SUPPLEMENTAL MATERIAL

Table S1. Association of depressive symptoms with incident heart failure hospitalization in REGARDS, (End of follow-up 12/31/2015). Full sequence of the Cox proportional hazards regression models.

Hazard ratios, 95% confidence intervals for CES-D score $\geq$ 4

	Overall HF HR,95%CI	HFpEF (EF ≥50 %) HR,95%CI	HFrEF (EF < 50 %) HR,95%CI
Total sample, N=26,268			
Crude	**1.37(1.12-1.68)**	**1.65(1.24-2.21)**	1.17(0.88-1.55)
Model 1[a]	**1.36(1.11-1.68)**	**1.58(1.17-2.13)**	1.21(0.90-1.61)
Model 2[b]	1.16(0.94-1.43)	**1.37(1.01-1.85)**	1.00(0.75-1.34)
Model 3[c]	1.07(0.86-1.33)	1.26(0.93-1.72)	0.92(0.69-1.24)
Model 4[d]	1.07(0.87-1.32)	1.27(0.93-1.72)	0.91(0.68-1.22)
Model 5 SHR, 95%CI	1.00(0.80-1.25)	1.21(0.88-1.67)	0.87(0.64-1.16)
Free of CHD at baseline, n=21,888			
Crude	**1.49(1.18-1.92)**	**1.98(1.40-2.84)**	1.15(0.79-1.66)
Model 1	**1.40(1.08-1.82)**	**1.72(1.19-2.47)**	1.14(0.78-1.67)
Model 2	**1.31(1.01-1.70)**	**1.62(1.12-2.33)**	1.06(0.72-1.55)
Model 3	1.23(0.95-1.60)	**1.53(1.06-2.22)**	1.00(0.68-1.47)
Model 4	1.24(0.96-1.62)	**1.54(1.06-2.23)**	1.00(0.69-1.47)
Model 5 SHR, 95%CI	1.17(0.89-1.53)	**1.48(1.00-2.18)**	0.95(0.65-1.40)
Baseline CHD, n=3,879*			
Crude	1.02(0.73-1.43)	1.01(0.60-1.70)	1.03(0.67-1.59
Model 1	1.08(0.76-1.53)	1.11(0.65-1.91)	1.05(0.67-1.66)
Model 2	0.97(0.68-1.38)	1.00(0.58-1.73)	0.85(0.53-1.36)
Model 3	0.87(0.61-1.23)	0.89(0.51-1.54)	0.85(0.53-1.36)
Model 4	0.86(0.60-1.22)	0.90(0.52-1.56)	0.81(0.50-1.29)
Model 5 SHR, 95%CI	0.79(0.54-1.15)	0.86(0.49-1.52)	0.78(0.48-1.27)

CES-D – CI-confidence interval, CHD-coronary heart disease, EF – ejection fraction, IR- incident rate, HR-hazards ratio, SHR- Sub-distribution Hazard Ratio

Model 1 adjusts for depressive symptoms, age, race, sex, region, education, income, marital status

Model 2 adjusts for model 1 plus systolic blood pressure, body mass index, use of any antihypertensive medication, diabetes, log-transformed urinary albumin to creatinine ratio, log-transformed high sensitivity C-reactive protein, baseline coronary artery disease for models in total sample, medication adherence, pack-years of smoking, alcohol use and physical inactivity

Model 3 adjusts for model 3 covariates plus having health insurance, primary care provider and self-reported physical health component score of SF-12 scale

Model 4 adjusts for Model 3 covariates and adds intervening non-fatal myocardial infarction on/before incident HF hospitalization as a time-varient covariate

Model 5 adjusts for Model 3 covariates and presents SHR for depressive symptoms when death from all causes is accounted for as a competing risk outcome.

Bolded p <.05

*501 missing baseline CHD status

Table S2 Association of depressive symptoms with incident heart failure hospitalization in REGARDS, (End of follow-up 12/31/2015). Sub-distribution Hazards Ratio for Depressive Symptoms associated with Heart Failure with preserved Ejection Fraction and Heart Failure with reduced Ejection Fraction, assessed together as competing risk.

Incident hospitalization, Heart Failure subtype	Total sample, N=26,268		Free of CHD, n=21,888		CHD at baseline n= 3,879	
	CES-D < 4 N=23547	CES-D > 4 N=2725	CES-D < 4 n=19724	CES-D ≥ 4 n=2164	CES-D < 4 n=3388	CES-D ≥ 4 n=491
		aSHR,95%CI		aSHR,95%CI		aSHR,95%CI
HFpEF	REF	1.28(0.93-1.77)	REF	**1.52(1.05-2.11)**	REF	0.95(0.55-1.68)
HFrEF	-	0.92(0.68-1.41)	-	0.99(0.68-1.45)	-	0.85(0.52-1.37)

CES-D – Center for epidemiological studies depression scale, CI-confidence interval, CHD-coronary heart disease, HFpEF –Heart failure with preserved ejection fraction, HFrEF–Heart failure with reduced ejection fraction, aSHR-Adjusted Sub-distribution Hazard Ratio.

All models estimates sub-distribution hazard ratio for incident HFpEF hospitalization in the presence of HFrEF as a competing risk and vice versa and adjusts for depressive symptoms, age, race, sex, region, education, income, marital status, systolic blood pressure,   body mass index, use of any antihypertensive medication, diabetes, log-transformed urinary albumin to creatinine ratio, log-transformed high sensitivity C-reactive protein, baseline coronary artery disease (only for model in total sample), medication adherence, pack-years of smoking, alcohol use, physical inactivity, health insurance, primary care provider and self-reported physical health component score of SF-12 scale.

Table S3 Association of depressive symptoms as a continuous CES-D score with incident heart failure hospitalization in REGARDS, (End of follow-up 12/31/2015).

Incident hospitalization, Heart Failure subtype	Total sample, N-26,268 CES-D Score (per 1 point increase in score)	Free of CHD n=21,888 CES-D Score (per 1 point increase in score)	CHD at baseline n= 3,879 CES-D Score (per 1 point increase in score)
	aHR,95%CI	aHR,95%CI	aHR,95%CI
Overal Heart Failure	1.03(0.99-1.06)	1.04(1.00-1.09)	1.00(0.95-1.06)
HFpEF	**1.06(1.01-1.10)**	**1.07(1.01-1.14)**	1.02(0.96-1.08)
HFrEF	1.00(0.96-1.05)	1.03(0.95-1.12)	0.99(0.92-1.07)

CES-D – Center for epidemiological studies depression scale (score range 0-12), CI-confidence interval, CHD-coronary heart disease, HFpEF–Heart failure with preserved ejection fraction, HFrEF–Heart failure with reduced ejection fraction, aHR- Adjusted Hazard Ratio.

All models adjust for depressive symptoms, age, race, sex, region, education, income, marital status, systolic blood pressure,   body mass index, use of any antihypertensive medication, diabetes, log-transformed urinary albumin to creatinine ratio, log-transformed high sensitivity C-reactive protein, baseline coronary artery disease (only for models in total sample), medication adherence, pack-years of smoking, alcohol use, physical inactivity, health insurance, primary care provider and self-reported physical health component score of SF-12 scale.