

SUPPLEMENTARY TABLES

Supplementary Table S1. Administrative codes used for identification of diagnoses and procedures

Comorbidity	International Classification of Diseases 9.0 Clinical Modification codes
Cardiac arrest	427.5, 427.41, 99.60, 99.63
Ventricular tachycardia/fibrillation	427.4, 427.41, 427.42, 427.1
Coronary angiography	37.22, 37.23, 88.53-88.56
Percutaneous coronary intervention	00.66, 36.01, 36.02, 36.05, 36.06, 36.07, 88.57
Invasive hemodynamic assessment	89.63, 89.64, 89.66, 89.67, 89.68
Mechanical circulatory support	37.61, 37.68, 39.65
Invasive mechanical ventilation	96.7, 96.70, 96.71, 96.72
Hemodialysis	39.95
Hepatic failure	570.0, 572.2, 573.3, 573.4
Respiratory failure	518.81, 518.82, 518.85, 786.09, 799.1, 96.7, 96.70, 96.71, 96.72
Renal failure	584, 584.5, 584.6, 584.7, 584.8, 584.9
Hematologic failure	286.6-286.9, 287.4, 287.5
Neurological failure	293, 293.0, 293.1, 293.8, 293.81-293.84, 293.89, 293.9, 348.1, 348.3, 348.30, 348.81, 348.39, 780.01, 780.09, 89.14

Supplementary Table S2: Multivariable regression for in-hospital mortality in for LOS in AMI

Total cohort (N=11,622,528)		Odds ratio	95% confidence interval		P
			Lower Limit	Upper Limit	
LOS ≤ 3 days		Reference category			
LOS > 3 days		3.00	2.98	3.02	<0.001
Age (years)	<75 years	Reference category			
	>75 years	0.48	0.47	0.48	<0.001
Female sex		0.86	0.85	0.86	<0.001
Race	White	Reference category			
	Black	0.95	0.95	0.96	<0.001
	Others ^a	0.84	0.83	0.85	<0.001
Primary payer	Medicare	Reference category			
	Medicaid	1.07	1.05	1.08	<0.001
	Private	0.90	0.88	0.92	<0.001
	Others ^b	0.70	0.69	0.72	<0.001
Year	2000-2005	Reference Category			
	2006-2011	2.10	2.08	2.12	<0.001
	2012-2014	1.33	1.32	1.34	<0.001
Quartile of median household income for zip code	0-25 th	Reference category			
	26 th -50 th	1.11	1.10	1.12	<0.001
	51 st -75 th	1.08	1.07	1.09	<0.001
	75 th -100 th	1.02	1.02	1.03	<0.001
Hospital teaching status and location	Rural	Reference category			
	Urban Non-Teaching	0.79	0.78	0.79	<0.001

	Urban Teaching	0.85	0.85	0.86	<0.001
Hospital bed-size	Small	Reference category			
	Medium	1.04	1.01	1.07	<0.001
	Large	1.08	1.05	1.11	<0.001
Hospital region	Northeast	Reference category			
	Midwest	1.26	1.25	1.28	<0.001
	South	1.18	1.17	1.19	<0.001
	West	1.29	1.28	1.30	<0.001
Charlson Comorbidity Index	0-3	Reference category			
	4-6	0.31	0.31	0.32	<0.001
	≥ 7	0.70	0.69	0.71	<0.001
Type of AMI	ST-segment elevation	Reference category			
	Non-ST-segment elevation	2.02	2.02	2.03	<0.001
Multi-organ failure		0.22	0.22	0.23	<0.001
Cardiac arrest		0.10	0.10	0.17	<0.001
Cardiogenic shock		0.39	0.38	0.39	<0.001
Atrial fibrillation		0.78	0.78	0.79	<0.001
Atrial flutter		1.13	1.11	1.15	<0.001
Coronary angiography		2.52	2.50	2.55	<0.001
Percutaneous coronary intervention		2.28	2.26	2.31	<0.001
Coronary artery bypass grafting		1.42	1.40	1.44	<0.001
Pulmonary artery catheterization		0.73	0.72	0.75	<0.001
Mechanical circulatory support		0.44	0.44	0.45	<0.001
Non-invasive mechanical ventilation		0.63	0.62	0.64	<0.001
Invasive mechanical ventilation		0.28	0.28	0.29	<0.001

Acute hemodialysis	0.47	0.46	0.48	<0.001
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Legend: ^aHispanic, Asian or Pacific Islander, Native American, Others; ^bSelf-Pay, No Charge, Others

Abbreviations: AMI: acute myocardial infarction, LOS: length of stay