**Supplemental Table 1. Average Intake of HEI-2015 Components by Quintiles of Initial Diet Quality Score (Visit 1, 1987-1989)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Component** | **Quintile 1 (N=2,162)****Mean (SD)** | **Quintile 2 (N=2,162)****Mean (SD)** | **Quintile 3 (N=2,161)****Mean (SD)** | **Quintile 4 (N=2,162)****Mean (SD)** | **Quintile 5 (N=2,161)****Mean (SD)** | **P-value** |
| Total Fruits, cup eq1/1000 kcal | 0.75 (0.79) | 1.34 (1.00) | 1.65 (1.02) | 1.96 (1.16) | 2.28 (1.17) | <0.001 |
| Whole Fruits, cup eq/1000 kcal | 0.38 (0.47) | 0.73 (0.64) | 0.93 (0.67) | 1.13 (0.78) | 1.42 (0.79) | <0.001 |
| Total Vegetables, cup eq/1000 kcal | 0.34 (0.25) | 0.46 (0.26) | 0.56 (0.30) | 0.64 (0.36) | 0.78 (0.41) | <0.001 |
| Greens and Beans, cup eq/1000 kcal | 0.20 (0.17) | 0.28 (0.19) | 0.34 (0.22) | 0.38 (0.25) | 0.48 (0.29) | <0.001 |
| Whole Grains, oz eq/1000 kcal | 0.23 (0.34) | 0.36 (0.41) | 0.52 (0.49) | 0.75 (0.57) | 1.21 (0.72) | <0.001 |
| Dairy, cup eq/1000 kcal | 0.55 (0.56) | 0.65 (0.54) | 0.75 (0.59) | 0.85 (0.59) | 0.97 (0.59) | <0.001 |
| Total Protein Foods, oz eq/1000 kcal | 3.62 (1.39) | 3.73 (1.27) | 3.82 (1.26) | 3.80 (1.29) | 3.95 (1.34) | <0.001 |
| Seafood and Plant Proteins, cup eq/1000 kcal | 0.94 (0.74) | 1.21 (0.80) | 1.41 (0.81) | 1.56 (0.93) | 1.99 (1.07) | <0.001 |
| Fatty Acids, (PUFAs + MUFAs)/SFAs2 | 1.40 (0.24) | 1.44 (0.25) | 1.47 (0.26) | 1.53 (0.28) | 1.69 (0.36) | <0.001 |
| Refined Grains, oz eq/1000 kcal | 1.47 (0.99) | 1.13 (0.71) | 0.96 (0.63) | 0.83 (0.58) | 0.61 (0.50) | <0.001 |
| Sodium, g eq/1000 kcal | 0.27 (0.37) | 0.26 (0.35) | 0.29 (0.38) | 0.35 (0.42) | 0.47 (0.49) | <0.001 |
| Added Sugars, % of energy | 2.01 (3.46) | 1.53 (2.44) | 1.34 (2.13) | 0.98 (1.77) | 0.79 (1.62) | <0.001 |
| Saturated Fats, % of energy | 14.03 (3.10) | 13.20 (2.63) | 12.38 (2.32) | 11.18 (2.08) | 9.33 (2.05) | <0.001 |

1 eq= equivalents.

2 PUFAs=polyunsaturated fatty acids, MUFAS=monounsaturated fatty acids, SFAs=saturated fatty acids.

**Supplemental Table 2. Average Intake of AHEI-2010 Components by Quintiles of Initial Diet Quality Score (Visit 1, 1987-1989)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Component** | **Quintile 1 (N=2,162)****Mean (SD)** | **Quintile 2 (N=2,162)****Mean (SD)** | **Quintile 3 (N=2,161)****Mean (SD)** | **Quintile 4 (N=2,162)****Mean (SD)** | **Quintile 5 (N=2,161)****Mean (SD)** | **P-value** |
| Vegetables1, servings/day | 0.98 (0.64) | 1.22 (0.79) | 1.38 (0.93) | 1.62 (0.99) | 2.07 (1.32) | <0.001 |
| Fruit2, servings/day | 0.80 (0.70) | 1.17 (1.07) | 1.38 (1.20) | 1.65 (1.35) | 2.15 (1.56) | <0.001 |
| Whole grains3, g/day | 13.02 (16.77) | 19.14 (20.57) | 24.06 (24.63) | 31.04 (28.52) | 48.00 (36.62) | <0.001 |
| Sugar-sweetened beverages & fruit juice4, servings/day | 1.59 (1.29) | 1.26 (1.11) | 1.08 (1.08) | 0.88 (0.90) | 0.63 (0.78) | <0.001 |
| Nuts and legumes5, servings/day | 0.39 (0.41) | 0.52 (0.49) | 0.61 (0.54) | 0.73 (0.63) | 1.00 (0.84) | <0.001 |
| Red/processed meat6, servings/day | 1.48 (0.80) | 1.25 (0.84) | 1.08 (0.75) | 0.93 (0.75) | 0.71 (0.59) | <0.001 |
| trans fat, % of energy | 1.88 (0.71) | 1.73 (0.64) | 1.63 (0.63) | 1.51 (0.60) | 1.27 (0.56) | <0.001 |
| Long-chain (n-3) fats (EPA +DHA), mg/day | 119.64 (155.46) | 183.26 (179.31) | 229.72 (219.72) | 286.69 (289.54) | 407.01 (322.55) | <0.001 |
| PUFA7, % of energy | 4.59 (1.28) | 4.79 (1.26) | 5.01 (1.38) | 5.22 (1.48) | 5.47 (1.60) | <0.001 |
| Sodium, mg/day | 257.84 (293.28) | 330.74 (451.85) | 410.64 (545.80) | 510.66 (655.39) | 851.78 (896.41) | <0.001 |
| Alcohol8, drinks/day | 0.54 (1.31) | 0.44 (1.05) | 0.47 (0.93) | 0.42 (0.78) | 0.45 (0.79) | 0.002 |

1 One serving is 0.5 cup of vegetables or 1 cup of green leafy vegetables.

2 One serving is 1 medium piece of fruit or 0.5 cup of berries.

3 One serving of a 100% whole-grain product (i.e., 0.5 cup of oatmeal or brown rice) contains 15–20 g of whole grains (per dry weight).

