**Association of an evolutionary-concordance lifestyle pattern score with risk of incident cardiovascular disease among Black and White men and women**

**Supplemental Materials**

(Data collection forms and study data available upon reasonable request from Suzanne Judd, PhD, Department of Biostatistics, School of Public Health, University of Alabama at Birmingham, AL, USA)

**Supplemental Table 1.** Components and quantification of the dietary evolutionary-concordance score in the REGARDS cohort study

|  |  |
| --- | --- |
| **Diet component** | **Quantification** |
| *Components in which high intake is “good”:* | |
| Fruits | Sum of the following FFQ line-items: apples or pears; bananas; peaches (in season); cantaloupe (in season); watermelon (in season); canned fruit like applesauce, fruit cocktail, or dried fruit like raisins; strawberries; oranges or tangerines; grapefruit; other fruits like grapes, honey-dew, pineapple, kiwi (in season) |
| Vegetables | Sum of the following FFQ line-items: broccoli; carrots, or mixed vegetables or stews containing carrots; corn; green beans or green peas; spinach; mustard greens, turnip greens, collards; sweet potatoes, yams (not in pie); Cole slaw, cabbage; green salad; raw tomatoes, including in salad; any other vegetable, like okra, squash, cooked green peppers; baked beans, black-eyed peas, pintos, any other dried beans; vegetable stew; vegetable soup, vegetable beef, chicken vegetable, or tomato soup; split pea, bean or lentil soup; tofu, bean curd |
| Fruit/vegetable diversity | Sum of the total number of responses on the fruit and vegetable sections of the FFQ that indicated the participant ate > 1 – 3 servings of a given line-item per month |
| Lean meats | Sum of the following FFQ line-items: chicken or turkey not fried, such as baked, grilled, or on sandwiches; mixed dishes with chicken, like chicken casserole, chicken & noodles, pot pie or in stir fry; veal, lamb or deer meat; eggs, including egg biscuits or Egg McMuffins (not egg substitutes) |
| Fish | Sum of the following FFQ line-items: fried fish or fish sandwich; other fish, not fried; oysters; other shellfish like shrimp, scallops, crabs; tuna, tuna salad, tuna casserole |
| Nuts | Sum of the following FFQ line-items: peanuts, other nuts or seeds |
| Calcium | To consider dietary calcium independent of dairy products, we used the residuals of a linear regression of total (dietary + supplemental) calcium on total dairy intake |
| *Components in which low intake is “good”:* | |
| Dairy products | Sum of the following FFQ line-items: milk or milk substitutes on cereal; yogurt or frozen yogurt; cheese, sliced cheese or cheese spread; butter (not margarine) on bread or on potatoes or vegetables; ice cream |
| Grains | Sum of the following FFQ line-items: French fries, fried potatoes or hash browns; white potatoes not fried, incl. boiled, baked, mashed & potato salad; rice, or dishes made with rice; spaghetti, lasagna or other pasta with tomato sauce; white bread or toast; dark bread, like rye or whole wheat; corn bread, corn muffins; high-fiber cereals like All Bran, Raisin Bran, Fruit-n-Fiber; Product 19, Just Right or Total cereal; any other cereal, like Corn Flakes, Cheerios, Special K; cooked cereals like oatmeal, cream of wheat or fruits; bagel; biscuits or muffins; pancakes, waffles, French toast, pop tarts; breakfast bars, granola bars, power bars; noodles, macaroni, pasta salad; tortillas; snacks like potato chips, corn chips, popcorn (not pretzels); crackers; rolls, hamburger buns, English muffins, bagels; pizza |
| Baked goods | Sum of the following FFQ line-items: doughnuts, Danish pastry; pumpkin pie, sweet potato pie; any other pie or cobbler; chocolate candy, candy bars; other candy, not chocolate, like hard candy, caramel, jelly beans; cookies; cake, sweet rolls, coffee cake; |
| Red/processed meats | Sum of the following FFQ line-items: hamburgers, cheeseburgers, meat loaf; pork chops, pork roasts, or dinner hams; beef steaks, roasts, pot roast, or in frozen dinners or sandwiches; ribs, spareribs; liver, including chicken livers or liverwurst; gizzard, pork neck bones, chitins, pigs feet, etc.; mixed dishes with beef or pork, like stew, corned beef has, stuffed cabbage, meat dish with noodles; fried chicken; bacon; breakfast sausage, including sausage biscuit; boloney, sliced ham, turkey lunch meat, other lunch meat |
| Sugar-sweetened beverages | Sum of the following FFQ line-items: Kool-Aid, Hi-C, or other drinks with added vitamin C; regular soft drinks, or bottled drinks like Snapple; Drinks with some juice in them, like Sunny Delight, Juice Squeeze |
| Sodium | Provided by NutritionQuest in mg |

Abbreviations: REGARDS, REasons for Geographic and Racial Differences in Stroke; FFQ, food frequency questionnaire.

