

SUPPLEMENTARY APPENDIX:

eTable 1: Full list of variables considered for 180-day readmission risk model	
Variable	Categories
Any Activity of Daily Living (ADL) domain impaired	1=Yes, 0=No
Avoided health care services because of cost	1=Yes, 0=No
Body mass index (BMI)	1=Low or Normal weight: BMI < 25, 2=Overweight: 25 <= BMI < 30, 3=Obese: BMI >= 30
Calculated age	Numerical
2 or more episodes of severe chest pain (angina) 24 hours before going to hospital	1=Yes, 0=No
Controlled Word Association Test (COWAT): Total S words	Numerical
ECG Changes	1=No ischemic ECG changes, 2=ST segment depression or T wave inversion in 2 contiguous leads, 3=ST segment elevation
Highest level of education	1= ≤12 years 0= or less
Finances at the end of the month	1=Some money left over, 2=Just enough to make ends meet, 3=Not enough to make ends meet
Number of falls in past year	1=Two or more 0=None or one
Respirations (first available)	Numerical
First diastolic blood pressure categories	1=<50, 2=50-59, 3=60-69, 4=70-79, 5=80-89, 6=90-99, 7=>=100
First heart rate categories	1=<50, 2=50-69, 3=70-79, 4=80-89, 5=90-99, 6=100-109, 7=110-129, 8=130-149, 9=>=150

First systolic blood pressure categories	1=<80, 2=80-99, 3=100-109, 4=110-119, 5=120-129, 6=130-139, 7=140-159, 8=160-179, 9=>=180
Glomerular filtration rate (Initial)	Numerical
Weak grip strength	1=Yes, 0=No
Hearing impaired (how much does your hearing interfere with your activities?)	1=not at all 2=a little 3=a moderate amount 4=a lot
In-hospital adverse event - Acute kidney injury*	1=Yes, 0=No
In hospital adverse event - Arrhythmia*	1=Yes, 0=No
In hospital adverse event - Bleeding*	1=Yes, 0=No
In hospital adverse event - Heart Failure*	1=Yes, 0=No
In hospital adverse event - Hyperglycemia*	1=Yes, 0=No
In-hospital LVEF categories	1= >=50%, 2= 40-50%, 3= 30-40%, 4= <30%
Hemoglobin initial value (first available)	Numerical
Killip Class	0=Killip I, 1=Killip II, III or IV
Live alone	1=Yes, 0=No
Length of stay (days)	Numerical
Male	1=Yes, 0=No
Marital status	1= Married or living as married / living with partner, 2= Divorced / separated / single / widowed
SF-12 general health status	1=Excellent 2=very good 3=good 4=fair/poor
Final reconciled AMI diagnosis	1= NSTEMI, 0= STEMI,
Able to walk 1/4 mile 1 month before going to hospital	1=Yes, 0=No
Non sinus rhythm (1st or 2nd ECG)	1=Yes, 0=No
Race	1=non-white 0=white
Did not take prescribed medication because of the cost	1=Yes, 0=No
Time from symptom onset to presentation	1= ≥6 hours, 0= <6 hours

Peak troponin to upper limit of normal (ULN) ratio	Numerical
Depressive symptoms (PHQ positive screen)	1=Yes, 0=No
Aspirin on day of or within 24 hrs of admission	1=Yes, 0=No
ACEI/ARB within 24 hrs of admission	1=Yes, 0=No
Antiplatelet within 24 hrs of admission	1=Yes, 0=No
Beta blocker within 24 hrs of admission	1=Yes, 0=No
Statin within 24 hrs of admission	1=Yes, 0=No
Prior history of arrhythmias	1=Yes, 0=No
Prior history of coronary artery disease	1=Yes, 0=No
Prior history of cerebrovascular disease	1=Yes, 0=No
Prior history of heart failure	1=Yes, 0=No
Prior history of chronic obstructive pulmonary disease (COPD)	1=Yes, 0=No
Prior history of diabetes mellitus (DM)	1=Yes, 0=No
Prior history of hypertension	1=Yes, 0=No
Prior history of cancer	1=Yes, 0=No
Prior history of AMI	1=Yes, 0=No
Prior history of peripheral arterial disease (PAD)	1=Yes, 0=No
Prior history of peptic ulcer disease	1=Yes, 0=No
Prior cardiac revascularization	1=Yes, 0=No
Prior history of sleep apnea	1=Yes, 0=No
Prior history of valve disease	1=Yes, 0=No
Current or ever smoker	1=Yes, 0=No
Social support: someone to help with chores	0=Most of the time/all of the time, 1=None of the time/a little of the time/some of the time
Social support: someone to confide in	0=Most of the time/all of the time, 1=None of the time/a little of the time/some of the time
Social support: someone to love and make you feel wanted	0=Most of the time/all of the time, 1=None of the time/a little of the time/some of the time
Social support: someone to relax with	0=Most of the time/all of the time, 1=None of the time/a little of the time/some of the time
Social support: someone to turn for suggestions	0=Most of the time/all of the time, 1=None of the time/a little of the time/some of the time
Telephone Interview for Cognitive Status (TICS) total score	Numerical

