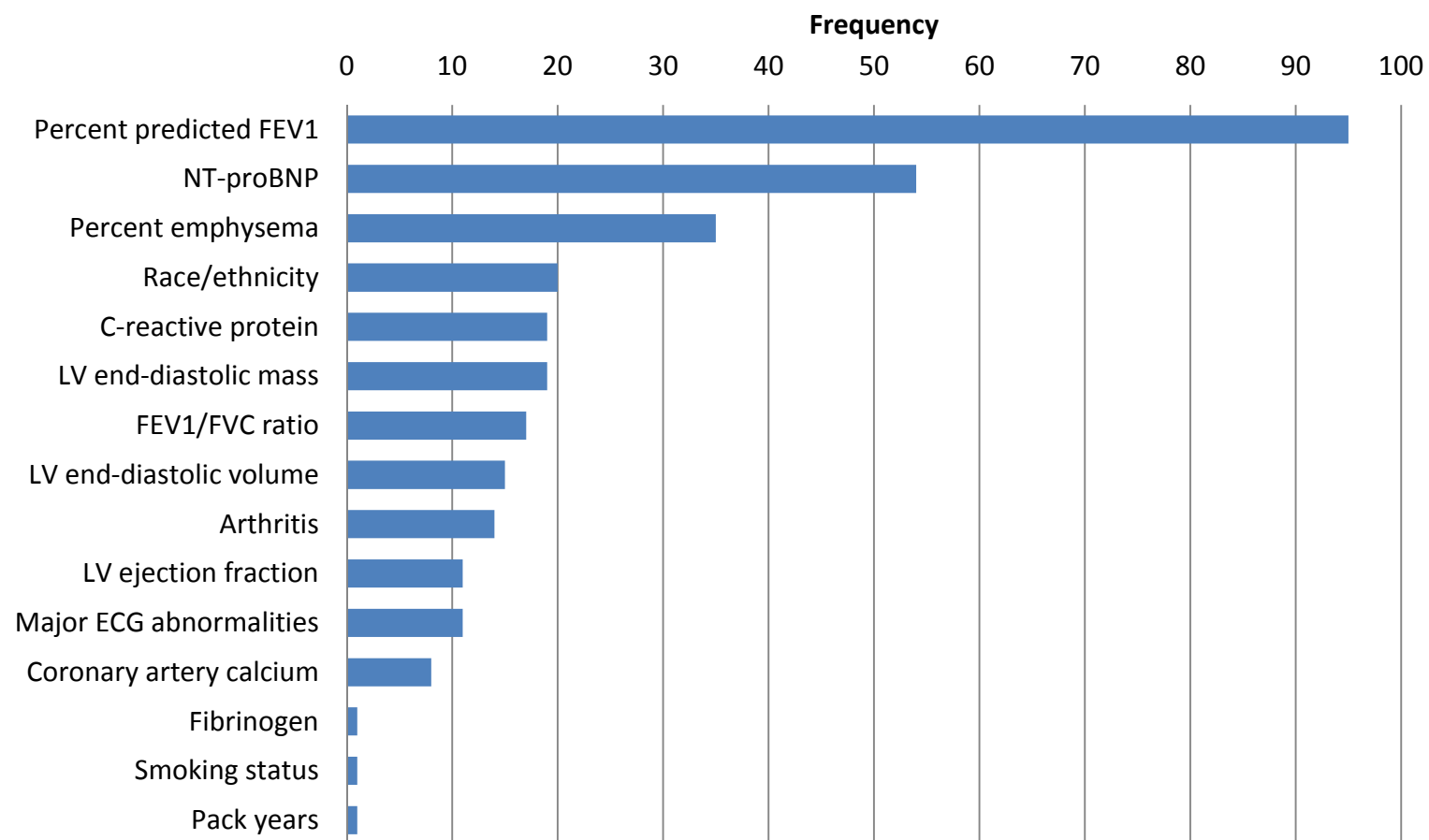