# Supplemental Table 2. Cumulative incidence of risk of CVD, CHD, and stroke, over time according to quintiles of the total evolutionary-concordance (EC) score\* in the REGARDS cohort study (*n* = 15,476), 2003–2017

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Mortality type/EC score quintiles** | **Time from baseline (years)** | | | |
| **2**  **CIF**† **(95% CI)** | **6**  **CIF**† **(95% CI)** | **10**  **CIF**† **(95% CI)** | **14**  **CIF**† **(95% CI)** |
| **CVD** |  |  |  |  |
| 1 | 1.7 (1.3, 2.2) | 6.6 (5.7, 7.4) | 10.6 (9.5, 11.7) | 15.3 (13.7, 17.0) |
| 2 | 1.8 (1.4, 2.4) | 6.3 (5.3, 7.3) | 10.0 (8.8, 11.3) | 14.9 (13.0, 17.0) |
| 3 | 2.1 (1.6, 2.7) | 5.7 (4.9, 6.7) | 9.3 (8.2, 10.5) | 14.5 (12.7, 16.5) |
| 4 | 1.7 (1.4, 2.2) | 5.0 (4.3, 5.8) | 8.0 (7.1, 8.9) | 12.2 (10.4, 14.2) |
| 5 | 1.1 (0.8, 1.6) | 3.9 (3.3, 4.7) | 6.6 (5.8, 7.7) | 11.5 (9.8, 13.2) |
| **CHD** |  |  |  |  |
| 1 | 1.1 (0.8, 1.5) | 4.2 (3.5, 4.9) | 6.8 (6.0, 7.8) | 11.0 (9.4, 12.7) |
| 2 | 0.9 (0.6, 1.4) | 3.2 (2.6, 4.1) | 5.7 (4.8, 6.8) | 9.3 (7.6, 11.3) |
| 3 | 1.1 (0.8, 1.6) | 3.3 (2.7, 4.1) | 5.4 (4.5, 6.3) | 9.4 (7.7, 11.2) |
| 4 | 1.1 (0.8, 1.6) | 2.9 (2.4, 2.5) | 4.5 (3.9, 5.3) | 8.2 (6.4, 10.3) |
| 5 | 0.6 (0.4, 1.0) | 2.6 (2.1, 3.2) | 4.3 (3.6, 5.1) | 7.8 (6.4, 9.4) |
| **Stroke** |  |  |  |  |
| 1 | 0.7 (0.5, 1.0) | 2.6 (2.1, 3.2) | 4.3 (3.6, 5.0) | 5.7 (4.8, 6.6) |
| 2 | 1.0 (0.6, 1.4) | 3.1 (2.5, 3.9) | 4.7 (3.9, 5.7) | 6.8 (5.6, 8.2) |
| 3 | 1.0 (0.7, 1.4) | 2.6 (2.1, 3.3) | 4.5 (3.7, 5.3) | 6.7 (5.4, 8.6) |
| 4 | 0.8 (0.6, 1.1) | 2.4 (1.9, 2.9) | 3.9 (3.2, 4.5) | 5.2 (4.3, 6.3) |
| 5 | 0.5 (0.3, 0.8) | 1.5 (1.1, 2.0) | 2.7 (2.1, 3.4) | 4.8 (3.8, 6.0) |

Abbreviations: CVD, cardiovascular disease; CHD, coronary heart disease; EC, evolutionary-concordance; REGARDS, REasons for Geographic and Racial Differences in Stroke; CIF, cumulative incidence function; CI, confidence interval.

\* For score construction, see text and Table 1; a higher score indicates a more evolutionary-concordant lifestyle pattern.

† All CIF values expressed as percentages.

