SUPPLEMENTARY MATERIAL

eTable 1: Full list of variables considered for 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

*Definitions for in-hospital complications:

Acute kidney injury: increase in serum creatinine of ≥0.3 mg/dL from baseline or ≥1.5 times baseline.

Arrhythmia: new-obset atrial fibrillation or ventricular tachycardia.

Bleeding: any intracranial bleed, hemoglobin drop >3g/dL, blood transfusion, or bleeding requiring intervention.

Heart failure: physician-adjudicated decompensated heart failure, not present on admission.

Hyperglycemia: any blood sugar >250 mg/dL.

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: • "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; completed TUG in >15 to ≤25 seconds; (3) completed TUG in >25 seconds; (4) unable to complete TUG.	[20]
Fall history	Number of falls within past year (0 vs. 1 vs. ≥2).	

eTable 3. Posterior Effect Probabilities

Variable	Posterior Effect Probability* from 20 Imputations of Derivation Cohort (n=2004)

Number of Imputation (highlighted indicates positive value in 10 or more imputations)

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AKI	0	6	0	11.3	15	6.9	8.5	7.9	8	5.9	17.2	12.6	5.6	24.7	0	5.1	4.9	9.7	5.4	12
Alcohol prob	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Healthcare cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BMI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chest pain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Activity level	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastolic BP	0	2.2	0	2.8	2.1	2.2	10.8	6.9	7.7	5.8	13.1	12	6.1	9.5	0	9.4	0	6.6	5.2	3.1
Arrhyth hosp	0	0	0	0	2.1	0	0	0	0	0	2.3	1.7	1.8	2.4	0	1.5	0	1.9	1.8	0
Bleeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heart failure	8.3	0	19.6	15.4	7.3	0	3.5	0	0	0	1.5	0	0	2.9	0	1.4	5.8	0	0	0
EF	91.7	96.4	75.3	53.5	78.5	98.1	81.3	95.4	100	97	90.3	100	100	82.9	100	93.6	84.6	95.9	99	97
Killip class	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Living with	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antiplatelet	0	0	0	0	0	4.7	11.9	5	5.8	5.3	0	0	0	12	0	3.1	0	7.8	9.7	3.5
Beta blocker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arrhyth history	4.9	50.3	7.6	57.7	40.3	35.1	39.9	52.3	28.8	52.9	59.4	35.2	31.8	37.6	16.6	26.1	55.7	36.6	52.3	34
Cancer history	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COPD	0	44.2	7.2	44.4	44.8	28.1	31.3	30.2	26.6	42.7	28.5	34	27.4	44.3	14.7	37.5	0	41	48.7	18
PAD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prior revasc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Valvular dis	0	6	0	0	0	4.6	0	6.1	0	0	0	0	5.1	0	0	5	0	0	0	0
Revasc status	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SF 12 gen health	100	71.5	100	99.1	88.4	94.5	98.8	85.7	100	75.7	93.2	95.1	91.9	98.9	100	96.2	100	93.2	77.6	100

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Help chores	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TICS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TUG	9.9	100	15.8	100	100	70.4	100	100	60.7	100	100	74.8	71.6	100	32.9	79.2	0	87.9	100	59
Weight loss	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

	Posterior Effect Probability* from 20 Imputations of Validation Cohort (n=1002)																			
	Number of Imputation (highlighted indicates positive value in 10 or more imputations)																			
Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
AKI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Alcohol prob	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Healthcare cost	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BMI	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Chest pain	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Activity level	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Education	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Finances	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diastolic BP	47.4	52.1	0	47.3	49	50.6	48.6	49.5	51.9	51.4	51.1	50.3	47.7	48	48.2	50.7	49.3	51.5	50	51.7
Arrhyth hosp	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bleeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Heart failure	0	0	70.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Killip class	15.8	17.6	0	9.3	16	7.9	16.5	18.2	7	17.2	16.4	16.9	16.8	18	16.6	16.7	15.8	17.3	15	17.2
Living with	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Antiplatelet	6.8	0	3.7	10.6	6	8.3	5.3	2.3	6.9	0	0	0	0	3.3	2.1	0	0	0	0	0
Beta blocker	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Arrhyth history	0	0	26	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cancer history	0	0	3.6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
COPD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PAD	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Prior revasc	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Valvular dis	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Revasc status	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SF 12 gen health	0	0	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Help chores	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TICS	1.9	0	0	0	0	0	2.4	0	0	0	0	3	3.2	0	2.4	2.5	3.7	0	2.3	0
TUG	41.5	5.5	12.4	68.4	42	57.3	33	28.3	49.9	7.5	12.1	6.2	17.9	32	21.7	7.5	11.3	7.1	16	7.7
Weight loss	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

*Posterior effect probability = the probability that the predictor has a non-zero association with the mechanism that generates the outcome.

