SUPPLEMENTAL MATERIAL

Table S1. Association between depressive symptoms and risk of incident HFpEF per unit increase in CES-D score.

	n	Events	HR (95% CI)	P
HFpEF				
Adjusted for demographic covariates, socioeconomic indicators, health behaviors, prevalent chronic conditions, and CV risk factors*	4,758	125	1.07 (1.02 - 1.14)	0.01
+ echo †	4,710	123	1.07 (1.02 - 1.13)	0.01
+ cardiac biomarkers ‡	4,418	118	1.08 (1.02 - 1.14)	0.009
+ CRP	4,416	118	1.08 (1.02 - 1.14)	0.009

*Demographic covariates include age, sex, and race; socioeconomic indicators include income and education; health behaviors include smoking, drinking, and physical activity; prevalent chronic conditions and CV risk factors include hypertension, diabetes, stroke, prevalent CHD, BMI, heart rate, eGFR

† Echo includes LVMi, LV mean wall thickness, e', and E/e'

‡ Cardiac biomarkers include NT-proBNP and Troponin T

CI = confidence interval; HR = hazard ratio; other abbreviations as in **Table 1**

Table S2. Adjusted Hazard Ratios for depressive symptoms and risk of incident HFpEF or HF with unknown LVEF and HFrEF or HF with unknown LVEF.

	n	Events	HR (95%)	p
HFpEF or HF with unknown LVEF				
Model 1*	5,086	177	1.09 (1.04 - 1.14)	0.001
Model 2†	4,758	161	1.06 (1.01 - 1.11)	0.02
HFrEF or HF with unknown LVEF				
Model 1*	5,086	167	1.06 (1.01 - 1.11)	0.02
Model 2†	4,758	149	1.01 (0.96 - 1.07)	0.64

* Model 1 adjusts for demographics (age, sex, race, and field center)

† Model 2 adjusts for model 1, socioeconomic indicators (education, income), health behaviors (smoking, drinking, physical activity), prevalent chronic conditions and CV risk factors (hypertension, diabetes, atrial fibrillation, stroke, history of myocardial infarction, prevalent CHD, BMI, heart rate, eGFR)

CI = confidence interval; HR = hazard ratio

Table S3. Sensitivity analysis with adjusted Hazard Ratios for incident HFpEF adjusting for cognition and medical adherence.

	n	Events	HR (95 % CI)	p
Medical adherence				
Model 2*	4,663	125	1.07 (1.02 - 1.14)	0.01
Model 3†	4,663	125	1.08 (1.02 - 1.14)	0.01
Cognition				
Model 2*	4,753	125	1.07 (1.02 - 1.14)	0.01
Model 4‡	4,753	125	1.07 (1.02 - 1.14)	0.01

* Model 2 adjusts for demographics (age, sex, race, field center), socioeconomic indicators (education, income) health behaviors (smoking, drinking, physical activity, prevalent chronic conditions and CV risk factors (hypertension, diabetes, atrial fibrillation, stroke, history of myocardial infarction, prevalent CHD, BMI, heart rate, eGFR)

† Model 3 adjusts for model 2, and medical adherence

‡ Model 4 adjusts for model 2, and cognition

CI = confidence interval; HR = hazard ratio

Table S4. Association between depressive symptoms and incident HFpEF and HFrEF after excluding events occurring in the first year of follow-up.

Outcome	Events	Model 1*		Model 2†	
		HR (CI 95%)	P-value	HR (CI 95%)	P-value
HFpEF	122	1.11 (1.05 – 1.17)	0.001	1.08 (1.02 – 1.15)	0.006
HFrEF	115	1.07 (1.00 – 1.13)	0.04	1.01 (.95 – 1.09)	0.67

* Model 1 adjusts for demographics (age, sex, race, and field center)

† Model 2 adjusts for demographics (age, sex, race, field center), socioeconomic indicators (education, income), health behaviors (smoking, drinking, physical activity), prevalent chronic conditions (hypertension, diabetes, atrial fibrillation, stroke, history of myocardial infarction, prevalent CHD, BMI, heart rate, eGFR)

