

SUPPLEMENTAL MATERIAL

Table S1. Johns Hopkins ACG frailty-defining diagnosis indicators.

Domains	Examples
Malnutrition	Severe protein-calorie malnutrition
Dementia	Dementia with delirium
Impaired vision	Profound macular degeneration in both eyes
Decubitus ulcer	Decubitus ulcer
Incontinence	Incontinence of urine
Weight loss	Unintentional weight loss
Poverty	Inadequate housing or material resources
Barriers to access to care	No available medical facilities for care
Difficulty walking	Difficulty walking
Fall	Fall on steps

Table S2. Multivariable predictors of long-term mortality post CABG in the expanded model.

Variable		Main Model	Cluster by Site	Completeness of Revascularization Added
		HR (95% CI)	HR (95% CI)	HR (95% CI)
Frailty		1.20 (1.12-1.28)	1.20 (1.13-1.29)	1.20 (1.12-1.28)
Age Group	40-64	Reference	Reference	Reference
	65-74	1.61 (1.49-1.75)	1.61 (1.49-1.74)	1.60 (1.48-1.73)
	75-84	2.86 (2.63-3.10)	2.85 (2.63-3.09)	2.81 (2.59-3.06)
	≥ 85	4.44 (3.80-5.19)	4.38 (3.74-5.12)	4.28 (3.66-5.01)
Sex		1.06 (0.99-1.14)	1.06 (0.99-1.14)	1.06 (0.99-1.14)
Rural Residence		1.04 (0.96-1.13)	1.01 (0.93-1.10)	1.03 (0.95-1.12)
Rurality (Missing)		0.77 (0.23-2.61)	0.86 (0.25-2.89)	0.76 (0.23-2.57)
Income Quintile	1 (Lowest)	1.24 (1.12-1.36)	1.21 (1.10-1.34)	1.24 (1.13-1.37)
	2	1.16 (1.05-1.28)	1.15 (1.04-1.26)	1.16 (1.05-1.28)
	3	1.08 (0.98-1.19)	1.07 (0.97-1.18)	1.09 (0.98-1.20)
	4	1.12 (1.02-1.24)	1.12 (1.01-1.23)	1.12 (1.01-1.24)
	5 (Highest)	Reference	Reference	Reference
Missing		1.25 (0.80-1.96)	1.17 (0.75-1.83)	1.25 (0.80-1.95)
Remote MI		1.11 (1.04-1.19)	1.11 (1.04-1.19)	1.10 (1.03-1.18)
Recent MI		1.24 (1.16-1.32)	1.23 (1.15-1.31)	1.24 (1.16-1.32)
Previous PCI		0.94 (0.87-1.03)	0.94 (0.87-1.03)	0.95 (0.87-1.04)
Hypertension		1.22 (1.07-1.38)	1.22 (1.07-1.38)	1.22 (1.08-1.38)
Atrial Fibrillation		1.37 (1.26-1.49)	1.37 (1.25-1.49)	1.37 (1.26-1.50)
HF Status	pEF, No HF	Reference	Reference	Reference
	rEF, No HF	1.36 (1.25-1.48)	1.39 (1.28-1.51)	1.36 (1.26-1.48)
	HFpEF	2.00 (1.80-2.21)	1.98 (1.79-2.20)	1.99 (1.80-2.20)
	HFrEF	2.75 (2.53-2.98)	2.79 (2.57-3.03)	2.73 (2.51-2.96)
Cerebrovascular Disease		1.25 (1.15-1.35)	1.25 (1.16-1.36)	1.23 (1.14-1.34)
Peripheral Vascular Disease		1.78 (1.66-1.90)	1.75 (1.63-1.87)	1.78 (1.66-1.91)
COPD/Asthma		1.46 (1.37-1.55)	1.44 (1.36-1.53)	1.46 (1.37-1.55)
Diabetes		1.27 (1.20-1.35)	1.28 (1.20-1.36)	1.27 (1.19-1.35)
Morbid Obesity		1.05 (0.97-1.13)	1.03 (0.95-1.12)	1.04 (0.96-1.13)
Hypothyroidism		0.95 (0.76-1.18)	0.95 (0.76-1.18)	0.96 (0.76-1.20)
Anemia		1.17 (1.05-1.30)	1.18 (1.06-1.31)	1.17 (1.05-1.30)
Dialysis		1.84 (1.60-2.12)	1.87 (1.63-2.15)	1.86 (1.62-2.14)
Chronic Renal Disease		1.54 (1.38-1.70)	1.52 (1.37-1.68)	1.52 (1.37-1.69)
Liver Disease		2.09 (1.67-2.62)	2.11 (1.69-2.65)	2.10 (1.67-2.63)
Primary Tumor		1.80 (1.62-1.99)	1.79 (1.61-1.98)	1.80 (1.63-2.00)
Metastatic Tumor		1.76 (1.35-2.30)	1.73 (1.32-2.26)	1.82 (1.40-2.38)
Dementia		1.34 (1.00-1.81)	1.36 (1.01-1.84)	1.35 (1.00-1.82)
Emergent Surgery		1.39 (1.26-1.54)	1.40 (1.27-1.55)	1.36 (1.23-1.50)
Incomplete Revascularization		--	--	1.19 (1.12-1.27)

* HF, heart failure; pEF, preserved ejection fraction; rEF, reduced ejection fraction; MI, myocardial infarction; PCI, percutaneous coronary intervention; COPD, chronic obstructive pulmonary disease; HR = hazard ratio; CI = confidence interval