Classifications used in eTable 3

AKI	acute kidney injury (dichotomous)
Alcohol prob	alcohol problem (dichotomous)
Healthcare cost	avoided healthcare due to cost (dichotomous)
BMI	body mass index (ordinal categories)
Chest pain	chest pain before hospitalization (dichotomous)
Activity level	comparison active (categorical)
Education	education less than or equal to high school (dichotomous)

Finances	end of month finances (ordinal categories)
Diastolic BP	first diastolic blood pressure (ordinal categories)
Arrhyth hosp	in-hospital arrhythmia (dichotomous)
Bleeding	in-hospital bleeding (dichotomous)
Heart failure	in-hospital heart failure (dichotomous)
EF	in-hospital ejection fraction (ordinal categories)
Killip class	Killip class above one (dichotomous)
Living with	live with someone (dichotomous)
Male	male gender (dichotomous)
Antiplatelet	use of anti-platelet medication (dichotomous)
Beta blocker	use of beta-blockers (dichotomous)
Arrhyth history	prior history of arrhythmia (dichotomous)
Cancer history	prior history of cancer (dichotomous)
COPD	prior history of COPD (dichotomous)
PAD	prior history of peripheral artery disease (dichotomous)
Prior revasc	prior history of revascularization (dichotomous)
Valvular dis	prior history of valve disease (dichotomous)
Revasc status	revascularization status (categorical)
SF 12 gen health	Short Form 12 question on general health (ordinal categories)
Help chores	need someone to help with chores (dichotomous)
TICS	Telephone Interview for Cognitive Status (categorical)
TUG	Timed Up and Go (categorical)
Weight loss	unintended weight loss in last year (dichotomous)

eTable 4: Full regression results for 30-day readmission risk model				
	Beta	**Standardized Beta**	**OR (95% CI)**	**P value**
TUG >25 seconds	0.618281	3.55	1.86 (1.32-2.61)	0.0004
COPD	0.415968	2.76	1.52 (1.13-2.04)	0.0058
Unable to complete TUG	0.395818	1.99	1.49 (1.01-2.19)	0.0462
TUG 15-25 seconds	0.375748	1.85	1.46 (0.98-2.17)	0.0642
Prior arrhythmia	0.309003	3.04	1.36 (1.12-1.66)	0.0023
Acute kidney injury	0.284460	2.05	1.33 (1.01-1.74)	0.0405
Ejection fraction	0.176471	3.26	1.19 (1.07-2.33)	0.0011
Short form 12 general health status	0.162956	2.61	1.18 (1.04-1.33)	0.0090
Diastolic BP (mmHg per 10 point increase)	-0.075392	2.50	0.93 (0.87-0.98)	0.0126
P2Y12 inhibitor use	-0.224867	1.63	0.80 (0.61-1.05)	0.1035

eFigure 1. SILVER-AMI Screening/Enrollment Details

| Met inclusion criteria
N=9049 |

Died prior to enrollment: 338
Transferred >48 hours: 404
AMI 2/2 chest trauma: 25
AMI 2/2 procedure/surgery: 105
Takotsubo: 64
Hx heart transplant: 8
Non-English/Spanish speaking: 332
Unable to interview (comatose/aphasia): 364
Dec. impairment/no proxy: 419
Unable to follow up: 50
Prisoner: 6
Previously enrolled in SILVER: 32
Other:
   Unable to complete consent (e.g., discharged): 1116
   Met inclusion but clinical judgement of team is no
   AMI present: 268
   MD refusal: 55
   Coordinator discretion: 409

| Eligible after applying
inclusion and exclusion criteria
n=5054 |

Refused to participate: 1892
Lost for unknown reason: 11

| Enrolled (eligible and consented)
N=3151 |

Did not complete baseline interview:
   Post-consent refusal: 29
   Too ill: 2
   Died after consenting: 3
   Unable to interview w/in 7 days: 21
   Reason not specified: 1

| Baseline interview conducted
N=3095 |

Medical records reviewed by two Yale physicians and concluded AMI eligibility criteria not met: 54

| Final analysis cohort
N=3041 |