CI = confidence interval; HR = hazard ratio

Table S5. **Association between depressive symptoms and risk of incident HFpEF using a forward selection model to determine model covariates for inclusion.**

	n	Events	HR (95% CI)	p
HFpEF				
Model covariates*	4,966	133	1.06 (1.01 - 1.12)	0.03
+ echo †	4,908	129	1.06 (1.00 - 1.11)	0.03
+ cardiac biomarkers ‡	4,603	122	1.06 (1.01 - 1.12)	0.02
+ CRP	4,601	122	1.06 (1.00 - 1.11)	0.03

*Model covariates include age, eGFR, hypertension, stroke, atrial fibrillation

† Echo includes LVMi, LV mean wall thickness, e', and E/e'

‡ Cardiac biomarkers include NT-proBNP and Troponin T

P-value for selection of covariates: 0.01

CI = confidence interval; HR = hazard ratio; other abbreviations as in **Table 1**

Table S6. **Association between depressive symptoms and risk of incident HFpEF using ARIC heart failure risk scores.**

	n	Events	HR (95% CI)	p
HFpEF				
ARIC HF risk score*	4,525	117	1.07 (1.01 - 1.13)	0.01
+ echo †	4,484	115	1.07 (1.01 - 1.13)	0.02
+ cardiac biomarkers ‡	4,183	109	1.08 (1.02 - 1.14)	0.005
+ CRP	4,181	109	1.08 (1.02 - 1.14)	0.006

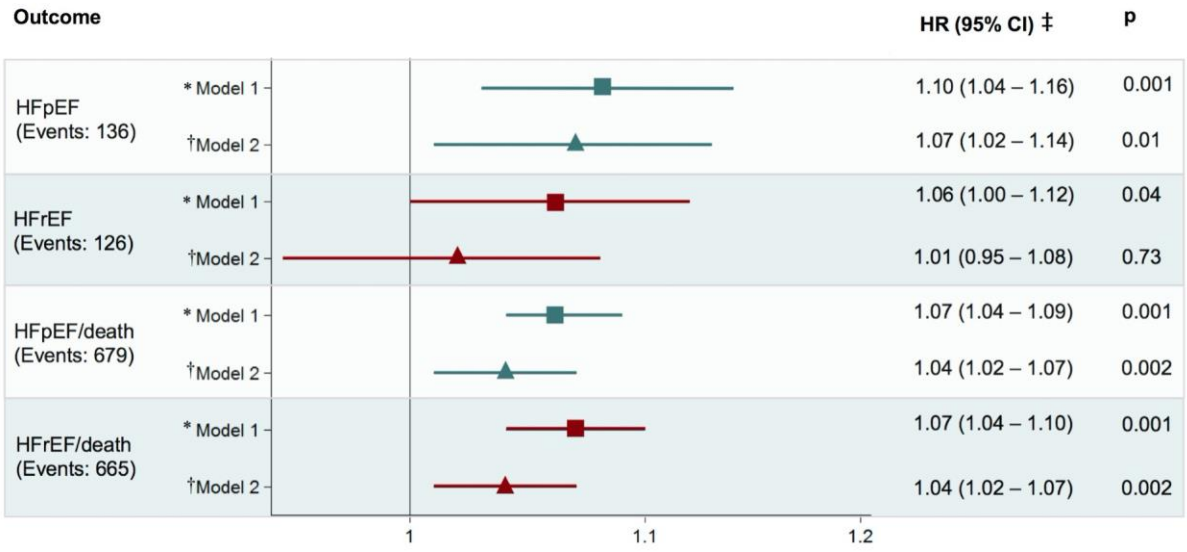
*ARIC HF risk score includes age, race, sex, heart rate, systolic blood pressure, hypertension BP-lowering medication use, diabetes, coronary heart disease, smoking, BMI

† Echo includes LVMi, LV mean wall thickness, e', and E/e'

‡ Cardiac biomarkers include NT-proBNP and Troponin T

CI = confidence interval; HR = hazard ratio; other abbreviations as in **Table 1**

Figure S1. Associations of depressive symptoms with incident HFpEF, HFrEF and the composite outcomes HFpEF/death and HFrEF/death.