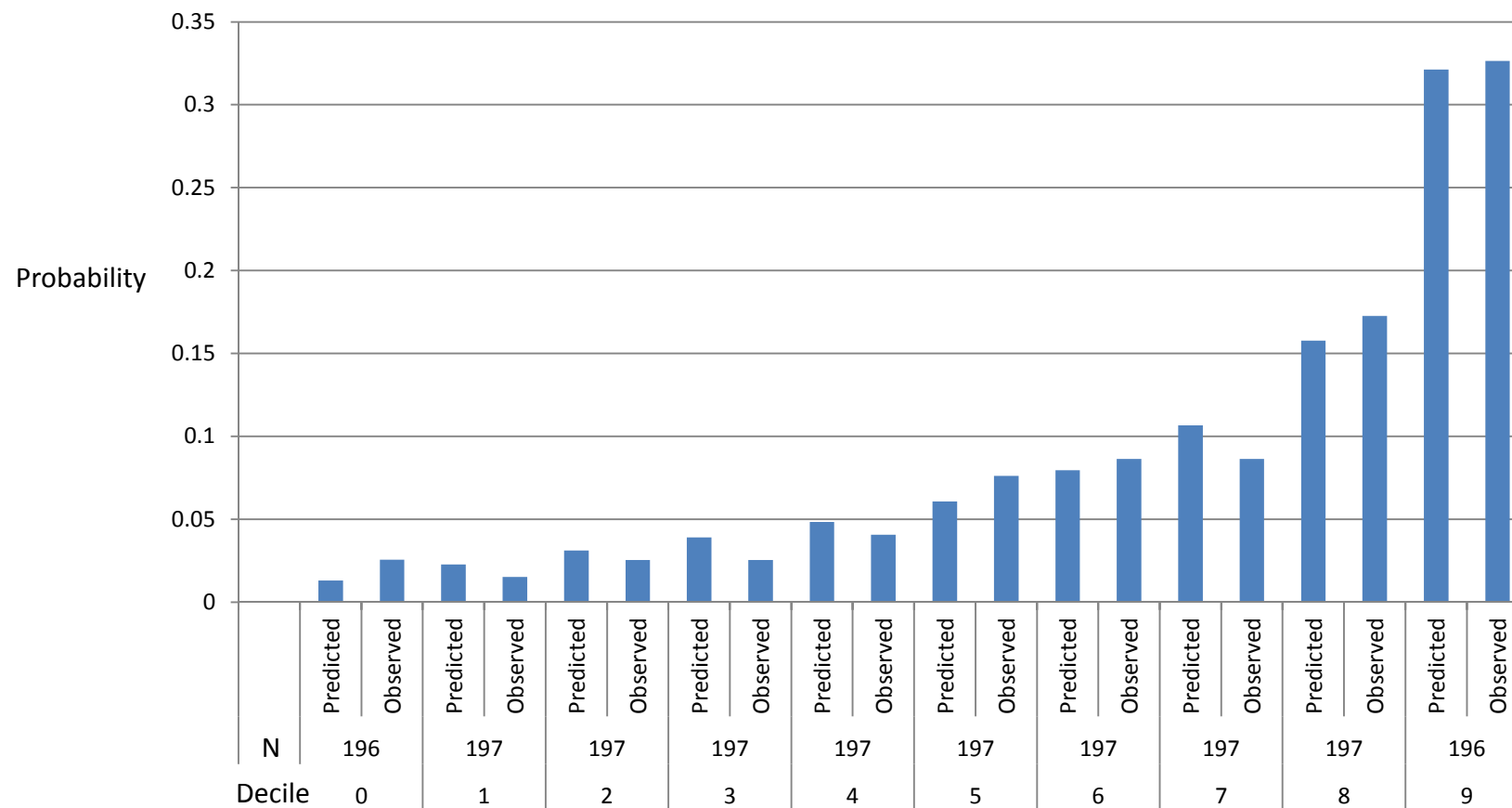