**Supplemental Table 3.** Adjusted associations\* of the total evolutionary-concordance (EC) score† with incident CVD‡, according to categories of selected participant characteristics; the REGARDS cohort study (*n* = 15,476), 2003–2017

|  |  |  |  |
| --- | --- | --- | --- |
| **Stratification variables** | **Total EC score**† **quantiles** | **CVD**‡ | |
| # Cases | HR (95% CI) \* |
| **Sex** |  |  |  |
| Male (*n* = 6,283) | 1 | 224 | 1.00 (ref.) |
|  | 2 | 130 | 0.91 (0.73, 1.14) |
|  | 3 | 167 | 1.04 (0.85, 1.27) |
|  | 4 | 163 | 0.79 (0.64, 0.97) |
|  | 5 | 120 | 0.73 (0.58, 0.92) |
|  |  |  |  |
| Female (*n* = 9,184) | 1 | 193 | 1.00 (ref.) |
|  | 2 | 148 | 0.99 (0.80, 1.23) |
|  | 3 | 128 | 0.79 (0.63, 0.99) |
|  | 4 | 167 | 0.70 (0.56, 0.86) |
|  | 5 | 123 | 0.70 (0.55, 0.89) |
| *Pinteraction*§ |  |  | *0.22* |
|  |  |  |  |
| **Race** |  |  |  |
| White (*n* = 10,257) | 1 | 264 | 1.00 (ref.) |
|  | 2 | 179 | 0.98 (0.81, 1.19) |
|  | 3 | 182 | 0.90 (0.74, 1.09) |
|  | 4 | 237 | 0.80 (0.67, 0.96) |
|  | 5 | 191 | 0.78 (0.64, 0.94) |
|  |  |  |  |
| Black (*n* = 5,210) | 1 | 153 | 1.00 (ref.) |
|  | 2 | 99 | 0.96 (0.74, 1.24) |
|  | 3 | 113 | 0.97 (0.76, 1.25) |
|  | 4 | 93 | 0.66 (0.51, 0.86) |
|  | 5 | 52 | 0.61 (0.44, 0.85) |
| *Pinteraction*§ |  |  | *0.21* |
|  |  |  |  |
| **Age, years** |  |  |  |
| < 65 (*n* = 8,558) | 1 | 181 | 1.00 (ref.) |
|  | 2 | 118 | 1.14 (0.90, 1.45) |
|  | 3 | 93 | 0.84 (0.65, 1.08) |
|  | 4 | 105 | 0.72 (0.56, 0.93) |
|  | 5 | 73 | 0.73 (0.55, 0.98) |
|  |  |  |  |
| ≥ 65 (*n* = 6,909) | 1 | 236 | 1.00 (ref.) |
|  | 2 | 160 | 0.89 (0.72, 1.09) |
|  | 3 | 202 | 1.00 (0.83, 1.21) |
|  | 4 | 225 | 0.81 (0.67, 0.98) |
|  | 5 | 170 | 0.78 (0.63, 0.95) |
| *Pinteraction*§ |  |  | *0.08* |
|  |  |  |  |
| **Region of residence** |  |  |  |
| Stroke belt|| (*n* = 6,767) | 1 | 198 | 1.00 (ref.) |
|  | 2 | 118 | 0.85 (0.67, 1.07) |
|  | 3 | 133 | 0.89 (0.72, 1.12) |
|  | 4 | 134 | 0.65 (0.52, 0.81) |
|  | 5 | 97 | 0.66 (0.51, 0.85) |
|  |  |  |  |
| Non-stroke belt (*n* = 8,700) | 1 | 219 | 1.00 (ref.) |
|  | 2 | 160 | 1.08 (0.88, 1.33) |
|  | 3 | 162 | 0.95 (0.77, 1.17) |
|  | 4 | 196 | 0.84 (0.69, 1.02) |
|  | 5 | 146 | 0.79 (0.64, 0.98) |
| *Pinteraction*§ |  |  | *0.41* |
|  |  |  |  |
| **Comorbidity**¶ |  |  |  |
| Yes (*n* = 12,237) | 1 | 393 | 1.00 (ref.) |
|  | 2 | 245 | 0.92 (0.78, 1.07) |
|  | 3 | 261 | 0.88 (0.75, 1.03) |
|  | 4 | 288 | 0.72 (0.62, 0.85) |
|  | 5 | 206 | 0.70 (0.59, 0.83) |
|  |  |  |  |
| Yes (*n* = 12,237) | 1 | 505 | 1.00 (ref.) |
|  | 2 | 509 | 0.90 (0.79, 1.02) |
|  | 3 | 376 | 0.71 (0.62, 0.82) |
|  |  |  |  |
| No (*n* = 3,230) | 1 | 42 | 1.00 (ref.) |
|  | 2 | 60 | 0.97 (0.65, 1.46) |
|  | 3 | 68 | 0.80 (0.54, 1.29) |
| *Pinteraction*§ |  |  | *0.24* |
|  |  |  |  |
| **Smoking status** |  |  |  |
| Never (*n* = 7,606) | 1 | 117 | 1.00 (ref.) |
|  | 2 | 172 | 0.89 (0.70, 1.13) |
|  | 3 | 73 | 0.82 (0.61, 1.10) |
|  | 4 | 175 | 0.75 (0.59, 0.96) |
|  | 5 | 141 | 0.84 (0.65, 1.08) |
|  |  |  |  |
| Ever (*n* = 7,861) | 1 | 212 | 1.00 (ref.) |
|  | 2 | 245 | 0.90 (0.75, 1.09) |
|  | 3 | 99 | 0.98 (0.76, 1.24) |
|  | 4 | 228 | 0.97 (0.80, 1.18) |
|  | 5 | 101 | 0.79 (0.62, 1.02) |
| *Pinteraction*§ |  |  | *0.28* |