4 One serving is 8 oz.

5 One serving is 1 oz of nuts or 1 tablespoon (15 mL) of peanut butter.

6 One serving is 4 oz of unprocessed meat or 1.5 oz of processed meat.

7 PUFAs=polyunsaturated fatty acids.

8 One drink is 4 oz of wine, 12 oz of beer, or 1.5 oz of liquor.

**Supplemental Table 3. HEI-2015**1 **Scores and Changes from Visit 1 to Visit 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Component** | **Score, mean (SD)** | **Absolute change****mean (SD)** | **Relative change****mean (SD)2** | **P-value** |
| **Visit 1** | **Visit 3** |
| Total  | 71.03 (8.66) | 72.88 (8.44) | 1.86 (7.72) | 0.03 (0.12) | <0.001 |
| Total Fruits3 | 4.42 (1.25) | 4.53 (1.13) | 0.11 (1.22) | 0.20 (1.17) | <0.001 |
| Whole Fruits4 | 4.37 (1.30) | 4.54 (1.13) | 0.17 (1.26) | 0.18 (0.95) | <0.001 |
| Total Vegetables5 | 2.42 (1.27) | 2.64 (1.32) | 0.21 (1.32) | 0.33 (1.42) | <0.001 |
| Greens and Beans5 | 4.41 (1.10) | 4.47 (1.05) | 0.06 (1.11) | 0.11 (0.67) | <0.001 |
| Whole Grains | 3.87 (3.20) | 3.80 (3.16) | -0.06 (3.30) | 0.69 (3.05) | 0.1 |
| Dairy6 | 5.32 (3.20) | 5.32 (3.23) | -0.00 (3.18) | 0.65 (3.75) | 0.9 |
| Total Protein Foods7 | 4.84 (0.49) | 4.81 (0.55) | -0.03 (0.61) | 0.01 (0.20) | <0.001 |
| Seafood and Plant Proteins7,8 | 4.55 (0.97) | 4.46 (1.07) | -0.09 (1.12) | 0.04 (0.53) | <0.001 |
| Fatty Acids9 | 2.46 (2.07) | 2.99 (2.18) | 0.53 (2.46) | 2.02 (30.53) | <0.001 |
| Refined Grains | 9.69 (1.16) | 9.71 (1.14) | 0.02 (1.43) | 0.04 (0.68) | 0.3 |
| Sodium | 9.76 (0.76) | 9.74 (0.81) | -0.02 (0.99) | 0.01 (0.25) | 0.1 |
| Added Sugars | 9.93 (0.62) | 9.99 (0.38) | 0.06 (0.74) | 0.01 (0.18) | <0.001 |
| Saturated Fats | 5.00 (3.04) | 5.88 (3.03) | 0.88 (3.21) | 1.34 (21.95) | <0.001 |

1 Intakes between the minimum and maximum standards are scored proportionately.

2 Relative change was calculated using the absolute score change from visit 1 to visit 3 score divided by visit 1 score: [(visit 3 score – visit 1 score)/visit 1 score].

3 Includes 100% fruit juice.

4 Includes all forms except juice.

5 Includes legumes (beans and peas).

6 Includes all milk products, such as fluid milk, yogurt, and cheese, and fortified soy beverages.

7 Includes legumes (beans and peas).

8 Includes seafood, nuts, seeds, soy products (other than beverages), and legumes (beans and peas).

9 Ratio of poly- and monounsaturated fatty acids (PUFAs and MUFAs) to saturated fatty acids (SFAs).

**Supplemental Table 4. AHEI-2010 Scores and Changes from Visit 1 to Visit 3**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Component** | **Score, mean (SD)** | **Absolute change****mean (SD)** | **Relative change****mean (SD)**1 | **P-value** |
| **Visit 1** | **Visit 3** |
| Total | 50.67 (12.11) | 52.35 (11.34) | 1.67 (11.32) | 0.07 (0.26) | <0.001 |
| Vegetables | 2.87 (1.82) | 3.12 (2.04) | 0.25 (1.99) | 0.37 (1.46) | <0.001 |
| Fruit | 3.52 (2.56) | 4.01 (2.72) | 0.49 (2.60) | 0.75 (2.53) | <0.001 |
| Whole grains | 3.29 (3.01) | 3.23 (3.00) | -0.06 (3.17) | 0.73 (3.11) | 0.1 |
| Sugar-sweetened beverages & fruit juice | 3.24 (3.80) | 3.30 (3.84) | 0.06 (3.86) | 0.58 (10.16) | 0.2 |
| Nuts and legumes | 5.37 (3.30) | 5.37 (3.30) | 0.00 (3.42) | 0.37 (1.46) | 0.9 |
| Red/processed meat | 6.60 (4.32) | 7.22 (4.07) | 0.62 (4.54) | 1.33 (10.58) | <0.001 |
| trans fat, % of energy | 6.82 (1.87) | 8.12 (1.66) | 1.30 (1.92) | 0.36 (2.20) | <0.001 |
| Long-chain (n-3) fats (EPA +DHA) | 6.32 (3.43) | 6.75 (3.26) | 0.43 (3.31) | 0.25 (0.92) | <0.001 |
| PUFA, % of energy | 3.80 (1.74) | 3.49 (1.64) | -0.31 (1.96) | 0.38 (18.86) | <0.001 |
| Sodium | 4.83 (2.79) | 3.87 (2.26) | -0.96 (3.29) | 2.72 (57.43) | <0.001 |
| Alcohol | 4.02 (3.05) | 3.86 (2.95) | -0.15 (3.15) | 0.15 (1.12) | <0.001 |

1 Relative change was calculated using the absolute score change from visit 1 to visit 3 score divided by visit 1 score: [(visit 3 score – visit 1 score)/visit 1 score].

**Supplemental Table 5. Change in Intake of HEI-2015 Components by Categories of 6-Year Percent Changes in Diet Quality Scores**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Component** | **Decrease** | **No change****or Stable****(±3%)** | **Increase** | **P-value** |
| **Large****(>10%)** | **Small to Moderate (3-10%)** | **Small to Moderate (3-10%)** | **Large****(>10%)** |
| Total Fruits, cup eq1/1000 kcal | -0.31 (1.29) | -0.05 (1.28) | 0.11 (1.08) | 0.24 (1.22) | 0.52 (1.22) | <0.001 |
| Whole Fruits, cup eq/1000 kcal | -0.17 (0.88) | -0.01 (0.78) | 0.12 (0.75) | 0.21 (0.77) | 0.40 (0.79) | <0.001 |
| Total Vegetables, cup eq/1000 kcal | -0.14 (0.38) | -0.05 (0.38) | 0.03 (0.36) | 0.11 (0.37) | 0.21 (0.41) | <0.001 |
| Greens and Beans, cup eq/1000 kcal | -0.09 (0.28) | -0.04 (0.26) | 0.01 (0.28) | 0.06 (0.26) | 0.13 (0.30) | <0.001 |
| Whole Grains, oz eq/1000 kcal | -0.56 (0.72) | -0.29 (0.64) | -0.05 (0.60) | 0.11 (0.58) | 0.37 (0.64) | <0.001 |
| Dairy, cup eq/1000 kcal | -0.08 (0.68) | -0.08 (0.61) | 0.01 (0.61) | 0.03 (0.59) | 0.10 (0.60) | <0.001 |
| Total Protein Foods, oz eq/1000 kcal | -0.09 (1.52) | -0.05 (1.33) | -0.17 (1.33) | -0.15 (1.34) | -0.19 (1.47) | 0.034 |
| Seafood and Plant Proteins, cup eq/1000 kcal | -0.54 (1.03) | -0.29 (0.92) | -0.17 (0.94) | 0.02 (0.91) | 0.22 (0.99) | <0.001 |
| Fatty Acids, (PUFAs + MUFAs)/SFAs2 | -0.16 (0.41) | -0.04 (0.33) | 0.03 (0.32) | 0.12 (0.31) | 0.24 (0.33) | <0.001 |
| Refined Grains, oz eq/1000 kcal | 0.35 (0.98) | 0.10 (0.73) | 0.01 (0.66) | -0.07 (0.67) | -0.26 (0.83) | <0.001 |
| Sodium, g eq/1000 kcal | -0.02 (0.57) | -0.04 (0.57) | -0.02 (0.51) | -0.00 (0.51) | 0.03 (0.52) | 0.001 |
| Added Sugars, % of energy | -1.06 (1.96) | -1.22 (2.04) | -1.14 (2.05) | -1.24 (2.14) | -1.45 (2.83) | <0.001 |
| Saturated Fats, % of energy | 2.07 (3.09) | 0.70 (2.49) | -0.35 (2.37) | -1.44 (2.46) | -3.01 (3.00) | <0.001 |

