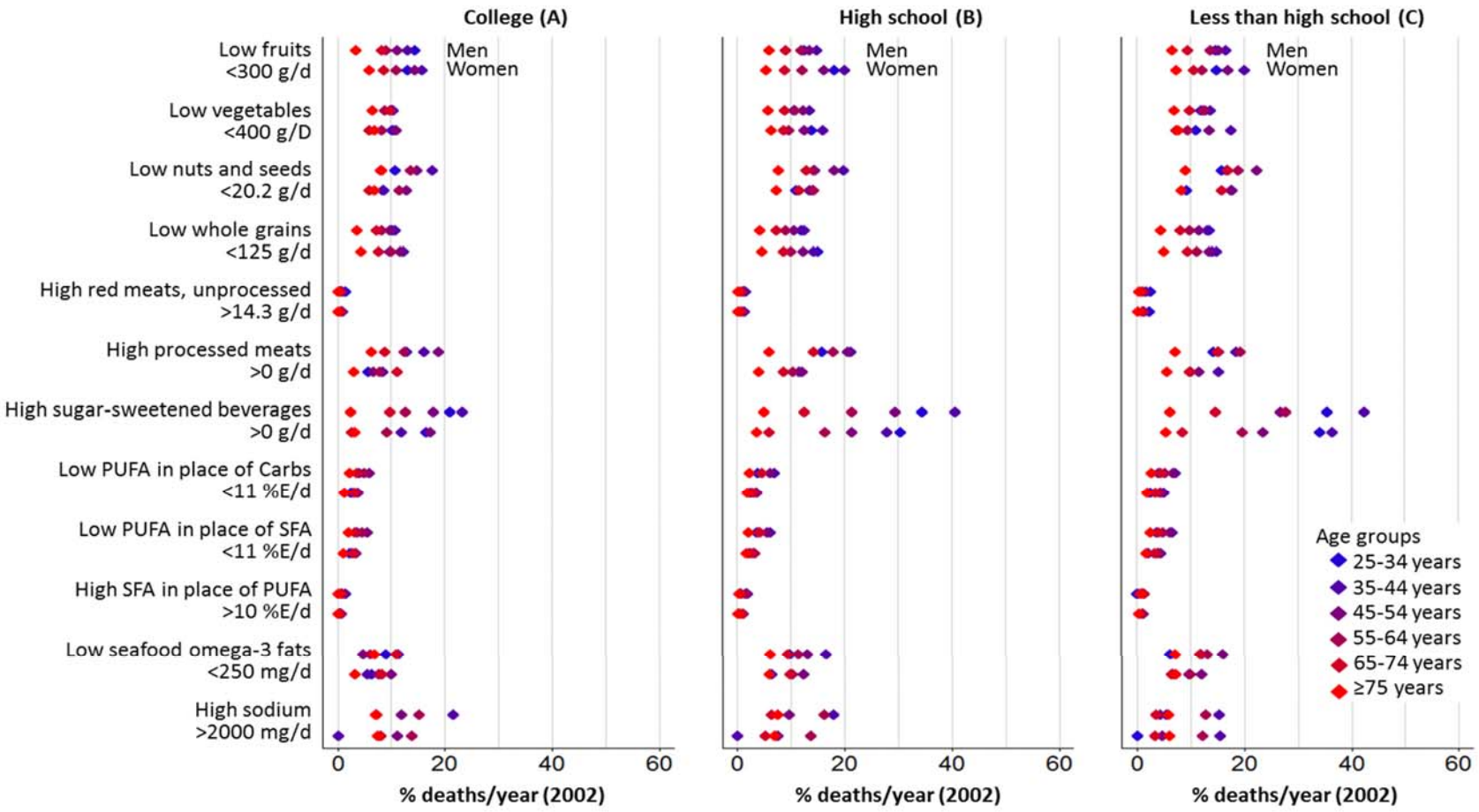
eFigure 14. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 by population subgroups (continued)



