

SUPPLEMENTAL MATERIAL

Supplemental Appendix 1.

For the computation of NRI, three categorization approaches were applied to the predicted probabilities of HF within 6 years: (a) “<6%, 6 to 20%, and >20%”, (b) “<3%, 3 to 10%, and >10%”, and (c) category-less;¹ due to uncertainty about cutpoints for risk categories for HF. We compared the change of the predicted probabilities of HF within 6 years based on the risk categories given in (a) and (b) and the category-less approach (c). Based on the estimated risk categories and the predicted probabilities of HF within 6 years, calculated NRI and IDI values, their corresponding standard errors (SE), and the p-values for testing the null hypotheses of having zero NRI and IDI values were computed using Equations 3 through 15 from previous work by Pencina et al.²

Supplemental Appendix 2.

Effects of Interaction between NT-proBNP and other covariates in cox regression for incident HF

Interaction term	P		HR	95% CI	p
Log NT-proBNP × age	0.19	NT-proBNP	6.06	1.81-20.26	0.003
Log NT-proBNP × sex	0.79	NT-proBNP	2.63	1.92-3.61	<0.001
Log NT-proBNP × LV mass index	0.003	NT-proBNP	1.83	1.32-2.55	<0.001

HR per 1 pg/ml log NT-proBNP increment

Supplemental Appendix 3.

Cox regression analysis for incident HF in lower NT-proBNP (<112.5 pg/mL, n=4169) population with Model 3 covariates.

Variables	HR	95% CI	P-value
Age, per year	1.08	1.02-1.14	0.013
Male	1.06	0.30-3.77	0.93
Diabetes	4.52	1.65-13.38	0.003
Current Smoking	2.21	0.67-7.28	0.19
Systolic blood pressure, per mmHg	1.01	0.98-1.03	0.67
GFR, per mL/min	1.00	0.97-1.02	0.86
Antihypertensive medication use	1.48	0.54-4.09	0.45

Statin use	0.53	0.12-2.38	0.53
LDL-cholesterol, per mg/dl	1.01	0.99-1.03	0.28
HDL-cholesterol, per mg/dl	0.98	0.94-1.03	0.43
LV mass index, per 1SD	2.04	1.36-3.06	0.001
Log NT-proBNP, per 1SD	1.46	0.77-2.75	0.24

References

1. Pencina MJ, D'Agostino RB, Vasan RS. Statistical methods for assessment of added usefulness of new biomarkers. *Clin Chem Lab Med.* 2010;48:1703-1711.
2. Pencina MJ, D' Agostino RB, Vasan RS. Evaluating the added predictive ability of a new marker: From area under the ROC curve to reclassification and beyond. *Stat Med.* 2008;27:157-172.