1 eq= equivalents.

2 PUFAs=polyunsaturated fatty acids, MUFAS=monounsaturated fatty acids, SFAs=saturated fatty acids.

**Supplemental Table 6. Change in Intake of AHEI-2010 Components by Categories of 6-Year Percent Changes in Diet Quality Scores**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Component** | **Decrease** | **No change** **or Stable** **(±3%)** | **Increase** | **P-value** |
| **Large****(>10%)** | **Small to Moderate (3-10%)** | **Small to Moderate (3-10%)** | **Large****(>10%)** |
| Vegetables1, servings/day | -0.26 (1.13) | -0.10 (1.22) | 0.10 (1.15) | 0.26 (1.26) | 0.45 (1.32) | <0.001 |
| Fruit2, servings/day | -0.14 (1.56) | 0.02 (1.47) | 0.25 (1.37) | 0.30 (1.44) | 0.52 (1.49) | <0.001 |
| Whole grains3, g/day | -22.21 (31.35) | -12.21 (31.59) | -1.99 (27.62) | 4.38 (28.72) | 14.91 (29.17) | <0.001 |
| Sugar-sweetened beverages & fruit juice4, servings/day | -0.04 (1.22) | 0.00 (1.08) | -0.01 (1.06) | -0.01 (1.14) | 0.03 (1.15) | 0.60 |
| Nuts and legumes5, servings/day | -0.18 (0.83) | -0.10 (0.66) | -0.01 (0.68) | 0.05 (0.66) | 0.12 (0.69) | <0.001 |
| Red/processed meat6, servings/day | 0.33 (0.84) | 0.11 (0.69) | -0.04 (0.66) | -0.20 (0.69) | -0.45 (0.81) | <0.001 |
| trans fat, % of energy | -0.16 (0.73) | -0.35 (0.66) | -0.44 (0.65) | -0.53 (0.64) | -0.68 (0.71) | <0.001 |
| Long-chain (n-3) fats (EPA +DHA), mg/day | -47.18 (314.00) | -1.40 (291.65) | 6.53 (272.63) | 30.55 (282.64) | 58.13 (307.19) | <0.001 |
| PUFA7, % of energy | -0.52 (1.93) | -0.32 (1.59) | -0.29 (1.53) | -0.20 (1.55) | -0.09 (1.65) | <0.001 |
| Sodium, mg/day | 14.18 (926.34) | -39.68 (860.70) | -9.78 (822.97) | -4.41 (817.63) | 24.40 (837.09) | 0.20 |
| Alcohol8, drinks/day | -0.02 (0.80) | -0.03 (0.98) | -0.04 (0.97) | 0.00 (1.01) | -0.02 (1.11) | 0.66 |

1 One serving is 0.5 cup of vegetables or 1 cup of green leafy vegetables.

2 One serving is 1 medium piece of fruit or 0.5 cup of berries.

3 One serving of a 100% whole-grain product (i.e., 0.5 cup of oatmeal or brown rice) contains ;15–20 g of whole grains (per dry weight).