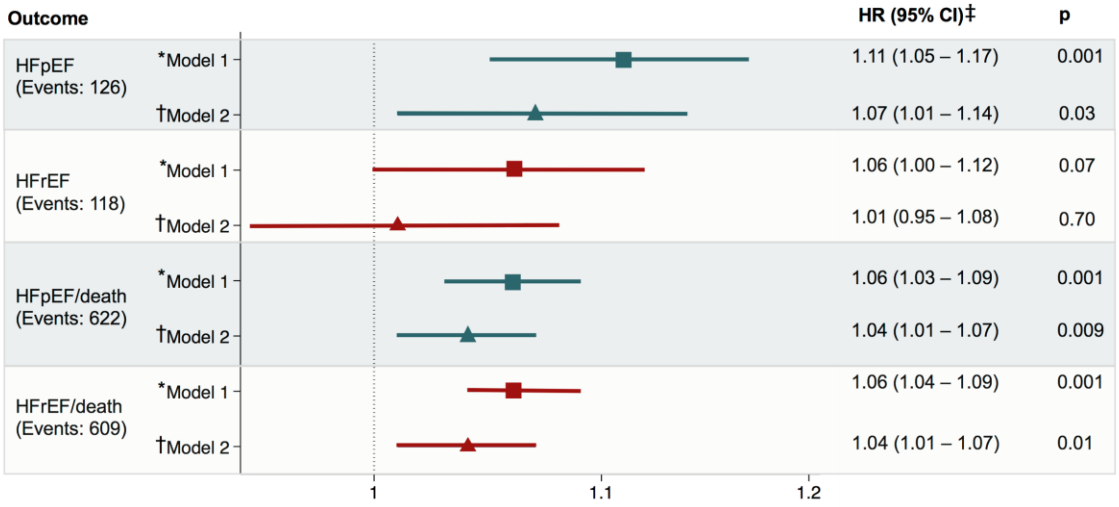
Greater depressive symptoms were associated with a higher risk of developing HFpEF but not HFrEF after adjusting for demographics and cardiovascular risk factors.

* Model 1 adjusts for demographics (age, sex, race, and field center)

† Model 2 adjusts for model 1, socioeconomic indicators (education and income), health behaviors (smoking, drinking, physical activity), prevalent chronic conditions and CV risk factors (hypertension, diabetes, atrial fibrillation, stroke, prevalent CHD, history of myocardial infarction, BMI, heart rate, eGFR)

‡ HR is per unit increase CES-D score

Figure S2. Associations of depressive symptoms with incident HFpEF, HFrEF and the composite outcomes HFpEF/death and HFrEF/death in models incorporating inverse probability weights§.



Greater depressive symptoms were associated with a higher risk of developing HFpEF but not HFrEF after adjusting for demographics and cardiovascular risk factors.

* Model 1 adjusts for demographics (age, sex, race, and field center)

† Model 2 adjusts for model 1, socioeconomic indicators (education, income), health behaviors (smoking, drinking, physical activity), prevalent chronic conditions and CV risk factors (hypertension, diabetes, atrial fibrillation, stroke, history of myocardial infarction, prevalent CHD, BMI, heart rate, eGFR)

‡ HR is per unit increase CES-D score

§ For inverse probability weights, Visit 5 non-attendance was modeled among participants alive at the initiation of Visit 5 using the following covariates from Visit 1: age, sex, race, field center, smoking, drinking, hypertension, diabetes, atrial fibrillation, stroke, income, education, history of myocardial infarction, prevalent CHD, physical activity, BMI, heart rate, eGFR.

CI = Confidence Interval; HR = Hazard Ratio; HFpEF = Heart Failure with Preserved Ejection Fraction; HFrEF = Heart Failure with Reduced Ejection Fraction