Abbreviations: EC, evolutionary-concordance; CVD, cardiovascular disease; REGARDS, REasons for Geographic and Racial Differences in Stroke; HR, hazards ratio; CI, confidence interval; ref., reference.

\* From multivariable Cox proportional hazards models; all models adjusted for age (years), race (Black/White), income (< $20 k, 20–34 k, 35–74 k, 75k, missing), education status (< high school, high school, some college, college), health insurance (yes/no), sex/ current postmenopausal hormone use (male, female with postmenopausal hormone use, female without postmenopausal hormone use), statin use (yes/no), baseline systolic and diastolic blood pressures (mmHg), family history of CVD (CHD or stroke) in a first degree relative (yes/no), region (stroke belt/non-stroke belt), history of diabetes mellitus (yes/no), history of hypertension (yes/no), history of cancer (yes/no), history of kidney failure (yes/no), regular (twice/wk or more) aspirin use (yes/no), regular (twice/wk or more) non-aspirin NSAID use (yes/no), total energy intake; the model for those who ever smoked additionally adjusted for smoking history (pack-years).

† For score construction, see text and Table 1, except that smoking is removed from the score when stratified on smoking status; a higher score indicates a more evolutionary-concordant lifestyle pattern

‡ CVD includes CHD and stroke.

§ *Pinteraction* from the likelihood ratio test.

|| North Carolina, South Carolina, Arkansas, Georgia, Tennessee, Alabama, Mississippi, and Louisiana

¶ Included cancer, kidney failure, diabetes mellitus, statin use, and hypertension.

**Supplemental Table 4.** Multivariable-adjusted associations\* of 1) the total evolutionary-concordance (EC) score's† individual components and 2) the EC score, after removing (and replacing) each of its seven components one at a time, with incident CVD in the REGARDS cohort study (*n* = 15,476), 2003–2017

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **EC score component analyzed or removed** | **Association of individual score component with CVD**c |  | **Association of EC score with CVD after removal of a score component** | |
| HR (95% CI)\*,‡ |  | HR (95% CI)\*,§ | Proportional change in HR|| (%) |
| Total EC score (no component removed) | N/A |  | 0.73 (0.62, 0.86) | (ref.) |
| EC diet score | 0.84 (0.70, 1.00) |  | 0.78 (0.67, 0.92) | 6.8 |
| Alcohol | 0.93 (0.78, 1.12) |  | 0.71 (0.60, 0.85) | -2.7 |
| Smoking | 1.52 (1.32, 1.76) |  | 0.84 (0.70, 0.99) | 15.1 |
| Waist circumference | 1.27 (1.07, 1.50) |  | 0.80 (0.68, 0.95) | 9.6 |
| Physical activity | 0.93 (0.77, 1.12) |  | 0.77 (0.64, 0.91) | 5.5 |
| Sedentary behavior | 0.88 (0.74, 1.04) |  | 0.67 (0.57, 0.80) | -8.2 |
| Social network size | 1.04 (0.89, 1.22) |  | 0.67 (0.56, 0.79) | -8.2 |

Abbreviations: EC, evolutionary-concordance; CVD, cardiovascular disease; REGARDS, REasons for Geographic and Racial Differences in Stroke; HR, hazards ratio; CI, confidence interval; N/A, not applicable; ref., reference.

