SUPPLEMENTAL MATERIAL

Supplemental Figures
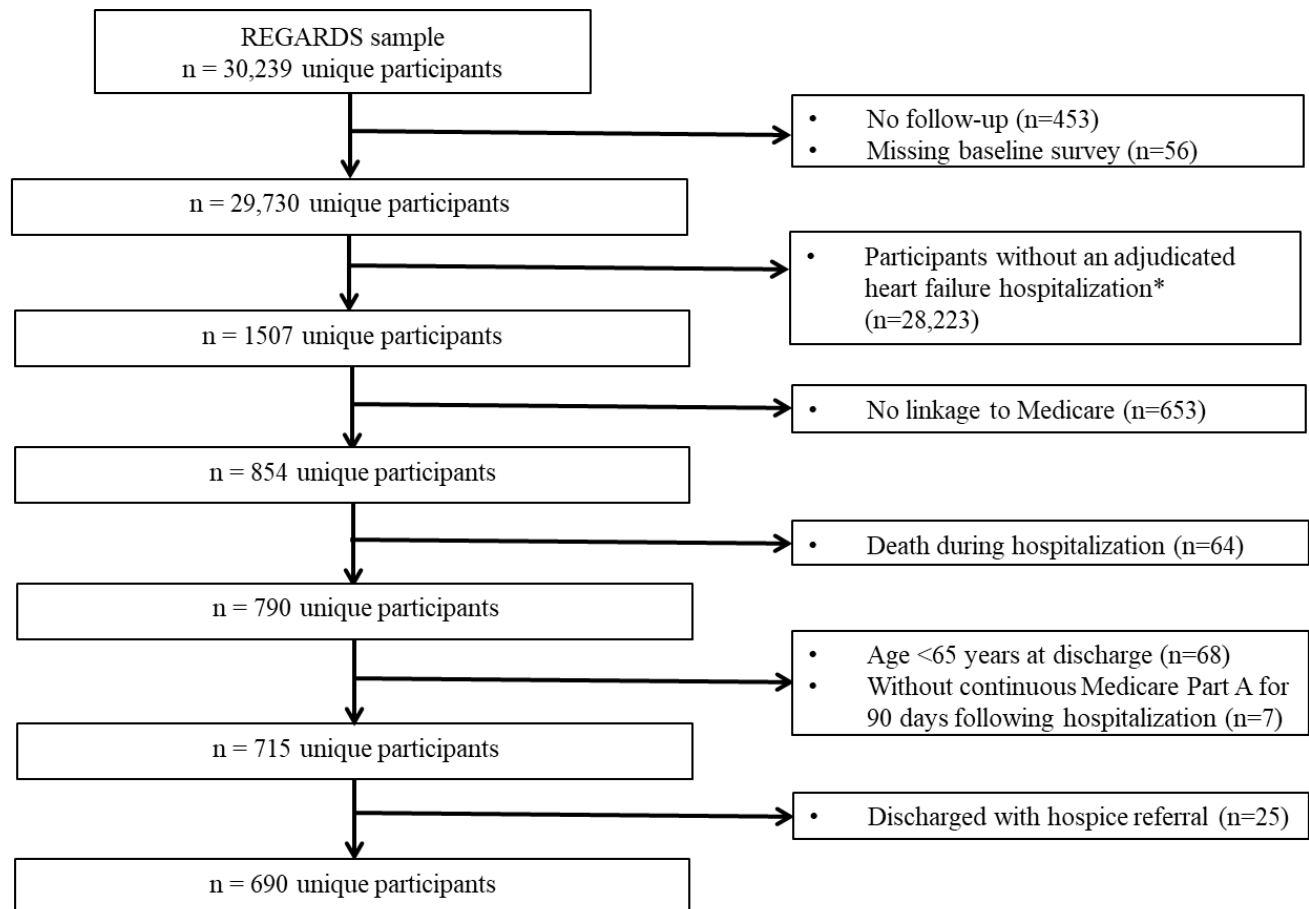
Supplemental Figure 1. Healthy People 2030 Framework
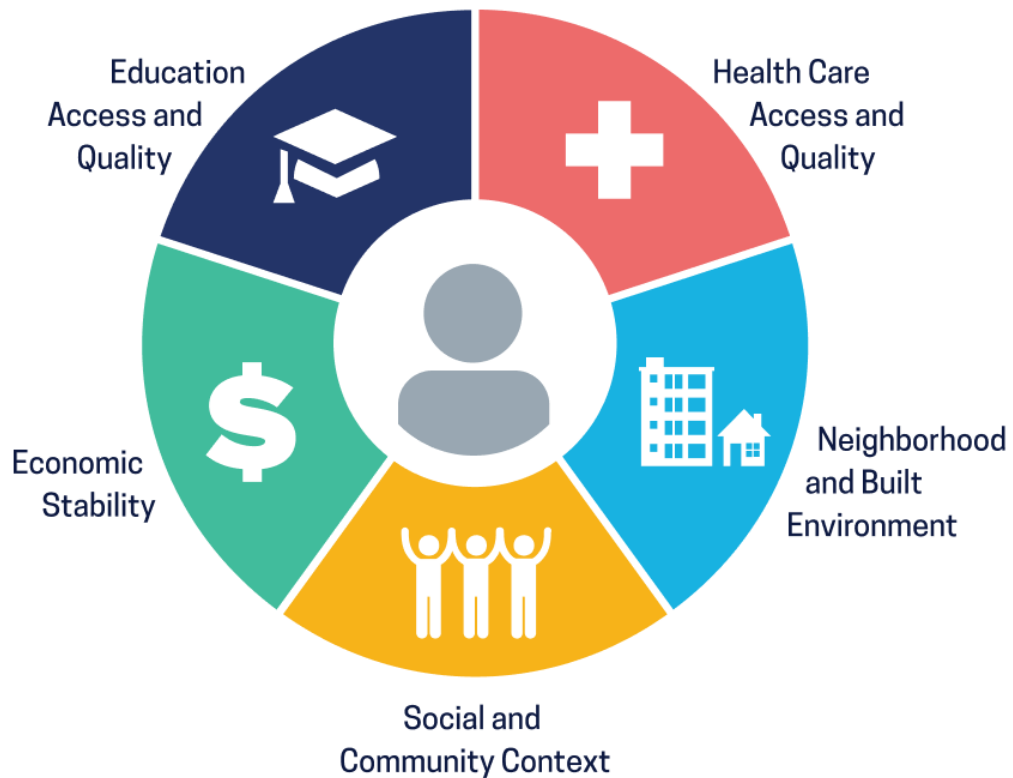
Healthy People 2030, U.S. Department of Health and Human Services, Office of Disease Prevention and Health Promotion. Retrieved June 8, 2021, from https://health.gov/healthypeople/objectives-and-data/social-determinants-health