Timed Up and Go (functional mobility)	1=Completed in <= 15 seconds, 2=Completed in > 15 and <= 25 seconds, 3=Completed in > 25 seconds, 4=Unable to complete assessment
Cachexia (unintentional weight loss > 10 lbs. in past year)	1=Yes, 0=No
Visual impairment (vision at current time)	1=excellent 2=good 3=fair 4=poor/very poor/completely blind
White blood cell highest value	Numerical
<p>*Definitions for in-hospital complications:</p> <p><u>Acute kidney injury</u>: increase in serum creatinine of ≥ 0.3 mg/dL from baseline or ≥ 1.5 times baseline.</p> <p><u>Arrhythmia</u>: new-onset atrial fibrillation or ventricular tachycardia.</p> <p><u>Bleeding</u>: any intracranial bleed, hemoglobin drop $> 3g/dL$, blood transfusion, or bleeding requiring intervention.</p> <p><u>Heart failure</u>: physician-adjudicated decompensated heart failure, not present on admission.</p> <p><u>Hyperglycemia</u>: any blood sugar > 250 mg/dL.</p>	

eTable 2: Definition of functional impairments

Functional impairment	Definition	Reference
General cognitive impairment	Score on Telephone Interview for Cognitive Status (TICS) of 23-26 (mild) or ≤ 22 (moderate/severe).	¹³
Verbal fluency	Controlled Word Association TEST (COWAT) (analyzed continuously; lower score indicates worse function).	¹⁴
Vision Impairment	Derived from Visual Functioning Questionnaire (VFQ-25) items and defined as: <ul style="list-style-type: none"> • "At the present time, would you say your eyesight using both eyes is excellent, good, fair, poor, or very poor or are you completely blind?" with responses of "fair," "poor," "very poor" or "completely blind" 	¹⁵
Hearing Impairment	Global question on dysfunction imposed by hearing impairment: , "How much does your hearing interfere with your activities?" with responses of "not at all," "a little," "a moderate amount," and "a lot".	¹⁶
Unintentional weight loss (cachexia)	Loss of >10 pounds in year prior to baseline interview.	
Activities of daily living (ADL) impairment	Self-reported impairment (needing partial help or completely dependent on others) in any of the following essential activities: (1) bathing; (2) dressing; (3) getting in and out of a chair (transferring); (4) ambulating.	¹⁷
Depressive symptoms	Score on Patient Health Questionnaire-8 (PHQ-8) ≥ 10 .	¹⁸
Grip strength	Based on highest measurement (of 3 attempts) using handheld dynamometer (B&L Engineering, Santa Ana, CA) with dominant hand. Sex-adjusted cutoffs for abnormal (weak) upper extremity strength: : Abnormal if <28.5 kg (men), <18.5 kg (women).	¹⁹
Functional mobility	Based on Timed Up and Go test (TUG). Mobility divided into four categories: (1) completed TUG in ≤ 15 seconds; (2) completed TUG in >15 to ≤ 25 seconds; (3) completed TUG in >25 seconds; (4) unable to complete TUG. "Impaired mobility" was defined as TUG >15 seconds or unable to complete TUG (categories 2,3,4).	²⁰
Fall history	Number of falls within past year (0 vs. 1 vs. ≥ 2).	