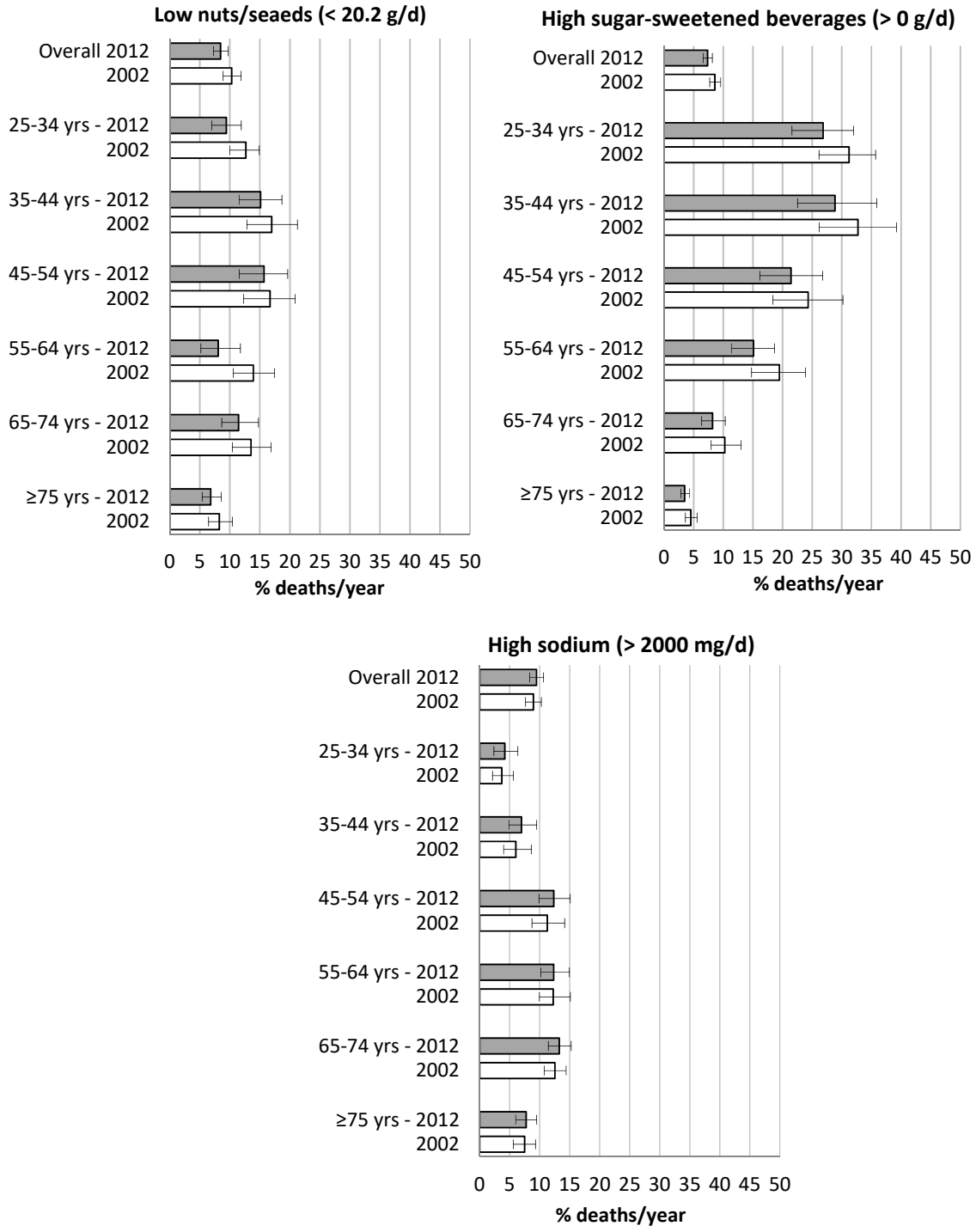
eFigure 14. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 by population subgroups (continued)



