Supplementary Table 1 – Daily Estimated Advanced Glycation End Products (AGEs) Intake, by Participant Characteristics, Alternative Method to Estimate Intake, 2003-2018 (n=5,474)

	CML, mg/day	CEL, mg/day	MGH1, mg/day
Overall	3.41 (2.36-4.88)	2.62 (1.80-3.84)	21.70 (15.65-30.03)
Age			
18-29	3.59 (2.58-4.73)	2.56 (1.89-4.85)	21.81 (16.83-31.32)
30-39	3.45 (2.32-5.53)	2.70 (1.98-3.89)	21.29 (14.68-33.60)
40-49	3.42 (2.42-5.40)	2.67 (1.73-4.17)	21.70 (14.92-32.91)
50-59	3.64 (2.48-5.09)	2.63 (1.90-3.95)	22.24 (16.39-30.16)
60-69	3.45 (2.52-4.95)	2.74 (1.88-3.92)	22.55 (16.48-30.22)
≥70	3.15 (2.21-4.21)	2.37 (1.62-3.45)	20.37 (14.31-27.88)
Gender			
Male	3.99 (2.89-5.58)	3.11 (2.16-4.49)	25.71 (18.57-35.18)
Female	2.93 (2.07-3.96)	2.21 (1.57-3.11)	19.00 (13.67-24.98)
Race/Ethnicity			
Non-Hispanic White	3.57 (2.49-5.09)	2.72 (1.84-3.98)	22.33 (16.19-31.32)
Non-Hispanic Black	3.04 (2.09-4.25)	2.32 (1.62-3.36)	18.70 (13.36-25.59)
Mexican-American	3.53 (2.60-5.07)	2.61 (1.93-3.85)	24.15 (17.84-33.52)
Other	3.23 (2.20-4.57)	2.51 (1.72-3.83)	21.64 (15.26-29.28)
Education			
Less than high school	3.07 (2.15-4.26)	2.29 (1.57-3.34)	20.24 (14.01-27.17)
High school or equivalent	3.36 (2.31-4.87)	2.60 (1.72-3.73)	21.55 (15.76-29.44)
Some college/Associate's	3.52 (2.42-5.11)	2.72 (1.90-4.04)	21.72 (15.74-32.22)
College degree	3.82 (2.85-5.15)	2.85 (2.06-4.13)	23.53 (17.84-31.75)

Poverty-Income Ratio			
<1.3	3.06 (2.13-4.44)	2.30 (1.58-3.47)	19.46 (13.66-27.42)
1.3-3.49	3.38 (2.46-4.72)	2.62 (1.84-3.93)	21.52 (16.03-30.55)
≥3.5	3.80 (2.63-5.37)	2.97 (2.01-4.22)	23.79 (17.33-33.28)
Missing	3.24 (2.06-4.51)	2.35 (1.63-3.09)	20.45 (14.07-26.82)
Smoking status			
Never	3.34 (2.29-4.73)	2.49 (1.72-3.62)	20.97 (15.21-29.25)
Former	3.61 (2.60-5.00)	2.78 (1.95-4.05)	22.79 (16.88-31.57)
Current	3.33 (2.18-4.84)	2.60 (1.66-3.91)	21.02 (14.49-29.93)
Body mass index, kg/m^2			
<24.9 (normal weight)	3.18 (2.21-4.48)	2.48 (1.78-3.52)	21.33 (15.31-29.76)
25-<30.0 (overweight)	3.42 (2.32-4.79)	2.66 (1.71-3.92)	21.95 (15.75-31.61)
30-<35.0 (obesity I)	3.38 (2.42-4.80)	2.57 (1.79-3.83)	21.31 (15.59-29.98)
35-<40.0 (obesity II)	3.57 (2.55-5.09)	2.70 (1.89-4.06)	22.20 (15.95-29.97)
≥40 (obesity III)	3.42 (2.27-5.24)	2.61 (1.81-3.71)	21.17 (15.39-29.58)
HbA1c, %			
<6%	3.18 (2.34-4.59)	2.55 (1.70-3.66)	21.37 (15.14-29.12)
6-6.9%	3.34 (2.29-4.68)	2.56 (1.73-3.73)	20.97 (15.66-29.29)
7-7.9%	3.57 (2.55-5.12)	2.75 (1.90-4.02)	23.24 (16.20-31.50)
≥8%	3.62 (2.46-5.04)	2.65 (1.83-3.95)	21.80 (15.36-30.41)

Abbreviations: CML = N^{ϵ}-(carboxymethyl)lysine; CEL = N^{ϵ}-(1-carboxyethyl)lysine; MGH1 = N^{δ}-(5-hydro-5-methyl-4-imidazolon-2-yl)-ornithine

Counts shown are unweighted and variance estimates are adjusted for the complex survey design.