eTable 3: Full regression results for 180-day readmission risk model

	Beta	Standardized Beta	OR (95% CI)	P value
History of COPD	0.430	2.98	1.54 (1.16-2.04)	0.003
ECG changes (per level*)	0.144	2.47	1.15 (1.03-1.19)	0.014
First diastolic BP (mmHg, per 10 point increase)	-0.079	3.04	0.92 (0.88-0.97)	0.002
First heart rate (bpm, per level†)	0.055	2.08	1.06 (1.00-1.11)	0.038
Initial hemoglobin (per g/dL)	-0.106	4.22	0.90 (0.86-0.94)	<.001
Ejection fraction (per level‡)	0.110	2.30	1.12 (1.02-1.23)	0.021
Length of stay (per day)	0.019	2.33	1.02 (1.00-1.04)	0.020
History of heart failure	0.613	5.10	1.85 (1.46-2.34)	<.001
Short form 12 general health status (per level§)	0.159	3.30	1.17 (1.07-1.29)	0.001
Functional mobility (per level¶)	0.125	2.86	1.13 (1.04-1.23)	0.004
* Three categories: no ischemic ECG changes (reference), ST segment depression or T wave inversion in 2 contiguous leads, ST segment elevation † <50 bpm (reference), 50-69,70-79, 80-89, 90-99, 100-109, 110-129, 130-149, ≥150 ‡ ≥50% (reference), 40-50%, 30-40%, <30% § Excellent/very good (reference), good, fair, poor ¶ Completed Timed Up and Go in ≤15 seconds (reference), >15-25 seconds, >25seconds, unable to complete				

eTable 4: Sensitivity Analyses: Regression results for 180-day readmission risk model under different assumptions for readmission among early decedents				
	Original results OR (95% CI)	Alternative 1 OR (95% CI)	Alternative 2 OR (95% CI)	Alternative 3 OR (95% CI)
History of COPD	1.54 (1.16-2.04)	1.46 (1.12-1.91)	1.54 (1.16-2.04)	1.51 (1.15-2.00)
ECG changes (per level*)	1.15 (1.03-1.19)	1.15 (1.03-1.29)	1.16 (1.03-1.30)	1.16 (1.03-1.30)
First diastolic BP (mmHg, per 10 point increase)	0.92 (0.88-0.97)	0.91 (0.87-0.96)	0.92 (0.88-0.97)	0.92 (0.87-0.97)
First heart rate (bpm, per level†)	1.06 (1.00-1.11)	1.07 (1.02-1.13)	1.06 (1.00-1.11)	1.06 (1.01-1.12)
Initial hemoglobin (per g/dL)	0.90 (0.86-0.94)	0.88 (0.83-0.92)	0.90 (0.86-0.94)	0.88 (0.84-0.93)
Ejection fraction (per level‡)	1.12 (1.02-1.23)	1.13 (1.03-1.25)	1.12 (1.02-1.23)	1.13 (1.02-1.25)
Length of stay (per day)	1.02 (1.00-1.04)	1.02 (1.01-1.04)	1.02 (1.00-1.04)	1.02 (1.01-1.04)
History of heart failure	1.85 (1.46-2.34)	1.93 (1.53-2.42)	1.86 (1.46-2.36)	1.93 (1.53-2.43)
Short form 12 general health status (per level§)	1.17 (1.07-1.29)	1.23 (1.13-1.35)	1.17 (1.06-1.28)	1.22 (1.11-1.34)
Functional mobility (per level¶)	1.13 (1.04-1.23)	1.18 (1.08-1.29)	1.12 (1.03-1.22)	1.16 (1.06-1.26)
<p>Alternative scenarios to account for the competing risk of death among early decedents (62 died before readmission). Alternatives with the following assumptions for these participants: Alternative 1: Assume all early decedents were readmitted Alternative 2: Assume all early decedents were not readmitted Alternative 3: Assume readmissions of early decedents were missing at random</p> <p>* Three categories: no ischemic ECG changes (reference), ST segment depression or T wave inversion in 2 contiguous leads, ST segment elevation † <50 bpm, 50-69, 70-79, 80-89, 90-99, 100-109, 110-129, 130-149, ≥150 ‡ ≥50%, 40-50%, 30-40%, <30% § Excellent/very good, good, fair, poor ¶ Completed Timed Up and Go in ≤15 seconds, >15-25 seconds, >25seconds, unable to complete</p>				