4 One serving is 8 oz.

5 One serving is 1 oz of nuts or 1 tablespoon (15 mL) of peanut butter.

6 One serving is 4 oz of unprocessed meat or 1.5 oz of processed meat.

7 PUFAs=polyunsaturated fatty acids.

8 One drink is 4 oz of wine, 12 oz of beer, or 1.5 oz of liquor.

**Supplemental Table 7. Visit 3 (1993-1995) Characteristics of Participants by Categories of 6-Year Percent Changes in Diet Quality Scores**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Decrease | No Change or Stable (±3%) | Increase | P-value |
|  | **Large** **(>10%)** | **Small to Moderate (3-10%)** | **Small to Moderate (3-10%)** | **Large** **(>10%)** |  |
| HEI-2015 |  |  |  |  |  |  |
| Participants, n | 781 | 1361 | 1688 | 1766 | 1831 |  |
| Diet Score at visit 1, mean (SD) | 76.0 (8.4) | 74.9 (7.8) | 73.1 (7.9) | 70.5 (7.2) | 64.6 (7.4) | <0.001 |
| Diet Score at visit 3, mean (SD) | 64.4 (8.0) | 70.3 (7.4) | 73.1 (7.9) | 74.9 (7.6) | 76.2 (7.5) | <0.001 |
| Absolute change in HEI score | -11.6 (4.1) | -4.6 (1.6) | 0.0 (1.2) | 4.4 (1.4) | 11.6 (4.2) | <0.001 |
| Energy intake change, mean (SD), kcal/day | 109.4 (567.9) | 35.3 (539.3) | 21.0 (525.8) | -47.2 (533.4) | -120.7 (564.9) | <0.001 |
| Age, mean (SD), years | 59.9 (5.6) | 59.8 (5.7) | 59.5 (5.6) | 59.4 (5.6) | 59.0 (5.5) | <0.001 |
| Female, No. (%) | 465 (59.5%) | 775 (56.9%) | 1021 (60.5%) | 1050 (59.5%) | 1020 (55.7%) | 0.028 |
| Black, No. (%) | 137 (17.5%) | 230 (16.9%) | 316 (18.7%) | 311 (17.6%) | 379 (20.7%) | 0.047 |
| Education level, No. (%) |  |  |  |  |  |  |
|  < high school | 159 (20.4%) | 213 (15.7%) | 232 (13.7%) | 274 (15.5%) | 334 (18.2%) | <0.001 |
|  ≥ high school | 622 (79.6%) | 1148 (84.3%) | 1456 (86.3%) | 1492 (84.5%) | 1497 (81.8%) |  |
| Smoking Status, No. (%) |  |  |  |  |  |  |
|  current smoker | 150 (19.2%) | 246 (18.1%) | 242 (14.3%) | 275 (15.6%) | 289 (15.8%) | 0.080 |
|  former smoker | 310 (39.7%) | 534 (39.2%) | 698 (41.4%) | 721 (40.8%) | 750 (41.0%) |  |
|  never smoker | 321 (41.1%) | 581 (42.7%) | 748 (44.3%) | 770 (43.6%) | 792 (43.3%) |  |
| Physical activity index, mean (SD) | 2.4 (0.8) | 2.6 (0.8) | 2.6 (0.8) | 2.6 (0.8) | 2.6 (0.8) | <0.001 |
| Alcohol intake, mean (SD), drinks/day, | 0.4 (0.9) | 0.5 (1.2) | 0.4 (1.0) | 0.4 (0.9) | 0.4 (1.2) | 0.19 |
| Weight, mean (SD), lb. | 175.5 (36.1) | 172.0 (35.9) | 170.9 (36.3) | 172.4 (36.8) | 172.8 (36.1) | 0.063 |
| Weight change, mean (SD), lb. | 7.4 (12.8) | 6.0 (11.6) | 5.9 (11.3) | 5.7 (12.0) | 4.5 (11.7) | <0.001 |
| BMI, mean (SD), kg/m2 | 28.5 (5.2) | 27.7 (4.9) | 27.6 (5.2) | 27.8 (5.3) | 27.7 (5.1) | 0.002 |
| BMI change, mean (SD), kg/m2 | 1.4 (2.1) | 1.2 (1.9) | 1.1 (1.8) | 1.1 (2.0) | 0.9 (1.9) | <0.001 |
| BMI level, No. (%) |  |  |  |  |  |  |
|  < 25 kg/m2 | 217 (27.8%) | 414 (30.4%) | 569 (33.7%) | 574 (32.5%) | 557 (30.4%) | <0.001 |
|  ≥25, <30 kg/m2 | 304 (38.9%) | 567 (41.7%) | 668 (39.6%) | 673 (38.1%) | 792 (43.3%) |  |
|  ≥ 30 kg/m2 | 260 (33.3%) | 380 (27.9%) | 451 (26.7%) | 519 (29.4%) | 482 (26.3%) |  |
| Hypertension, No. (%) | 222 (28.4%) | 386 (28.4%) | 473 (28.0%) | 503 (28.5%) | 495 (27.0%) | 0.88 |
| Hypercholesterolemia, No. (%) | 192 (24.6%) | 310 (22.8%) | 392 (23.2%) | 386 (21.9%) | 427 (23.3%) | 0.63 |
| eGFR, mean (SD), mL/min/1.73 m2 | 102.5 (12.9) | 101.1 (13.9) | 103.0 (13.6) | 102.1 (13.9) | 102.9 (13.8) | 0.002 |
| Family history of diabetes, No. (%) | 176 (24.5%) | 277 (22.4%) | 343 (21.8%) | 376 (23.2%) | 379 (22.6%) | 0.69 |
| Family history of CHD/stroke, No. (%) | 443 (61.1%) | 776 (62.8%) | 950 (61.8%) | 1008 (62.4%) | 1020 (61.0%) | 0.86 |
| AHEI-2010 |  |  |  |  |  |  |
| Participants, n | 1979 | 864 | 776 | 881 | 2927 |  |
| Diet Score at visit 1, mean (SD) | 57.6 (11.4) | 55.9 (10.7) | 53.2 (10.4) | 50.8 (10.3) | 43.7 (9.9) | <0.001 |
| Diet Score at visit 3, mean (SD) | 45.4 (10.1) | 52.3 (10.0) | 53.2 (10.4) | 54.1 (11.0) | 56.3 (10.7) | <0.001 |
| Absolute changes in AHEI score | -12.2 (6.0) | -3.6 (1.4) | -0.0 (0.9) | 3.2 (1.2) | 12.6 (6.3) | <0.001 |
| Energy intake change, mean (SD), kcal/day | -62.3 (543.2) | -52.4 (503.7) | -9.1 (503.2) | 6.8 (541.9) | 11.7 (577.0) | <0.001 |
| Age, mean (SD), years | 59.4 (5.6) | 59.6 (5.6) | 60.0 (5.4) | 59.4 (5.9) | 59.3 (5.5) | 0.018 |
| Female, No. (%) | 1170 (59.1%) | 513 (59.4%) | 463 (59.7%) | 528 (59.9%) | 1657 (56.6%) | 0.20 |
| Black, No. (%) | 332 (16.8%) | 130 (15.0%) | 154 (19.8%) | 145 (16.5%) | 612 (20.9%) | <0.001 |
| Education level, No. (%) |  |  |  |  |  |  |
|  < high school | 331 (16.7%) | 124 (14.4%) | 131 (16.9%) | 136 (15.4%) | 490 (16.7%) | 0.44 |
|  ≥ high school | 1648 (83.3%) | 740 (85.6%) | 645 (83.1%) | 745 (84.6%) | 2437 (83.3%) |  |
| Smoking Status, No. (%) |  |  |  |  |  |  |
|  current smoker | 335 (16.9%) | 142 (16.4%) | 121 (15.6%) | 132 (15.0%) | 472 (16.1%) | 0.81 |
|  former smoker | 806 (40.7%) | 362 (41.9%) | 324 (41.8%) | 357 (40.5%) | 1164 (39.8%) |  |
|  never smoker | 838 (42.3%) | 360 (41.7%) | 331 (42.7%) | 392 (44.5%) | 1291 (44.1%) |  |
| Physical activity index, mean (SD) | 2.5 (0.8) | 2.6 (0.8) | 2.6 (0.8) | 2.6 (0.8) | 2.5 (0.8) | 0.004 |
| Weight, mean (SD), lb. | 174.2 (36.6) | 170.6 (36.8) | 170.2 (36.2) | 169.8 (36.8) | 173.1 (35.8) | 0.003 |
| Weight change, mean (SD), lb. | 6.8 (12.4) | 6.3 (11.1) | 5.0 (10.9) | 5.8 (11.5) | 4.9 (11.9) | <0.001 |
| BMI, mean (SD), kg/m2 | 28.2 (5.1) | 27.6 (5.2) | 27.4 (5.0) | 27.5 (5.2) | 27.9 (5.1) | <0.001 |
| BMI change, mean (SD), kg/m2 | 1.3 (2.0) | 1.2 (1.8) | 1.0 (1.8) | 1.1 (1.9) | 1.0 (2.0) | <0.001 |
| BMI level, No. (%) |  |  |  |  |  |  |
|  < 25 kg/m2 | 572 (28.9%) | 282 (32.6%) | 266 (34.3%) | 305 (34.6%) | 906 (31.0%) | 0.001 |
|  ≥ 25, <30 kg/m2 | 782 (39.5%) | 361 (41.8%) | 317 (40.9%) | 348 (39.5%) | 1196 (40.9%) |  |
|  ≥ 30 kg/m2 | 625 (31.6%) | 221 (25.6%) | 193 (24.9%) | 228 (25.9%) | 825 (28.2%) |  |
| Hypertension, No. (%) | 573 (29.0%) | 245 (28.4%) | 215 (27.7%) | 241 (27.4%) | 805 (27.5%) | 0.82 |
| Hypercholesterolemia, No. (%) | 473 (23.9%) | 191 (22.1%) | 168 (21.6%) | 202 (22.9%) | 673 (23.0%) | 0.72 |
| eGFR, mean (SD), mL/min/1.73 m2 | 101.9 (13.3) | 102.1 (13.0) | 102.6 (13.6) | 102.5 (13.3) | 102.7 (14.3) | 0.32 |
| Family history of diabetes, No. (%) | 427 (23.6%) | 161 (20.5%) | 166 (23.1%) | 195 (23.6%) | 602 (22.4%) | 0.45 |
| Family history of CHD/stroke, No. (%) | 1109 (61.9%) | 467 (59.4%) | 442 (62.3%) | 509 (62.3%) | 1670 (62.3%) | 0.68 |