[a]Medians and interquartile ranges are shown.

Supplementary Table 2 – Association Between Quartiles of Nε-(carboxymethyl)lysine (CML) Intake and Mean HEI-2015 Score, Alternative Method to Estimate Intake, 2003-2018 (n=5,474)

HEI-2015 Component	Maximum Possible Score	Dietary AGEs (CML), mg/day[a]				p-value[b]
		Quartile 1 (0.08-2.04)	Quartile 2 (2.04-3.15)	Quartile 3 (3.15-4.56)	Quartile 4 (4.56-19.53)	
Total Score	100	50.86 ± 0.54	53.70 ± 0.54	52.93 ± 0.46	50.45 ± 0.51	<0.001
Adequacy						
Total fruits	5	2.33 ± 0.09	2.62 ± 0.08	2.27 ± 0.07	1.97 ± 0.07	<0.001
Whole fruits	5	2.30 ± 0.10	2.65 ± 0.08	2.44 ± 0.08	2.20 ± 0.09	<0.001
Total vegetables	5	3.28 ± 0.07	3.24 ± 0.05	3.31 ± 0.06	3.07 ± 0.05	<0.001
Greens and beans	5	1.10 ± 0.06	1.42 ± 0.06	1.59 ± 0.08	1.54 ± 0.08	<0.001
Total protein foods	5	3.94 ± 0.06	4.28 ± 0.04	4.49 ± 0.04	4.51 ± 0.03	<0.001
Seafood and plant proteins	5	1.59 ± 0.08	2.17 ± 0.08	2.48 ± 0.09	2.60 ± 0.09	<0.001
Dairy[c]	10	4.38 ± 0.15	4.70 ± 0.11	4.97 ± 0.11	5.29 ± 0.14	<0.001
Fatty acids	10	5.07 ± 0.14	4.99 ± 0.14	4.83 ± 0.13	4.63 ± 0.10	<0.001
Whole grains	10	2.94 ± 0.14	3.22 ± 0.13	2.99 ± 0.13	2.60 ± 0.11	<0.001
Moderation						
Refined grains	10	6.09 ± 0.16	6.33 ± 0.12	6.06 ± 0.11	5.53 ± 0.12	<0.001
Sodium	10	3.86 ± 0.13	4.29 ± 0.14	4.11 ± 0.12	3.69 ± 0.11	<0.001
Added sugars	10	7.22 ± 0.14	7.56 ± 0.11	7.73 ± 0.10	7.79 ± 0.10	<0.001
Saturated fats	10	6.76 ± 0.15	6.23 ± 0.12	5.64 ± 0.13	5.03 ± 0.12	<0.001

Abbreviations: HEI-2015 = Healthy Eating Index 2015

Variance estimates are adjusted for the complex survey design.

[a]Means and standard errors are shown for HEI-2015 scores. A higher score for "adequacy" components indicates greater consumption of the food group. A higher score for "moderation" components indicates lower consumption of the food group. A higher total score is suggestive of a healthy dietary pattern.

[b]Displayed p-values are from an overall F-test. [c]Includes only the non-fat fraction of total dairy consumption

Supplementary Table 3 – Association Between Quartiles of Nε-(1-carboxyethyl)lysine (CEL) Intake and Mean HEI-2015 Score, Alternative Method to Estimate Intake, 2003-2018 (n=5,474)

HEI-2015 Component	Maximum Possible Score	Dietary AGEs (CEL), mg/day[a] Quartile 1 (0.09-1.36)	Quartile 2 (1.36-2.15)	Quartile 3 (2.15-3.23)	Quartile 4 (3.23-24.70)	p-value[b]
Total Score	100	50.56 ± 0.69	52.16 ± 0.49	51.33 ± 0.48	53.12 ± 0.46	<0.001
Adequacy						
Total fruits	5	2.51 ± 0.12	2.53 ± 0.08	2.22 ± 0.06	2.10 ± 0.07	<0.001
Whole fruits	5	2.34 ± 0.11	2.62 ± 0.09	2.35 ± 0.08	2.33 ± 0.08	<0.001
Total vegetables	5	3.12 ± 0.08	3.23 ± 0.06	3.17 ± 0.06	3.28 ± 0.04	<0.001
Greens and beans	5	0.98 ± 0.07	1.30 ± 0.06	1.43 ± 0.07	1.72 ± 0.07	<0.001
Total protein foods	5	3.59 ± 0.08	4.12 ± 0.05	4.51 ± 0.03	4.63 ± 0.02	<0.001
Seafood and plant proteins	5	1.26 ± 0.07	1.87 ± 0.07	2.28 ± 0.07	2.92 ± 0.07	<0.001
Dairy[c]	10	4.94 ± 0.20	5.05 ± 0.12	4.76 ± 0.13	4.89 ± 0.11	<0.001
Fatty acids	10	4.61 ± 0.16	4.63 ± 0.13	4.88 ± 0.13	5.06 ± 0.10	<0.001
Whole grains	10	3.11 ± 0.17	2.97 ± 0.13	2.86 ± 0.11	2.89 ± 0.12	<0.001
Moderation						
Refined grains	10	6.04 ± 0.19	5.98 ± 0.14	5.97 ± 0.13	5.97 ± 0.10	0.33
Sodium	10	4.39 ± 0.15	4.23 ± 0.15	3.86 ± 0.11	3.80 ± 0.12	<0.001
Added sugars	10	6.96 ± 0.16	7.39 ± 0.11	7.61 ± 0.11	8.00 ± 0.08	<0.001
Saturated fats	10	6.70 ± 0.17	6.23 ± 0.11	5.43 ± 0.14	5.53 ± 0.11	<0.001