Supplemental Figure 2. Study Flow Diagram


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┌─────────────────────────────┐
│      REGARDS sample         │
│ n = 30,239 unique participants │
└─────────────────────────────┘
              │                        ┌─────────────────────────────────────┐
              │──────────────────────▶ │ •   No follow-up (n=453)            │
              ▼                        │ •   Missing baseline survey (n=56)  │
┌─────────────────────────────┐        └─────────────────────────────────────┘
│ n = 29,730 unique participants │
└─────────────────────────────┘        ┌─────────────────────────────────────┐
              │                        │ •   Participants without an adjudicated │
              │──────────────────────▶ │     heart failure hospitalization*  │
              ▼                        │     (n=28,223)                      │
┌─────────────────────────────┐        └─────────────────────────────────────┘
│ n = 1507 unique participants │
└─────────────────────────────┘        ┌─────────────────────────────────────┐
              │──────────────────────▶ │ •   No linkage to Medicare (n=653)  │
              ▼                        └─────────────────────────────────────┘
┌─────────────────────────────┐
│ n = 854 unique participants │
└─────────────────────────────┘        ┌─────────────────────────────────────┐
              │──────────────────────▶ │ •   Death during hospitalization (n=64) │
              ▼                        └─────────────────────────────────────┘
┌─────────────────────────────┐        ┌─────────────────────────────────────┐
│ n = 790 unique participants │        │ •   Age <65 years at discharge (n=68) │
└─────────────────────────────┘        │ •   Without continuous Medicare Part A for │
              │──────────────────────▶ │     90 days following hospitalization (n=7) │
              ▼                        └─────────────────────────────────────┘
┌─────────────────────────────┐
│ n = 715 unique participants │        ┌─────────────────────────────────────┐
└─────────────────────────────┘        │ •   Discharged with hospice referral (n=25) │
              │──────────────────────▶ └─────────────────────────────────────┘
              ▼
┌─────────────────────────────┐
│ n = 690 unique participants │
└─────────────────────────────┘
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Abbreviations: SDOH – Social determinants of health; HF – Heart Failure; REGARDS- Reasons for geographic and racial differences in stroke
*First adjudicated heart failure admission in REGARDS- may include participants with evidence of prior HF

Supplemental Figure 3: Bivariate Associations of Social Determinants of Health (Correlation Coefficients)

Supplemental Table 1. Results from Competing Risk Analyses

Crude and Fully Adjusted Sub-distribution HRs of 30-Day Readmission Among REGARDS Participants Hospitalized for HF

	Crude			Model 1			Model 2		
SDOH	SHR	95% CI	P-value	SHR	95% CI	P-value	SHR	95% CI	P-value
Education	1.08	(0.75, 1.56)	0.68	1.08	(0.72, 1.60)	0.71	1.062994	(0.71, 1.59)	0.765
HPSA	1.46	(1.07, 2.00)	0.02	1.46	(1.05, 2.02)	0.03	1.341765	(0.95, 1.9)	0.097
Low income	0.95	(0.68, 1.33)	0.77	0.92	(0.63, 1.34)	0.67	0.875292	(0.6, 1.28)	0.491
Poor public health infrastructure	0.9	(0.65, 1.25)	0.53	0.86	(0.62, 1.21)	0.39	0.827374	(0.55, 1.24)	0.361
Black race	1.16	(0.84, 1.59)	0.37	1.13	(0.78, 1.64)	0.53	1.030328	(0.7, 1.51)	0.879
Rural residence	1.23	(0.76, 2.00)	0.4	1.19	(0.72, 1.97)	0.5	1.116862	(0.65, 1.92)	0.688
Social Isolation-care	0.95	(0.59, 1.53)	0.82	0.9	(0.55, 1.47)	0.68	0.8321	(0.5, 1.4)	0.487
Social Isolation-friends/family	1.31	(0.85, 2.02)	0.23	1.27	(0.81, 2.00)	0.3	1.241196	(0.77, 2)	0.374
Zip code level poverty	1.08	(0.74, 1.57)	0.69	0.98	(0.64, 1.51)	0.94	0.974542	(0.63, 1.51)	0.908

Crude – Individual SDOH: Education, HPSA, low income, poor public health infrastructure, black race, rural residence, social network, social isolation, zip code level poverty

Model 1- adjusted for other SDOH

Model 2 - adjusted for other SDOH, age, Charlson comorbidity index Current smoking, Impaired Cognition, discharge from nursing home, length of stay, and bed size of admitting hospital