**Supplemental Table 8. Hazard Ratios for Cardiovascular Disease** **by Categories of 6-Year Percent Changes in Diet Quality Scores**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Decrease | No change or Stable (±3%) | Increase |
|  | **Large** **(>10%)**  | **Small to Moderate (3-10%)** | **Small to Moderate (3-10%)** | **Large****(>10%)** |
| HEI-2015 |  |  |  |  |  |
| Participants, n | 781 | 1361 | 1688 | 1766 | 1831 |
| Cases/person-years | 200/13449 | 323/23653 | 403/29896 | 402/31518 | 466/32589 |
| Incidence rate/1,000 person-year | 14.87 (12.95-17.08) | 13.66 (12.24-15.23) | 13.48 (12.23-14.86) | 12.75 (11.57-14.06) | 14.30 (13.06-15.66) |
| Crude Model | 1.13 (0.95-1.34) | 1.02 (0.88-1.18) | 1 (ref.) | 0.93 (0.81-1.07) | 1.04 (0.91-1.19) |
| Model 1 | 1.05 (0.87-1.26) | 0.94 (0.80-1.10) | 1 (ref.) | 0.91 (0.78-1.05) | 0.97 (0.83-1.13) |
| Model 2 | 1.04 (0.87-1.26) | 0.94 (0.80-1.10) | 1 (ref.) | 0.90 (0.78-1.05) | 0.98 (0.84-1.14) |
| Model 3 | 1.05 (0.88-1.27) | 0.95 (0.81-1.12) | 1 (ref.) | 0.91 (0.79-1.06) | 0.99 (0.84-1.15) |
| Model 4 | 1.04 (0.87-1.25) | 0.95 (0.81-1.11) | 1 (ref.) | 0.91 (0.78-1.06) | 0.98 (0.84-1.15) |
| AHEI-2010 |  |  |  |  |  |
| Participants, n | 1979 | 864 | 776 | 881 | 2927 |
| Cases/person-years | 466/34769 | 186/15467 | 182/13728 | 205/15503 | 755/51638 |
| Incidence rate/1,000 person-year | 13.4 (12.2-14.7) | 12.0 (10.4-13.9) | 13.3 (11.5-15.3) | 13.2 (11.5-15.2) | 14.6 (13.6-15.7) |
| Crude Model | 1.01 (0.85-1.20) | 0.90 (0.74-1.11) | 1 (ref.) | 0.99 (0.81-1.21) | 1.10 (0.93-1.29) |
| Model 1 | 1.14 (0.95-1.38) | 0.99 (0.79-1.23) | 1 (ref.) | 1.11 (0.90-1.38) | 1.20 (1.00-1.43) |
| Model 2 | 1.14 (0.95-1.38) | 1.03 (0.82-1.28) | 1 (ref.) | 1.13 (0.91-1.41) | 1.23 (1.02-1.48) |
| Model 3 | 1.11 (0.92-1.34) | 1.02 (0.82-1.27) | 1 (ref.) | 1.13 (0.91-1.40) | 1.22 (1.02-1.47) |
| Model 4 | 1.10 (0.91-1.33) | 1.03 (0.83-1.29) | 1 (ref.) | 1.13 (0.91-1.40) | 1.22 (1.02-1.47) |

Model 1 [visit 3 covariates]: age, sex, race-center, education, family history of diabetes, family history of CHD/stroke, smoking status, physical activity, alcohol intake (only for HEI), total energy intake, initial diet quality score (all in quintiles)

Model 2: Model 1 + change in smoking status (categorical), change in physical activity, change in alcohol intake (only for HEI), change in total energy intake (all in quintiles)

Model 3: Model 2 + hypertension status, hypercholesterolemia status, eGFR (quintiles)

Model 4: Model 3 + BMI category, change in BMI (quintiles)

**Supplemental Table 9. Hazard Ratios for Diabetes by Categories of 6-Year Percent Changes in Diet Quality Scores**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Decrease | No change or Stable (±3%) | Increase |
|  | **Large** **(>10%)**  | **Small to Moderate (3-10%)** | **Small to Moderate (3-10%)** | **Large****(>10%)** |
| HEI-2015 |  |  |  |  |  |
| Participants, n | 781 | 1361 | 1688 | 1766 | 1831 |
| Cases/person-years | 200/11911 | 323/20810 | 403/26510 | 402/27990 | 466/28384 |
| Incidence rate/1,000 person-year) | 19.3 (17.0-22.0) | 17.4 (15.7-19.3) | 16.5 (15.0-18.1) | 15.7 (14.3-17.2) | 18.2 (16.7-19.9) |
| Crude Model | 1.18 (1.01-1.39) | 1.07 (0.93-1.22) | 1 (ref.) | 0.94 (0.83-1.08) | 1.11 (0.98-1.26) |
| Model 1 | 1.10 (0.93-1.31) | 1.07 (0.92-1.24) | 1 (ref.) | 0.89 (0.77-1.03) | 0.97 (0.84-1.13) |
| Model 2 | 1.10 (0.92-1.31) | 1.07 (0.92-1.24) | 1 (ref.) | 0.90 (0.78-1.04) | 0.96 (0.83-1.12) |
| Model 3 | 1.09 (0.92-1.30) | 1.07 (0.92-1.24) | 1 (ref.) | 0.90 (0.78-1.04) | 0.97 (0.84-1.13) |
| Model 4 | 1.04 (0.88-1.24) | 1.04 (0.89-1.21) | 1 (ref.) | 0.89 (0.77-1.03) | 0.99 (0.85-1.14) |
| AHEI-2010 |  |  |  |  |  |
| Participants, n | 1979 | 864 | 776 | 881 | 2927 |
| Cases/person-years | 554/30521 | 217/13702 | 185/12229 | 211/13709 | 817/45443 |
| Incidence rate/1,000 person-year | 18.2 (16.7-19.7) | 15.8 (13.9-18.1) | 15.1 (13.1-17.5) | 15.4 (13.5-17.6) | 18.0 (16.8-19.3) |
| Crude Model | 1.20 (1.02-1.42) | 1.04 (0.86-1.27) | 1 (ref.) | 1.02 (0.84-1.24) | 1.19 (1.01-1.39) |
| Model 1 | 1.22 (1.02-1.46) | 1.16 (0.94-1.43) | 1 (ref.) | 1.03 (0.83-1.27) | 1.14 (0.95-1.36) |
| Model 2 | 1.20 (1.00-1.44) | 1.15 (0.93-1.42) | 1 (ref.) | 1.03 (0.83-1.27) | 1.12 (0.93-1.34) |
| Model 3 | 1.17 (0.98-1.41) | 1.13 (0.91-1.39) | 1 (ref.) | 1.01 (0.82-1.25) | 1.12 (0.93-1.33) |
| Model 4 | 1.12 (0.94-1.35) | 1.11 (0.89-1.37) | 1 (ref.) | 1.01 (0.82-1.25) | 1.11 (0.93-1.32) |