Abbreviations: HEI-2015 = Healthy Eating Index 2015

Variance estimates are adjusted for the complex survey design.

[a]Means and standard errors are shown for HEI-2015 scores. A higher score for "adequacy" components indicates greater consumption of the food group. A higher score for "moderation" components indicates lower consumption of the food group. A higher total score is suggestive of a healthy dietary pattern.

[b]Displayed p-values are from an overall F-test. [c]Includes only the non-fat fraction of total dairy consumption

Supplementary Table 4 - Association Between Quartiles of Nδ-(5-hydro-5-methyl-4-imidazolon-2-yl)-ornithine (MGH1) Intake and Mean HEI-2015 Score, Alternative Method to Estimate Intake, 2003-2018 (n=5,474)

		Dietary AGEs (MGH1), mg/day[a]				
HEI-2015 Component	**Maximum Possible Score**	**Quartile 1 (1.04-12.39)**	**Quartile 2 (12.39-18.83)**	**Quartile 3 (18.83-26.90)**	**Quartile 4 (26.90-100.28)**	**p-value[b]**
Total Score	100	49.56 ± 0.64	51.21 ± 0.50	52.35 ± 0.56	53.41 ± 0.42	<0.001
Adequacy						
Total fruits	5	2.38 ± 0.10	2.39 ± 0.08	2.37 ± 0.07	2.10 ± 0.07	<0.001
Whole fruits	5	2.25 ± 0.12	2.43 ± 0.08	2.51 ± 0.08	2.35 ± 0.08	<0.001
Total vegetables	5	3.06 ± 0.08	3.24 ± 0.06	3.24 ± 0.06	3.25 ± 0.04	<0.001
Greens and beans	5	0.85 ± 0.07	1.29 ± 0.07	1.45 ± 0.07	1.80 ± 0.07	<0.001
Total protein foods	5	3.95 ± 0.07	4.21 ± 0.04	4.45 ± 0.03	4.51 ± 0.03	<0.001
Seafood and plant proteins	5	1.25 ± 0.09	1.73 ± 0.07	2.38 ± 0.07	3.01 ± 0.07	<0.001
Dairy[c]	10	4.63 ± 0.17	4.82 ± 0.12	4.97 ± 0.12	4.98 ± 0.10	<0.001
Fatty acids	10	4.52 ± 0.17	4.71 ± 0.11	4.71 ± 0.14	5.21 ± 0.09	<0.001
Whole grains	10	2.59 ± 0.15	2.86 ± 0.12	2.99 ± 0.13	3.05 ± 0.11	<0.001
Moderation						
Refined grains	10	6.54 ± 0.14	6.24 ± 0.13	5.96 ± 0.12	5.59 ± 0.10	<0.001
Sodium	10	4.44 ± 0.16	3.95 ± 0.12	3.90 ± 0.13	3.92 ± 0.11	<0.001
Added sugars	10	6.73 ± 0.17	7.30 ± 0.11	7.89 ± 0.10	7.97 ± 0.10	<0.001
Saturated fats	10	6.38 ± 0.16	6.04 ± 0.13	5.52 ± 0.14	5.66 ± 0.11	<0.001

Abbreviations: HEI-2015 = Healthy Eating Index 2015

Variance estimates are adjusted for the complex survey design.

[a]Means and standard errors are shown for HEI-2015 scores. A higher score for "adequacy" components indicates greater consumption of the food group. A higher score for "moderation" components indicates lower consumption of the food group. A higher total score is suggestive of a healthy dietary pattern.

[b]Displayed p-values are from an overall F-test. [c]Includes only the non-fat fraction of total dairy consumption