Supplementary Online Content

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

eTable 1: Life's Simple Seven categories (after Folsom et al.[20]) from the AHA's Life's Simple 7 Cardiovascular Health Metrics[19]. AHA = American Heart Association; min = minutes; SBP = systolic blood pressure; DBP = systolic blood pressure.

Health Measure	Poor (0 points)	Intermediate (1 point)	Ideal (2 points)
Smoking	Current	Former	Never
Body mass index	$\geq$ 30 kg/m^2	25-29.99 kg/m^2	<25 kg/m^2
Physical activity	None	1-149 min/week moderate or 1-74 min/week vigorous or 1-149 min/week moderate + vigorous	$\geq$150 min/week moderate or $\geq$75 min/week vigorous or $\geq$150 min/week moderate + vigorous
Healthy diet score[a]	0-1 components	2-3 components	4-5 components
Total cholesterol	$\geq$240 mg/dl	200-239 mg/dl or <200 mg/dl treated	<200mg/dl, without medication
Blood pressure	SBP$\geq$140 or DBP$\geq$90mmHg	SBP 120-139 mmHg or DBP 80-89 mmHg or <120/<80 mmHg treated	<120/<80 mmHg, without medication
Fasting serum glucose	$\geq$126 mg/dl	100-125 mg/dl or treated to <100 mg/dl	<100 mg/dl, without medication

[a] Healthy Diet Components:
- Fruits and vegetables: $\geq$4.5 cup per day.
- Fish: $\geq$two 3.5 oz servings per week (preferably oily fish).
- Fiber-rich whole grains ($\geq$1.1 g of fiber per 10 g of carbohydrate): $\geq$three 1-oz-equivalent servings per day.
- Sodium: <1500 mg per day.
- Sugar-sweetened beverages: $\leq$450 kcal (36 oz) per week.

eTable 2: Hazard Ratios for developing late-onset epilepsy under definition 2.

Definition 2 includes at least one ICD-9 code for epilepsy, seizures, or convulsions plus use of anti-epileptic drug; n=286 cases. Stroke and dementia are time-varying covariates. Model includes visit 1 age and all variables in table. NC = North Carolina; MS = Mississippi; MN = Minnesota; MD = Maryland; HS = high school; SD = standard deviation.

Variable	Hazard Ratio	95% Confidence Interval
Field center – race		
NC – white	Reference	
NC – black	1.25	0.66-2.37
MS – black	0.92	0.64-1.33
MN – white	0.75	0.50-1.12
MD – white	0.90	0.63-1.27
Sex (Male)	0.89	0.68-1.16
Education (HS grad or more)	0.85	0.65-1.11
Hypertension	1.06	0.82-1.38
Diabetes	**1.52**	**1.12-2.07**
Exercise (per sex-adjusted SD)	0.92	0.81-1.04
Alcohol use		
1-7 drinks/week	0.84	0.61-1.17
>7 drinks/week	0.99	0.63-1.54
Smoking (per 20 pack-years)	1.00	0.86-1.13
APOEε4		
1 allele	1.18	0.91-1.52
2 alleles	1.51	0.87-2.64
Stroke	**2.91**	**2.17-3.91**
Dementia	**2.76**	**2.07-3.68**

eTable 3: Hazard ratios for late-onset epilepsy with age of first seizure 67 or older, and for use of 2 years after first claim code as origin for Cox proportional hazards analysis.

First seizure age 67 or older: N=530 cases. All variables in table and visit 1 age are included in the same model. Stroke and dementia are time-varying covariates. NC = North Carolina; MS = Mississippi; MN = Minnesota; MD = Maryland; HS = high school; SD = standard deviation.