\* From multivariable Cox proportional hazards models. All models adjusted for age (years), race (Black/White), income (< $20 k, 20–34 k, 35–74 k, 75k, missing), education status (< high school, high school, some college, college), health insurance (yes/no), sex/ current postmenopausal hormone use (male, female with postmenopausal hormone use, female without postmenopausal hormone use), statin use (yes/no), baseline systolic and diastolic blood pressures (mmHg), region (stroke belt/non-stroke belt), history of diabetes mellitus (yes/no), history of hypertension (yes/no), history of cancer (yes/no), history of kidney failure (yes/no), regular (twice/wk or more) aspirin use (yes/no), regular (twice/wk or more) non-aspirin NSAID use (yes/no), total energy intake, and where applicable, the removed component.

† For score construction, see text and Table 1; a higher score indicates a more evolutionary-concordant lifestyle pattern.

‡ For participants in the highest relative to the lowest category of each EC score component.

§ For participants in the highest relative to the lowest quintile of EC score variant.

|| Calculated as [(HR' - HR)/HR] x 100%; where HR’ is the HR representing the association of the reduced EC score (i.e., minus one of the full EC score components) with incident CVD, and HR is the HR for the full EC score.

**Supplemental Table 5.** Adjusted associations of evolutionary-concordance (EC) scores with incident CVD, CHD, and stroke after exclusion of participants who became newly diagnosed with CVD in the first follow-up year; the REGARDS cohort study (*n* = 15,136), 2003–2017

