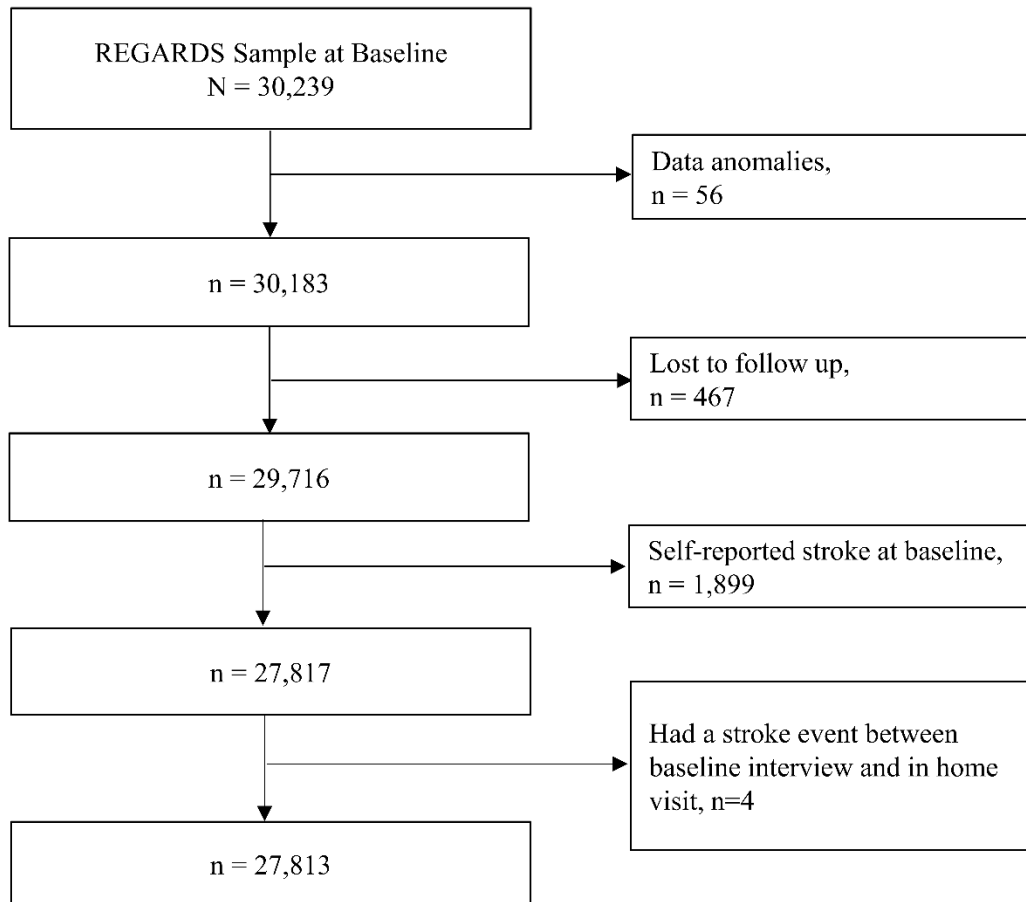**Supplemental materials.**

Figure I. Exclusion Cascade for Multiple Social Determinants of Health and Incident Stoke

Table I. America's Health Ranking Health Determinants Model

Buckets and individual determinants[*]	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
					Years[†]					
					Weights[‡]					
1. LIFESTYLE										
Smoking	0.182	0.182	0.182	0.182	0.182	0.182	0.182	0.182	0.182	0.182
Motor Vehicle Deaths	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
Violent Crime Rate	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
Risk of Heart Disease	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
Percent High School Graduation	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
Children in Poverty										0.091
Total	0.545	0.545	0.545	0.545	0.545	0.545	0.545	0.545	0.545	0.636
2. ACCESS TO CARE										
Unemployment Rate	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	
Adequacy of Prenatal Care	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
Access to Primary Care	0.091	0.091	0.091	0.091	0.091	0.091		0.091		
Lack of Health Insurance							0.091		0.091	0.091
Support for Public Health Care	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
Total	0.364	0.364	0.364	0.364	0.364	0.364	0.364	0.364	0.364	0.273
3. DISABILITY										
Occupational Fatalities	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045	0.045
Limited Activity Days					0.045	0.045	0.045	0.045	0.045	0.045
Work Disability Status	0.045	0.045	0.045	0.045						
Total	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091	0.091
All Determinants	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000