Supplementary Figure 1. Inclusion frequencies for predictors retained by backwards selection in 100 bootstrap samples. FEV1 = forced expiratory volume in one second. LV = left ventricular. FVC = forced vital capacity. ECG = electrocardiogram.



Supplementary Figure 2. Observed versus predicted probabilities of dyspnea, by decile of predicted probability, using backwards selection model.



Supplementary Table 1. Characteristics of participants with and without missing diagnostic data, excluding participants with pre-existing cardiopulmonary disease.^a

Characteristics	Study sample (N=1969)	Missing diagnostic data (N=3486)	p-value
Dyspnea	17 (8.8)	447 (12.8)	<0.001
Age (years)	62.4 (9.8)	64.4 (10.2)	<0.001
Male gender	1005 (51.0%)	1638 (47.0%)	0.004
Race			<0.001
White	691 (35.1%)	1446 (41.5%)	
Chinese	393 (20.0%)	268 (7.7%)	
Black	435 (22.1%)	1025 (29.4%)	
Hispanic	450 (22.9%)	744 (21.4%)	
Education			0.152
No High School	200 (10.2%)	367 (10.6%)	
High School	473 (24.0%)	898 (25.9%)	
Some college or associate's degree	535 (27.2%)	986 (28.4%)	
Bachelor's Degree	372 (18.9%)	598 (17.2%)	
Graduate or Professional Degree	388 (19.7%)	622 (17.9%)	
Body Mass Index (kg/m²)	27.3 (4.8)	28.6 (5.6)	<0.001
Smoking status			<0.001
Never	978 (49.7%)	1522 (43.7%)	
Former	805 (40.9%)	1548 (44.4%)	
Current	186 (9.5%)	416 (11.9%)	
Pack-years of smoking	0 (0, 15)	0.8 (0, 19)	0.043
Spielberger trait anxiety scale	15 (12, 18)	15 (12, 19)	0.935
Total intentional exercise (MET-hr/wk)	840 (105, 1838)	735 (0, 1830)	0.827
Leg pain	265 (13.5%)	598 (17.2%)	<0.001

^aNormally-distributed variables expressed as mean (standard deviation), and p-values pertain to two-sample T-tests. Non-normal variables expressed as median (interquartile range), and p-value derive from two-tailed Wilcoxon Two-Sample Tests with normal approximation. Categorical variables described as frequency (percent), and p-values pertain to chi-square tests. Kg = kilogram. M = meter. MET = metabolic equivalent. Hr = hour. Wk = week.

Supplementary Table 2. Pearson partial correlations between variables with at least model-based bivariate associations ($p < 0.50$), controlling for pre-specified covariates.^a

	Pack-years	Fibrinogen	CAC	NT-proBNP	LV end-systolic volume	LV ejection fraction	LV end-diastolic mass	Major ECG abnormality	Percent predicted FEV ₁	FEV ₁ /FVC	Percent emphysema
Pack-years	1.00										
Fibrinogen	0.010 <i>0.667</i>	1.00									
CAC	0.076 <i>0.001</i>	0.023 <i>0.327</i>	1.00								
NT-proBNP	0.052 <i>0.026</i>	0.039 <i>0.098</i>	0.129 <i><0.001</i>	1.00							
LV end-systolic volume	0.043 <i>0.066</i>	0.041 <i>0.080</i>	0.003 <i>0.901</i>	0.233 <i><0.001</i>	1.00						
LV ejection fraction	-0.064 <i>0.006</i>	-0.058 <i>0.013</i>	0.006 <i>0.801</i>	-0.088 <i><0.001</i>	-0.785 <i><0.001</i>	1.00					
LV end-diastolic mass	0.029 <i>0.216</i>	0.025 <i>0.285</i>	0.030 <i>0.192</i>	0.197 <i><0.001</i>	0.440 <i><0.001</i>	-0.194 <i><0.001</i>	1.00				
Major ECG abnormality	0.015 <i>0.522</i>	0.035 <i>0.128</i>	0.035 <i>0.135</i>	0.149 <i><0.001</i>	0.152 <i><0.001</i>	-0.082 <i><0.001</i>	0.188 <i><0.001</i>	1.00			
Percent predicted FEV ₁	-0.206 <i><0.001</i>	-0.067 <i>0.004</i>	0.007 <i>0.772</i>	-0.075 <i>0.001</i>	-0.005 <i>0.825</i>	0.037 <i>0.108</i>	-0.039 <i><0.091</i>	1.00			
FEV ₁ /FVC	-0.241 <i><0.001</i>	-0.008 <i>0.716</i>	-0.009 <i>0.687</i>	-0.067 <i>0.004</i>	-0.040 <i>0.085</i>	0.070 <i>0.003</i>	-0.027 <i>0.242</i>	-0.020 <i>0.399</i>	0.427 <i><0.001</i>	1.00	
Percent emphysema	0.027 <i>0.247</i>	-0.044 <i>0.058</i>	0.001 <i>0.965</i>	-0.014 <i>0.542</i>	-0.060 <i>0.009</i>	-0.001 <i>0.958</i>	-0.074 <i>0.002</i>	-0.015 <i>0.514</i>	0.016 <i>0.486</i>	-0.286 <i><0.001</i>	1.00
C-reactive protein	0.073 <i>0.002</i>	0.389 <i><0.001</i>	-0.011 <i>0.628</i>	0.160 <i><0.001</i>	0.061 <i>0.009</i>	-0.030 <i>0.205</i>	0.028 <i>0.228</i>	0.037 <i>0.116</i>	-0.027 <i>0.238</i>	-0.025 <i>0.290</i>	-0.021 <i>0.366</i>