Model 1 [visit 3 covariates]: age, sex, race-center, education, family history of diabetes, family history of CHD/stroke, smoking status, physical activity, alcohol intake (only for HEI), total energy intake, initial diet quality score (all in quintiles)

Model 2: Model 1 + change in smoking status (categorical), change in physical activity, change in alcohol intake (only for HEI), change in total energy intake (all in quintiles)

Model 3: Model 2 + hypertension status, hypercholesterolemia status, eGFR (quintiles)

Model 4: Model 3 + BMI category, change in BMI (quintiles)

**Supplemental Table 10. Hazard Ratios for Cardiovascular Disease and Diabetes by Diet Quality Score Change Groups**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Group (Visit 1- Visit 3) | Crude HR for CVD | Adjusted HR1 for CVD | Crude HR for Diabetes | Adjusted HR1 for Diabetes |
| HEI-2015 |  |  |  |  |
| Low-Low | 1 (ref.) | 1 (ref.) | 1 (ref.) | 1 (ref.) |
| Low-Moderate | 0.85 (0.72-1.01) | 0.96 (0.79-1.17) | 0.93 (0.79-1.09) | 0.98 (0.82-1.17) |
| Low-High | 0.81 (0.65-1.02) | 1.01 (0.78-1.29) | 0.93 (0.75-1.14) | 1.06 (0.83-1.34) |
| Moderate-Low | 1.28 (1.03-1.60) | 1.18 (0.93-1.49) | 1.09 (0.88-1.35) | 1.05 (0.83-1.32) |
| Moderate-Moderate | 1 (ref.) | 1 (ref.) | 1 (ref.) | 1 (ref.) |
| Moderate-High | 1.04 (0.87-1.25) | 1.09 (0.89-1.33) | 0.98 (0.82-1.16) | 1.10 (0.91-1.34) |
| High-Low | 1.13 (0.77-1.65) | 1.09 (0.71-1.65) | 1.72 (1.27-2.33) | 1.40 (1.01-1.96) |
| High-Moderate | 1.21 (1.00-1.47) | 1.02 (0.83-1.27) | 1.21 (1.01-1.45) | 1.14 (0.94-1.39) |
| High-High | 1 (ref.) | 1 (ref.) | 1 (ref.) | 1 (ref.) |
| AHEI-2010 |  |  |  |  |
| Low-Low | 1 (ref.) | 1 (ref.) | 1 (ref.) | 1 (ref.) |
| Low-Moderate | 0.95 (0.80-1.13) | 0.99 (0.82-1.19) | 0.93 (0.79-1.09) | 0.97 (0.81-1.16) |
| Low-High | 0.96 (0.76-1.20) | 0.94 (0.73-1.21) | 0.96 (0.77-1.18) | 0.95 (0.75-1.20) |
| Moderate-Low | 1.09 (0.87-1.36) | 1.02 (0.80-1.30) | 1.14 (0.93-1.39) | 1.02 (0.82-1.27) |
| Moderate-Moderate | 1 (ref.) | 1 (ref.) | 1 (ref.) | 1 (ref.) |
| Moderate-High | 1.16 (0.96-1.40) | 1.08 (0.88-1.33) | 1.16 (0.97-1.38) | 1.18 (0.98-1.43) |
| High-Low | 1.22 (0.91-1.63) | 1.03 (0.74-1.42) | 1.41 (1.06-1.86) | 1.03 (0.76-1.41) |
| High-Moderate | 1.05 (0.88-1.26) | 1.01 (0.83-1.23) | 1.36 (1.14-1.61) | 1.22 (1.01-1.48) |
| High-High | 1 (ref.) | 1 (ref.) | 1 (ref.) | 1 (ref.) |

1Adjusted for age, sex, race-center, education, family history of diabetes, family history of CHD/stroke, smoking status, physical activity, alcohol intake (only for HEI), total energy intake, initial diet quality score (all in quintiles), change in smoking status (categorical), change in physical activity, change in alcohol intake, change in total energy intake (all in quintiles), hypertension status, hypercholesterolemia status, eGFR (quintiles), BMI category, change in BMI (quintiles)