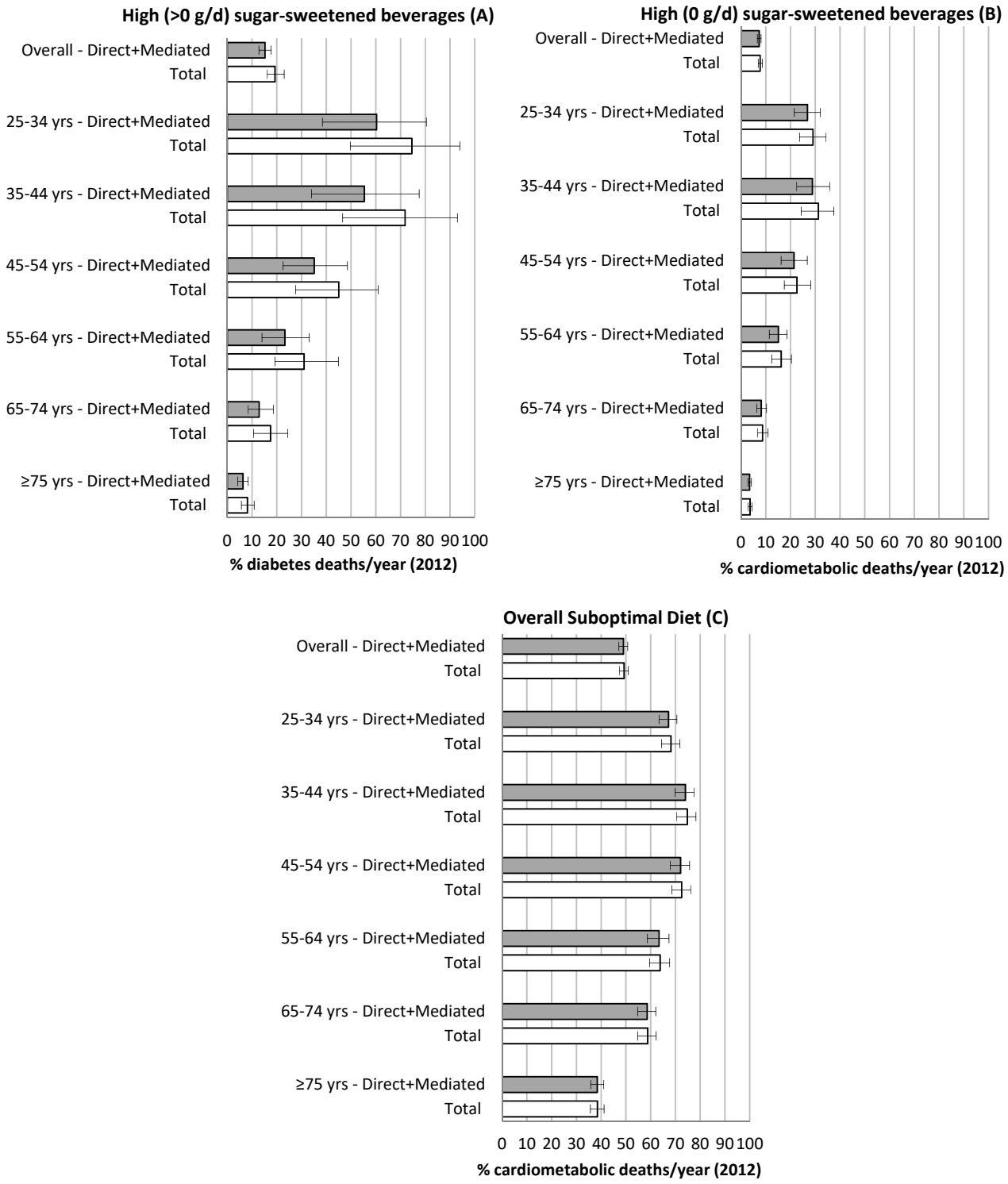
eFigure 15. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 by age, sex, and race. The diamonds represent percent cardiometabolic deaths associated with 10 dietary factors by age and sex among Whites (panel A), Blacks (panel B), Hispanics (panel C), and other races (panel D), as compared with optimal intakes (values in parentheses). Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.



eFigure 16. Proportional cardiometabolic disease mortality associated with suboptimal dietary habits in the US in 2002 by age, sex, and education. The diamonds represent percent cardiometabolic deaths associated with 10 dietary factors by age and sex among Americans of high (panel A), medium (panel B), and low (panel C) education, as compared with optimal intakes (values in parentheses). Estimated relationships are nearly identical for polyunsaturated fats (PUFA) replacing carbohydrates (Carbs) or saturated fats (SFA). For comparison, in sensitivity analyses we also evaluated the estimated mortality associated with excess SFA in place of PUFA. PUFA in place of carbs is the same as PUFA in place of carbs or SFA.



eFigure 17. Proportional cardiometabolic disease mortality associated with sugar-sweetened beverages, nuts/seeds and sodium by age in 2002 and 2012. The bars represent the estimated percent cardiometabolic deaths associated with sugar-sweetened beverages, nuts/seeds, and sodium by age in 2012 and 2002, as compared with optimal intakes (values in parentheses); and the error bars, 95% uncertainty intervals.



eFigure 18. Proportional diabetes and cardiometabolic disease mortality associated with sugar-sweetened beverages and overall suboptimal diet in 2012 for direct and BMI-mediated vs. total diabetes effects. The bars represent the estimated percent sugar-sweetened beverage (SSB)-associated diabetes (panel A) and cardiometabolic deaths (panel B), and overall suboptimal diet-associated cardiometabolic deaths (panel C) for direct (diabetes-BMI adjusted) plus mediated (diabetes-BMI mediated) vs. total (diabetes-BMI unadjusted) SSB diabetes relationships (see eTable 5 for relevant effect sizes); and the error bars, 95% uncertainty intervals. Percent cardiometabolic deaths associated with overall suboptimal diet were estimated as jointly associated with suboptimal intakes of 10 dietary factors, including low intakes of fruits, vegetables, nuts/seeds, whole grains, seafood omega-3 fats, and polyunsaturated fats (replacing saturated fats), and high intakes of sodium, red meats, processed meats, and sugar-sweetened beverages; see Tables 1-2 for details.

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