^aItalic = p-values. Bold = $p < 0.05$.

The pre-specified covariates were: age, body mass index, gender, exercise, anxiety, and leg pain.

CAC = coronary artery calcium. NT-proBNP = N-Terminal pro-Brain Natriuretic Peptide. LV = left ventricular. RV = right ventricular. FEV₁ = forced expiratory volume in one second. FVC = forced vital capacity.

Supplementary Table 4. Prevalence of abnormal diagnostic test results, by self-reported dyspnea.^a

Abnormal Diagnostic Test Results	No dyspnea (N=1796)	Dyspnea (N=173)	P-value
FEV ₁ < LLN ^b	138 (7.7)	36 (20.8)	<0.001
FEV ₁ /FVC <0.7 ^c	149 (8.3)	26 (15.0)	0.003
Restrictive ventilatory defect ^d	117 (6.5)	20 (11.6)	0.013
Emphysema > ULN ^e	136 (7.6)	24 (13.9)	0.004
NT-proBNP > 300 pg/ml ^f	56 (3.1)	13 (7.5)	0.003
LV EF < 45% ^g	7 (0.4)	2 (1.2)	0.154
LV EDM > ULN ^h	97 (5.4)	13 (7.5)	0.248
Coronary artery calcium > 400 ⁱ	129 (7.2)	17 (9.8)	0.205
Major ECG abnormalities ^f			
Ventricular conduction defect	65 (3.6)	9 (5.2)	0.296
Major Q-wave abnormalities	14 (0.8)	5 (2.9)	0.007
Minor Q, Qs waves with ST-T abnormalities	7 (0.4)	2 (1.2)	0.154
Isolated ST-T wave abnormalities	65 (3.6)	6 (3.5)	0.919
Left ventricular hypertrophy	16 (0.9)	1 (0.6)	0.671
First degree atrio-ventricular block	51 (2.8)	6 (3.5)	0.638
Minor ECG abnormality	636 (35.4)	59 (34.1)	0.731

^aValues described as frequency (percent); p-values pertain to chi-square tests.

FEV₁ = forced expiratory volume in one second. LLN = lower limit of normal. FVC = forced vital capacity. ULN = upper limit of normal. NT-proBNP = N-terminal pro-Brain Natriuretic Peptide. Pg = picogram. ml = milliliter. LV EF = left ventricular ejection fraction. LV EDM = left ventricular end-diastolic mass. ECG = electrocardiogram.

^bFEV₁ dichotomized at the lower limit of normal.¹

^cFEV₁/FVC ratio dichotomized at 0.7.²

^dA restrictive ventilatory defect was classified as percent predicted FEV₁ (ppFEV₁) less than 80% with a normal FEV₁/FVC ratio.³

^eEmphysema dichotomized at the upper limit of normal.⁴

^fNT-proBNP dichotomized at 300 pg/ml.⁵

^gLV EF dichotomized at 45%.⁶

^hLV EDM dichotomized at the upper limit of normal.⁷

ⁱCAC was dichotomized at 400.⁸

^fClassified according to the Minnesota ECG code.⁹

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