**Supplemental Table 11. Hazard Ratios for Cardiovascular Disease by Initial Diet Quality Score Group and Categories of 6-Year Percent Changes in Diet Quality Scores**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Decrease | No change or Stable (±3%) | Increase |
|  | **Large** **(>10%)**  | **Small to Moderate (3-10%)** | **Small to Moderate (3-10%)** | **Large****(>10%)** |
| HEI-2015 |  |  |  |  |  |
| Low Initial Diet Quality Score (1st tertile group) |  |  |  |
| Crude Model | 0.95 (0.65-1.38) | 0.98 (0.72-1.33) | 1 (ref.) | 0.79 (0.61-1.01) | 0.88 (0.71-1.09) |
| Model 1 | 0.90 (0.60-1.36) | 0.98 (0.71-1.36) | 1 (ref.) | 0.81 (0.62-1.07) | 0.90 (0.71-1.14) |
| Model 2 | 0.89 (0.59-1.35) | 0.96 (0.69-1.34) | 1 (ref.) | 0.81 (0.61-1.06) | 0.90 (0.71-1.15) |
| Model 3 | 0.95 (0.63-1.44) | 0.98 (0.70-1.37) | 1 (ref.) | 0.81 (0.61-1.07) | 0.91 (0.72-1.16) |
| Model 4 | 0.95 (0.62-1.44) | 0.97 (0.69-1.35) | 1 (ref.) | 0.80 (0.60-1.05) | 0.90 (0.70-1.15) |
| Moderate Initial Diet Quality Score (2nd tertile group) |  |  |  |
| Crude Model | 1.26 (0.94-1.70) | 1.05 (0.81-1.35) | 1 (ref.) | 0.87 (0.69-1.09) | 0.86 (0.68-1.10) |
| Model 1 | 1.16 (0.84-1.58) | 0.92 (0.70-1.22) | 1 (ref.) | 0.85 (0.67-1.09) | 0.93 (0.72-1.21) |
| Model 2 | 1.18 (0.86-1.62) | 0.94 (0.72-1.25) | 1 (ref.) | 0.85 (0.66-1.09) | 0.93 (0.72-1.22) |
| Model 3 | 1.17 (0.85-1.62) | 0.92 (0.70-1.22) | 1 (ref.) | 0.85 (0.66-1.10) | 0.91 (0.69-1.18) |
| Model 4 | 1.17 (0.85-1.61) | 0.92 (0.69-1.21) | 1 (ref.) | 0.86 (0.67-1.10) | 0.91 (0.69-1.18) |
| High Initial Diet Quality Score (3rd tertile group) |  |  |  |
| Crude Model | 1.21 (0.94-1.55) | 1.08 (0.87-1.36) | 1 (ref.) | 1.08 (0.84-1.37) | 1.40 (0.99-1.99) |
| Model 1 | 1.09 (0.83-1.44) | 0.92 (0.72-1.18) | 1 (ref.) | 1.11 (0.86-1.44) | 1.32 (0.90-1.95) |
| Model 2 | 1.08 (0.82-1.43) | 0.93 (0.72-1.20) | 1 (ref.) | 1.09 (0.84-1.42) | 1.38 (0.94-2.04) |
| Model 3 | 1.08 (0.82-1.43) | 0.94 (0.73-1.20) | 1 (ref.) | 1.11 (0.85-1.44) | 1.47 (0.99-2.17) |
| Model 4 | 1.08 (0.81-1.43) | 0.94 (0.73-1.22) | 1 (ref.) | 1.05 (0.81-1.37) | 1.48 (1.00-2.19) |
| AHEI-2010 |  |  |  |  |  |
| Low Initial Diet Quality Score (1st tertile group) |  |  |  |
| Crude Model | 0.85 (0.62-1.16) | 0.73 (0.49-1.08) | 1 (ref.) | 1.04 (0.74-1.46) | 0.94 (0.71-1.24) |
| Model 1 | 1.01 (0.71-1.42) | 0.86 (0.55-1.34) | 1 (ref.) | 1.23 (0.85-1.78) | 1.13 (0.83-1.53) |
| Model 2 | 0.99 (0.70-1.40) | 0.88 (0.56-1.37) | 1 (ref.) | 1.34 (0.92-1.96) | 1.15 (0.84-1.57) |
| Model 3 | 1.00 (0.71-1.42) | 0.90 (0.58-1.42) | 1 (ref.) | 1.30 (0.89-1.89) | 1.20 (0.88-1.64) |
| Model 4 | 0.96 (0.67-1.36) | 0.86 (0.55-1.35) | 1 (ref.) | 1.31 (0.90-1.91) | 1.20 (0.88-1.63) |
| Moderate Initial Diet Quality Score (2nd tertile group) |  |  |  |
| Crude Model | 1.09 (0.80-1.48) | 1.08 (0.76-1.52) | 1 (ref.) | 1.03 (0.73-1.45) | 1.08 (0.81-1.44) |
| Model 1 | 1.22 (0.88-1.69) | 1.06 (0.73-1.54) | 1 (ref.) | 1.08 (0.75-1.56) | 1.06 (0.78-1.45) |
| Model 2 | 1.23 (0.89-1.72) | 1.12 (0.77-1.63) | 1 (ref.) | 1.07 (0.74-1.55) | 1.09 (0.79-1.49) |
| Model 3 | 1.17 (0.84-1.62) | 1.10 (0.76-1.61) | 1 (ref.) | 1.05 (0.72-1.52) | 1.03 (0.75-1.41) |
| Model 4 | 1.16 (0.83-1.61) | 1.12 (0.77-1.64) | 1 (ref.) | 1.04 (0.72-1.51) | 1.02 (0.74-1.40) |
| High Initial Diet Quality Score (3rd tertile group) |  |  |  |
| Crude Model | 1.10 (0.83-1.45) | 0.91 (0.65-1.27) | 1 (ref.) | 0.84 (0.58-1.21) | 1.22 (0.92-1.62) |
| Model 1 | 1.15 (0.85-1.56) | 0.98 (0.69-1.41) | 1 (ref.) | 0.94 (0.64-1.39) | 1.29 (0.93-1.77) |
| Model 2 | 1.17 (0.86-1.60) | 1.02 (0.71-1.46) | 1 (ref.) | 0.95 (0.64-1.41) | 1.33 (0.96-1.84) |
| Model 3 | 1.12 (0.82-1.53) | 0.97 (0.67-1.39) | 1 (ref.) | 0.96 (0.65-1.42) | 1.31 (0.95-1.81) |
| Model 4 | 1.11 (0.81-1.52) | 0.98 (0.68-1.42) | 1 (ref.) | 0.98 (0.66-1.46) | 1.31 (0.95-1.81) |

Model 1 [visit 3 covariates]: age, sex, race-center, education, family history of diabetes, family history of CHD/stroke, smoking status, physical activity, alcohol intake (only for HEI), total energy intake, initial diet quality score (all in quintiles)

Model 2: Model 1 + change in smoking status (categorical), change in physical activity, change in alcohol intake (only for HEI), change in total energy intake (all in quintiles)

Model 3: Model 2 + hypertension status, hypercholesterolemia status, eGFR (quintiles)

Model 4: Model 3 + BMI category, change in BMI (quintiles)