Variable	First seizure 67 or older		2 years after first claim code as origin	
	Hazard Ratio	95% Confidence Interval	Hazard Ratio	95% Confidence Interval
Field center – race				
NC – white	1.0 (Reference)		1.0 (Reference)	
NC – black	**1.81**	**1.14-2.86**	**1.71**	**1.10-2.65**
MS – black	1.18	0.88-1.57	**1.34**	**1.03-1.76**
MN – white	0.93	0.69-1.26	1.00	0.75-1.33
MD - white	1.17	0.91-1.52	1.23	0.96-1.57
Sex (Male)	0.95	0.78-1.16	0.97	0.81-1.15
Education (HS+)	1.06	0.86-1.30	1.17	0.97-1.42
Hypertension	**1.27**	**1.05-1.53**	**1.23**	**1.04-1.47**
Diabetes	**1.44**	**1.14-1.82**	**1.30**	**1.05-1.62**
Exercise (per sex-adjusted SD)	0.94	0.85-1.03	0.93	0.85-1.01
Alcohol use				
1-7 drinks/week	**0.75**	**0.59-0.96**	**0.75**	**0.60-0.95**
>7 drinks/week	1.05	0.78-1.41	1.03	0.78-1.36
Smoking (per 20 pack-years)	1.08	0.99-1.17	1.07	0.99-1.16
APOEε4 status				
1 allele	**1.24**	**1.03-1.51**	1.19	1.00-1.42
2 alleles	**2.05**	**1.39-3.04**	**2.01**	**1.40-2.90**
Stroke	**3.22**	**2.61-3.99**	**3.11**	**2.57-3.77**
Dementia	**2.55**	**2.07-3.15**	**2.51**	**2.06-3.05**

eTable 4
Hazard Ratios for developing late-onset epilepsy using multiple imputations for missing data.

All variables in table and visit 1 age are included in the same model. Missing at baseline: education level (n=21), hypertension (n=74), diabetes (n=95), exercise level (n=63), smoking history (n=239), alcohol use (n=80), APOEε4 genotype (n=508).
NC = North Carolina; MS = Mississippi; MN = Minnesota; MD = Maryland; HS = high school; SD = standard deviation.

Variable	Hazard Ratio	95% Confidence Interval
Field center – race		
NC – white	1.0 (Reference)	
NC – black	**1.82**	**1.21-2.75**
MS – black	**1.32**	**1.02-1.70**
MN – white	0.95	0.72-1.25
MD – white	1.23	0.98-1.56
Sex (Male)	0.98	0.83-1.16
Education (HS grad or more)	1.15	0.96-1.38
Hypertension	**1.20**	**1.02-1.42**
Diabetes	**1.33**	**1.08-1.64**
Exercise (per sex-adjusted SD)	0.94	0.86-1.02
Alcohol use		
1-7 drinks/week	**0.80**	**0.65-1.00**
>7 drinks/week	1.00	0.77-1.31
Smoking (per 20 pack-years)	**1.08**	**1.01-1.17**
APOEε4		
1 allele	1.17	0.99-1.39
2 alleles	**1.91**	**1.33-2.74**
Stroke	**3.05**	**2.54-3.67**
Dementia	**2.47**	**2.05-2.98**

eTable 5
Hazard Ratios for developing late-onset epilepsy with death as a competing risk.
All variables in table and visit 1 age are included in the same model. NC = North Carolina; MS = Mississippi; MN = Minnesota; MD = Maryland; HS = high school; SD = standard deviation.
Using the cumulative incidence function for competing risks, the cumulative incidence of late-onset epilepsy is 2.87% (95% confidence interval 2.76-2.97) from ages 60-80.

Variable	Hazard Ratio	95% Confidence Interval
Field center – race		
NC – white	1.0 (Reference)	
NC – black	**1.58**	**1.02-2.45**
MS – black	1.26	0.97-1.64
MN – white	0.97	0.73-1.30
MD – white	1.24	0.97-1.58
Sex (Male)	0.91	0.76-1.09
Education (HS grad or more)	1.19	0.98-1.45
Hypertension	**1.21**	**1.02-1.45**
Diabetes	1.18	0.94-1.47
Exercise (per sex-adjusted SD)	0.92	0.84-1.00
Alcohol use		
1-7 drinks/week	**0.75**	**0.60-0.94**
>7 drinks/week	1.00	0.76-1.31
Smoking (per 20 pack-years)	1.02	0.93-1.10
APOEε4		
1 allele	**1.21**	**1.02-1.45**
2 alleles	**1.87**	**1.29-2.71**
Stroke	**2.93**	**2.39-3.59**
Dementia	**2.56**	**2.10-3.12**