[*] The model is developed by America's Health Ranking (AHR)

[†] The ten-year period prior REGARDS enrollment (1993-2002)

[‡] The weights are provided by the America's Health Ranking; the weights were assigned based on the AHR public health expert panel

Table II. US States with the Worst Public Health Infrastructure in 1993-2002

US States[‡]	Years[*]										Average rank 1993-2002	Number of years having 41-50 ranks
	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002		
	Ranks[†]											
Louisiana	50	50	50	49	50	48	50	48	50	50	49.5	10
Mississippi	48	49	47	48	48	45	47	47	46	49	47.4	10
New Mexico	49	35	46	47	49	49	49	50	49	48	47.1	9
South Carolina	47	47	49	49	42	41	44	45	48	47	45.9	10
Arkansas	37	46	45	45	44	50	48	46	44	44	44.9	9
Nevada	40	41	48	46	45	47	45	49	47	40	44.8	8
Florida	46	45	44	44	41	42	43	40	45	45	43.5	9
Tennessee	41	48	40	43	47	44	41	38	43	43	42.8	8
Texas	43	44	43	42	43	40	38	43	41	42	41.9	8

[*] The ten-year period prior REGARDS enrollment (1993-2002)

[†] Ranks provided by America's Health Ranking

[‡] Nine states (Louisiana, Mississippi, New Mexico, South Carolina, Arkansas, Nevada, Florida, Tennessee, Texas) fell into the bottom 20% US states with the worst public health infrastructure for at least 8 years during the ten-year period prior REGARDS enrollment (1993-2002)

Table III. Sensitivity Analyses

Sensitivity analyses	Details on the modifications made
Used alternative definition of Stroke Belt	In the main analysis, Stroke Belt included the following states: North Carolina, South Carolina, Georgia, Alabama, Mississippi, Tennessee, Arkansas, and Louisiana. In the sensitivity analysis, we followed the National Heart, Lung, and Blood Institute (NHLBI) definition[31], and added Indiana, Kentucky and Virginia to the list of states.
Included environmental tobacco use in addition to tobacco smoking to the list of covariates.	We added an exposure to tobacco smoke variable ('Does anyone living with you smoke cigarettes regularly?') to the list of covariates, in addition to the tobacco smoking variable.
Included adherence to DASH diet to the list of covariates in addition to the adherence to the Mediterranean diet.	We broadened our definition, and we created a "high adherence to healthy diet" variable. The participants who demonstrated high adherence to either Mediterranean diet or DASH diet were considered to adhere to healthy diet. We made a decision not to include both variables to avoid collinearity. Similar to the Mediterranean diet variable, and to be consistent to other studies on DASH diet (for example, Zafarmand et al., 2020) [46], we defined high adherence to DASH diet if a participant had at least a median DASH diet score, and low adherence otherwise.

Table IV. Sensitivity Analyses Results[*]

	<75 years		≥75 years	
	Minimally adjusted[†]	Fully adjusted[‡]	Minimally adjusted[†]	Fully adjusted[‡]
1 SDOH	1.44 (1.07, 1.78)	1.23 (1.00, 1.52)	1.13 (0.82, 1.55)	1.08 (0.78, 1.50)
2 SDOH	1.82 (1.48, 2.24)	1.34 (1.08, 1.66)	1.15 (0.83, 1.60)	1.03 (0.74, 1.44)
3+ SDOH	2.38 (1.94, 2.92)	1.50 (1.20, 1.86)	1.40 (1.02, 1.92)	1.23 (0.89, 1.71)
***p* for trend**	<.0001	0.0002	0.03	0.24

[*] Sensitivity analyses include fully adjusted models with all changes described in Table III.

[†]Adjusted for age at baseline and gender

[‡]Adjusted for demographics, medical conditions, medication use, functional status, health behaviors, and physiologic variables with the changes described in Table III. SDOH include black race, low annual income, low education, zip code poverty, residence in the states with the worst public health infrastructure, lack of health insurance and social isolation (Not seeing friends or family members at least once a month).