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **EC scores**\* **and quintiles  (quintile ranges)** | **CVD**† | | |  | **CHD** | | |  | **Stroke** | | |
| # Cases | HR (95% CI)‡ | HR (95% CI)§ |  | # Cases | HR (95% CI)‡ | HR (95% CI)§ |  | # Cases | HR (95% CI)‡ | HR (95% CI)§ |
| Total EC score | |  |  |  |  |  |  |  |  |  |  |
| 1 (7–18) | 392 | 1.00 (ref.) | 1.00 (ref.) |  | 253 | 1.00 (ref.) | 1.00 (ref.) |  | 161 | 1.00 (ref.) | 1.00 (ref.) |
| 2 (19–20) | 262 | 0.90 (0.77, 1.05) | 0.97 (0.83, 1.13) |  | 149 | 0.79 (0.64, 0.97) | 0.87 (0.71, 1.07) |  | 126 | 1.05 (0.83, 1.32) | 1.10 (0.87, 1.39) |
| 3 (21–22) | 279 | 0.83 (0.71, 0.97) | 0.92 (0.79, 1.08) |  | 162 | 0.74 (0.61, 0.90) | 0.84 (0.69, 1.02) |  | 135 | 0.98 (0.78, 1.23) | 1.06 (0.84, 1.33) |
| 4 (23–25) | 304 | 0.63 (0.54, 0.73) | 0.73 (0.63, 0.85) |  | 170 | 0.54 (0.45, 0.66) | 0.65 (0.53, 0.79) |  | 150 | 0.75 (0.60, 0.94) | 0.85 (0.68, 1.07) |
| 5 (26–35) | 232 | 0.59 (0.50, 0.70) | 0.73 (0.62, 0.87) |  | 146 | 0.58 (0.47, 0.71) | 0.72 (0.58, 0.89) |  | 103 | 0.64 (0.50, 0.81) | 0.77 (0.60, 1.00) |
| *Ptrend*|| |  | *<0.001* | *<0.001* |  |  | *<0.001* | *<0.001* |  |  | *<0.001* | *0.02* |
| Dietary EC score | |  |  |  |  |  |  |  |  |  |  |
| 1 (17–33) | 289 | 1.00 (ref.) | 1.00 (ref.) |  | 185 | 1.00 (ref.) | 1.00 (ref.) |  | 116 | 1.00 (ref.) | 1.00 (ref.) |
| 2 (34–37) | 337 | 0.92 (0.79, 1.08) | 0.97 (0.82, 1.14) |  | 192 | 0.81 (0.66, 0.99) | 0.87 (0.71, 1.07) |  | 167 | 1.12 (0.89, 1.42) | 1.13 (0.89, 1.44) |
| 3 (38–40) | 300 | 0.92 (0.78, 1.08) | 1.00 (0.85, 1.19) |  | 186 | 0.89 (0.72, 1.09) | 0.99 (0.80, 1.22) |  | 129 | 0.97 (0.76, 1.25) | 1.03 (0.80, 1.33) |
| 4 (41–44) | 310 | 0.77 (0.65, 0.90) | 0.87 (0.74, 1.03) |  | 174 | 0.67 (0.54, 0.83) | 0.79 (0.63, 0.98) |  | 158 | 0.96 (0.76, 1.23) | 1.05 (0.81, 1.34) |
| 5 (45–60) | 233 | 0.66 (0.55, 0.78) | 0.82 (0.68, 0.99) |  | 143 | 0.63 (0.51, 0.78) | 0.84 (0.66, 1.06) |  | 105 | 0.73 (0.56, 0.95) | 0.84 (0.64, 1.12) |
| *Ptrend*|| |  | *<0.001* | *0.02* |  |  | *<0.001* | *0.11* |  |  | *0.004* | *0.19* |
| Lifestyle EC score | |  |  |  |  |  |  |  |  |  |  |
| 1 (6–15) | 350 | 1.00 (ref.) | 1.00 (ref.) |  | 216 | 1.00 (ref.) | 1.00 (ref.) |  | 153 | 1.00 (ref.) | 1.00 (ref.) |
| 2 (16–17) | 294 | 0.95 (0.81, 1.10) | 1.00 (0.86, 1.17) |  | 179 | 0.93 (0.77, 1.14) | 1.00 (0.82, 1.22) |  | 132 | 0.97 (0.77, 1.23) | 1.00 (0.79, 1.27) |
| 3 (18–19) | 268 | 0.70 (0.59, 0.82) | 0.78 (0.66, 0.92) |  | 159 | 0.67 (0.55, 0.82) | 0.77 (0.62, 0.94) |  | 128 | 0.76 (0.60, 0.96) | 0.83 (0.65, 1.05) |
| 4 (20–21) | 253 | 0.69 (0.59, 0.81) | 0.81 (0.69, 0.96) |  | 135 | 0.59 (0.48, 0.74) | 0.71 (0.57, 0.89) |  | 125 | 0.78 (0.62, 0.99) | 0.88 (0.69, 1.12) |
| 5 (22–30) | 304 | 0.64 (0.55, 0.75) | 0.79 (0.67, 0.93) |  | 191 | 0.66 (0.54, 0.80) | 0.81 (0.67, 1.00) |  | 137 | 0.66 (0.52, 0.83) | 0.79 (0.63, 1.01) |
| *Ptrend*|| |  | *<0.001* | *<0.001* |  |  | *<0.001* | *0.004* |  |  | *<0.001* | *0.04* |

Abbreviations: EC, evolutionary-concordance; CVD, cardiovascular disease; CHD, coronary heart disease; REGARDS, REasons for Geographic and Racial Differences in Stroke; HR, hazards ratio; CI, confidence interval; ref., reference.

\* For construction of scores, see text and Table 1; a higher score indicates a more evolutionary-concordant lifestyle pattern; Lifestyle EC score comprised all score components in Table 1 except for the Dietary EC score.