**Supplemental Table 12. Hazard Ratios for Diabetes by Initial Diet Quality Score Group and Categories of 6-Year Percent Changes in Diet Quality Scores**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Decrease | No change or Stable (±3%) | Increase |
|  | **Large** **(>10%)**  | **Small to Moderate (3-10%)** | **Small to Moderate (3-10%)** | **Large****(>10%)** |
| HEI-2015 |  |  |  |  |  |
| Low Initial Diet Quality Score (1st tertile group) |  |  |  |  |
| Crude Model | 1.23 (0.87-1.73) | 1.06 (0.79-1.43) | 1 (ref.) | 0.97 (0.76-1.24) | 1.02 (0.83-1.27) |
| Model 1 | 1.13 (0.79-1.64) | 1.04 (0.76-1.43) | 1 (ref.) | 0.96 (0.74-1.25) | 0.99 (0.79-1.26) |
| Model 2 | 1.11 (0.76-1.61) | 1.03 (0.75-1.42) | 1 (ref.) | 0.96 (0.74-1.25) | 0.98 (0.77-1.24) |
| Model 3 | 1.15 (0.79-1.67) | 1.06 (0.77-1.46) | 1 (ref.) | 0.96 (0.74-1.26) | 1.00 (0.79-1.27) |
| Model 4 | 1.15 (0.79-1.67) | 1.01 (0.74-1.40) | 1 (ref.) | 0.95 (0.73-1.24) | 1.00 (0.79-1.27) |
| Moderate Initial Diet Quality Score (2nd tertile group) |  |  |  |
| Crude Model | 1.03 (0.75-1.40) | 0.98 (0.76-1.26) | 1 (ref.) | 0.88 (0.70-1.10) | 1.05 (0.84-1.32) |
| Model 1 | 0.94 (0.67-1.30) | 0.94 (0.72-1.23) | 1 (ref.) | 0.86 (0.68-1.09) | 1.07 (0.84-1.36) |
| Model 2 | 0.95 (0.68-1.33) | 0.95 (0.72-1.25) | 1 (ref.) | 0.88 (0.69-1.13) | 1.07 (0.83-1.37) |
| Model 3 | 0.93 (0.66-1.30) | 0.94 (0.72-1.24) | 1 (ref.) | 0.87 (0.69-1.12) | 1.06 (0.82-1.35) |
| Model 4 | 0.90 (0.64-1.26) | 0.94 (0.72-1.24) | 1 (ref.) | 0.89 (0.70-1.14) | 1.09 (0.85-1.40) |
| High Initial Diet Quality Score (3rd tertile group) |  |  |  |
| Crude Model | 1.28 (1.02-1.61) | 1.16 (0.94-1.42) | 1 (ref.) | 0.92 (0.73-1.16) | 0.72 (0.47-1.10) |
| Model 1 | 1.25 (0.98-1.60) | 1.20 (0.96-1.49) | 1 (ref.) | 0.93 (0.72-1.19) | 0.46 (0.28-0.78) |
| Model 2 | 1.23 (0.95-1.58) | 1.17 (0.93-1.47) | 1 (ref.) | 0.93 (0.72-1.21) | 0.42 (0.24-0.74) |
| Model 3 | 1.23 (0.95-1.58) | 1.17 (0.93-1.46) | 1 (ref.) | 0.94 (0.73-1.22) | 0.44 (0.25-0.77) |
| Model 4 | 1.09 (0.85-1.41) | 1.09 (0.87-1.37) | 1 (ref.) | 0.88 (0.68-1.14) | 0.44 (0.26-0.78) |
| AHEI-2010 |  |  |  |  |  |
| Low Initial Diet Quality Score (1st tertile group) |  |  |  |
| Crude Model | 1.15 (0.85-1.56) | 1.20 (0.84-1.72) | 1 (ref.) | 1.00 (0.71-1.42) | 1.15 (0.86-1.52) |
| Model 1 | 1.13 (0.81-1.58) | 1.33 (0.90-1.97) | 1 (ref.) | 1.07 (0.74-1.56) | 1.17 (0.86-1.59) |
| Model 2 | 1.09 (0.78-1.52) | 1.30 (0.87-1.92) | 1 (ref.) | 1.02 (0.70-1.49) | 1.13 (0.83-1.54) |
| Model 3 | 1.09 (0.78-1.52) | 1.30 (0.88-1.93) | 1 (ref.) | 1.00 (0.68-1.46) | 1.16 (0.85-1.58) |
| Model 4 | 1.02 (0.73-1.43) | 1.25 (0.84-1.85) | 1 (ref.) | 1.04 (0.71-1.52) | 1.17 (0.86-1.59) |
| Moderate Initial Diet Quality Score (2nd tertile group) |  |  |  |
| Crude Model | 0.95 (0.72-1.27) | 0.89 (0.64-1.25) | 1 (ref.) | 1.00 (0.73-1.38) | 0.99 (0.76-1.29) |
| Model 1 | 1.01 (0.74-1.39) | 1.05 (0.73-1.51) | 1 (ref.) | 1.06 (0.74-1.50) | 1.06 (0.79-1.43) |
| Model 2 | 1.04 (0.76-1.43) | 1.11 (0.77-1.60) | 1 (ref.) | 1.11 (0.78-1.59) | 1.06 (0.79-1.43) |
| Model 3 | 1.02 (0.74-1.40) | 1.10 (0.76-1.59) | 1 (ref.) | 1.12 (0.78-1.60) | 1.04 (0.77-1.41) |
| Model 4 | 1.01 (0.73-1.39) | 1.10 (0.76-1.58) | 1 (ref.) | 1.10 (0.77-1.57) | 1.05 (0.78-1.42) |
| High Initial Diet Quality Score (3rd tertile group) |  |  |  |
| Crude Model | 1.51 (1.14-1.99) | 1.12 (0.80-1.55) | 1 (ref.) | 1.00 (0.70-1.43) | 1.34 (1.00-1.79) |
| Model 1 | 1.56 (1.16-2.10) | 1.24 (0.88-1.76) | 1 (ref.) | 0.96 (0.66-1.41) | 1.18 (0.86-1.63) |
| Model 2 | 1.54 (1.14-2.08) | 1.22 (0.86-1.74) | 1 (ref.) | 0.96 (0.65-1.42) | 1.16 (0.84-1.59) |
| Model 3 | 1.47 (1.09-1.99) | 1.17 (0.82-1.67) | 1 (ref.) | 0.97 (0.66-1.43) | 1.13 (0.82-1.56) |
| Model 4 | 1.35 (1.00-1.83) | 1.15 (0.80-1.63) | 1 (ref.) | 0.94 (0.64-1.38) | 1.10 (0.80-1.52) |

Model 1 [visit 3 covariates]: age, sex, race-center, education, family history of diabetes, family history of CHD/stroke, smoking status, physical activity, alcohol intake (only for HEI), total energy intake, initial diet quality score (all in quintiles)

Model 2: Model 1 + change in smoking status (categorical), change in physical activity, change in alcohol intake (only for HEI), change in total energy intake (all in quintiles)

Model 3: Model 2 + hypertension status, hypercholesterolemia status, eGFR (quintiles)

Model 4: Model 3 + BMI category, change in BMI (quintiles)

Supplemental Figure 1. Selection of Study Participants for Analysis of Initial Diet Quality Score at Visit 1 (A) and Change in Diet Quality Score between Visits 1 and 3 (B)



Supplemental Figure 2. Risk\* of Cardiovascular Disease for High (Quintile 5) vs. Low (Quintile 1) Initial Diet Quality Score According to Sex, Race, Education Level, and BMI Category for HEI-2015 (A) and AHEI-2010 (B)

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\*Hazard ratios were presented for the low (quintile 1) versus high (quintile 5) diet score, adjusted for age, sex, race-center, education, family history of diabetes, family history of CHD/stroke, smoking status, physical activity, alcohol intake (only for HEI), total energy intake, hypertension status, hypercholesterolemia status, eGFR, and BMI category.