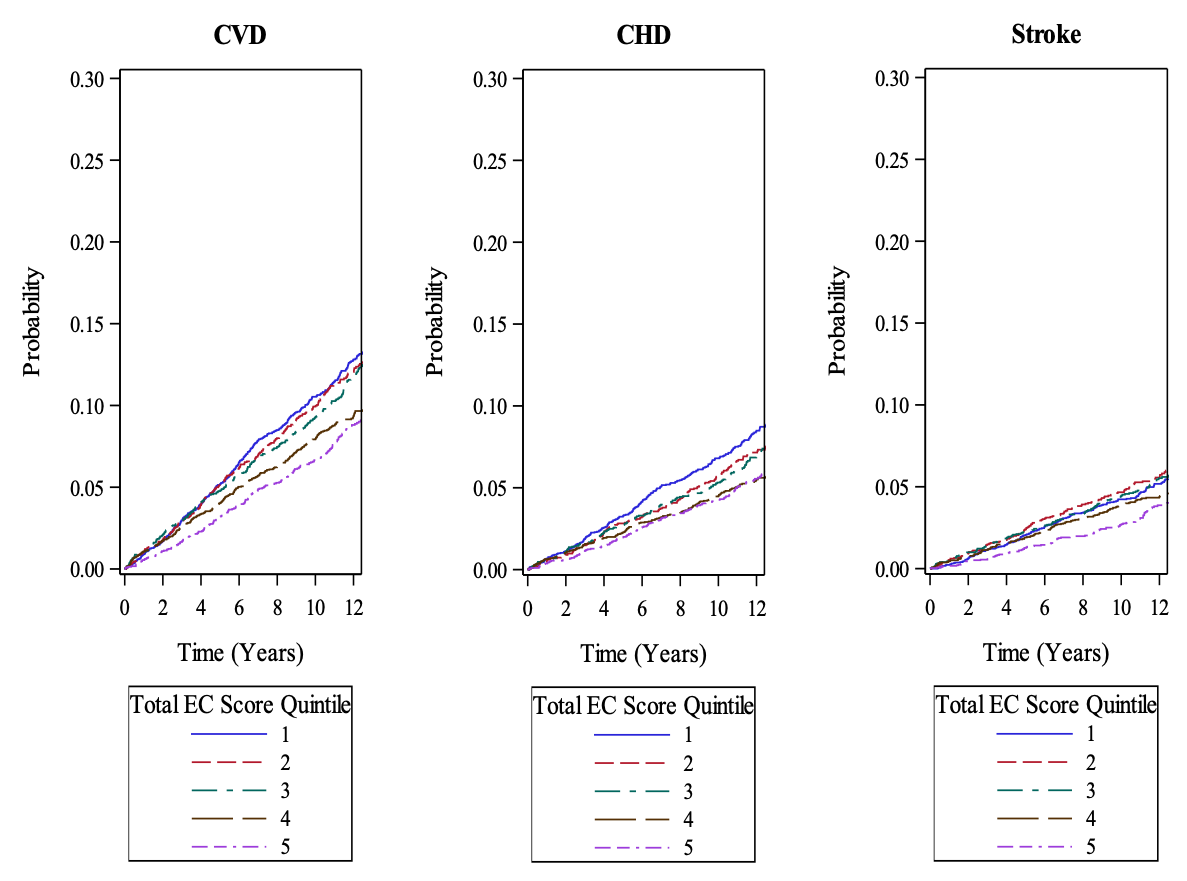
† CVD includes CHD and stroke.

‡ From multivariable Cox proportional hazards models. All minimally adjusted models adjusted for age (years).

§ From multivariable Cox proportional hazards models. All fully adjusted models adjusted for age (years), race (Black/White), income (< $20 k, 20–34 k, 35–74 k, 75 k, missing), education status (< high school, high school, some college, college), health insurance (yes/no), sex/postmenopausal hormone use (male, female with postmenopausal hormone use, female without postmenopausal hormone use), statin use (yes/no), baseline systolic and diastolic blood pressures (mmHg), region (stroke belt/non-stroke belt), history of diabetes mellitus (yes/no), history of hypertension (yes/no), history of cancer (yes/no), history of kidney failure (yes/no), regular (twice/wk or more) aspirin use (yes/no), regular (twice/wk or more) non-aspirin NSAID use (yes/no), total energy intake; the model for CHD was additionally adjusted for family history of CHD in a first degree relative (yes/no), the model for stroke was additionally adjusted for family history of stroke in a first degree relative (yes/no), and the model for CVD was additionally adjusted for family history of CVD (CHD or stroke) in a first degree relative (yes/no). The dietary EC score model was additionally adjusted for the six individual lifestyle EC score components (alcohol, smoking, waist circumference, physical activity, sedentary behavior, and social network size; see Table 1 for details). The lifestyle EC score model was additionally adjusted for the dietary EC score.

|| *Ptrend* calculated by including the median values of the EC score quintiles as a continuous variable in the corresponding model, adjusted for covariates.

**Supplemental Figure 1.** Cumulative incidence of risk of CVD, CHD, and stroke, by quintiles of the total evolutionary-concordance (EC) score\*; the REGARDS cohort study (*n* = 15,476), 2003–2017



Abbreviations: CVD, cardiovascular disease; CHD, coronary heart disease; EC, evolutionary-concordance; REGARDS, REasons for Geographic and Racial Differences in Stroke.

\* For score construction, see text and Table 1; a higher score indicates a more evolutionary-concordant lifestyle pattern.