

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
Cardiogenic shock	785.51
Acute kidney injury	584, 584.5, 584.6, 584.7, 584.8, 584.9
Respiratory failure	518.81, 518.82, 518.85, 786.09, 799.1, 96.7, 96.70, 96.71, 96.72
Hepatic failure	570.0, 572.2, 573.3, 573.4
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
Invasive hemodynamic assessment	37.21, 37.23, 204
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
Intra-aortic balloon pump	37.61
Percutaneous mechanical circulatory support	37.68
Extra-corporeal membrane oxygenation	39.65
Invasive mechanical ventilation	96.7, 96.70, 96.71, 96.72

Table S2 Predictors of coronary angiography use in non-ST-segment elevation myocardial infarction

NSTEMI admissions	Odds ratio	95% confidence interval		P	
		Lower Limit	Upper Limit		
Insurance type	Medicare	Reference category			
	Medicaid	0.88	0.87	0.89	<0.001
	Private	1.38	1.38	1.39	<0.001
	Uninsured	1.18	1.17	1.19	<0.001
	Others	1.19	1.17	1.20	<0.001
Age groups (years)	18-49	Reference category			
	50-59	0.95	0.94	0.95	<0.001
	60-69	0.89	0.88	0.89	<0.001
	70-79	0.78	0.77	0.79	<0.001
	≥80	0.31	0.31	0.31	<0.001
Female sex	0.83	0.83	0.84	<0.001	
Race	White	Reference category			
	Black	0.59	0.59	0.59	<0.001
	Others	0.88	0.87	0.88	<0.001

Table S2 (continued)

Table S2 (continued)

NSTEMI admissions		Odds ratio	95% confidence interval		P
			Lower Limit	Upper Limit	
Charlson comorbidity index	0-3		Reference category		
	4-6	0.75	0.75	0.75	<0.001
	≥7	0.48	0.48	0.48	<0.001
Quartile of median household income for zip code	0-25 th		Reference category		
	26 th -50 th	1.02	1.02	1.03	<0.001
	51 st -75 th	0.97	0.96	0.97	<0.001
	75 th -100 th	0.92	0.91	0.92	<0.001
Weekend admission		0.91	0.90	0.91	<0.001
Hospital teaching status and location	Rural		Reference category		
	Urban Non-Teaching	2.61	2.59	2.62	<0.001
	Urban Teaching	4.86	4.83	4.89	<0.001
Hospital bed-size	Small		Reference category		
	Medium	1.61	1.60	1.62	<0.001
	Large	2.94	2.93	2.96	<0.001
Hospital region	Northeast		Reference category		
	Midwest	1.76	1.75	1.77	<0.001
	South	1.53	1.52	1.54	<0.001
	West	1.27	1.27	1.28	<0.001
Tertiles of admissions year	2000-2005		Reference category		
	2006-2011	1.38	1.37	1.39	<0.001
	2012-2017	1.70	1.69	1.71	<0.001
Cardiogenic shock		1.18	1.16	1.19	<0.001
Cardiac arrest		0.75	0.74	0.75	<0.001
Do-not-resuscitate status		0.28	0.27	0.28	<0.001
Palliative care referral		0.27	0.27	0.28	<0.001

Table S3 Predictors of in-hospital mortality in non-ST-segment elevation myocardial infarction

NSTEMI admissions		Odds ratio	95% confidence interval		P
			Lower Limit	Upper Limit	
Insurance type	Medicare		Reference category		
	Medicaid	0.95	0.92	0.97	<0.001
	Private	0.77	0.75	0.78	<0.001
	Uninsured	0.97	0.94	1.00	0.06
	Others	1.15	1.11	1.19	<0.001
Age groups (years)	18-49		Reference category		
	50-59	1.52	1.46	1.57	<0.001
	60-69	1.96	1.90	2.03	<0.001
	70-79	2.80	2.71	2.90	<0.001
	≥80	4.34	4.19	4.49	<0.001
Female sex		0.98	0.97	0.99	<0.001
Race	White		Reference category		
	Black	0.84	0.83	0.86	<0.001
	Others	1.04	1.03	1.05	<0.001
Charlson comorbidity index	0-3		Reference category		
	4-6	1.42	1.40	1.45	<0.001
	≥7	1.62	1.60	1.65	<0.001
Quartile of median household income for zip code	0-25 th		Reference category		
	26 th -50 th	0.99	0.97	1.00	0.03
	51 st -75 th	0.93	0.91	0.94	<0.001
	75 th -100 th	0.90	0.88	0.91	<0.001
Weekend admission		0.99	0.98	1.00	0.07
Hospital teaching status and location	Rural		Reference category		
	Urban Non-Teaching	1.01	0.99	1.02	0.40
	Urban Teaching	1.12	1.10	1.13	<0.001
Hospital bed-size	Small		Reference category		
	Medium	1.06	1.05	1.08	<0.001
	Large	1.17	1.15	1.19	<0.001
Hospital region	Northeast		Reference category		
	Midwest	0.88	0.87	0.89	<0.001
	South	0.98	0.96	0.99	<0.001
	West	0.77	0.76	0.78	<0.001

Table S3 (continued)

Table S3 (continued)

NSTEMI admissions		Odds ratio	95% confidence interval		P
			Lower Limit	Upper Limit	
Tertiles of admissions year	2000-2005		Reference category		
	2006-2011	0.61	0.60	0.62	<0.001
	2012-2017	0.37	0.37	0.38	<0.001
Cardiogenic shock		3.96	3.90	4.03	<0.001
Cardiac arrest		17.99	17.75	18.23	<0.001
Respiratory failure		2.39	2.37	2.42	<0.001
Acute kidney injury		2.21	2.19	2.23	<0.001
Systolic heart failure		0.81	0.80	0.82	<0.001
Prior coronary artery bypass grafting		0.89	0.87	0.90	<0.001
Coronary angiography		0.40	0.40	0.41	<0.001
Percutaneous coronary intervention		0.53	0.52	0.54	<0.001
Coronary artery bypass grafting		0.64	0.63	0.66	<0.001
Pulmonary artery catheterization		1.37	1.33	1.41	<0.001
Mechanical circulatory support		2.54	2.49	2.60	<0.001
Invasive mechanical ventilation		2.67	2.63	2.70	<0.001
Hemodialysis		1.61	1.56	1.66	<0.001
In-hospital complications	Vascular	1.59	1.52	1.66	<0.001
	Hemorrhage	0.82	0.80	0.85	<0.001
	Blood transfusion	0.92	0.91	0.93	<0.001
	Ischemic stroke	1.91	1.87	1.96	<0.001
	Intracranial hemorrhage	4.96	4.71	5.22	<0.001
Do-not-resuscitate status		2.70	2.66	2.75	<0.001
Palliative care referral		6.94	6.81	7.07	<0.001

Table S4 In-hospital mortality in non-ST-segment elevation myocardial infarction by patient characteristics

Patient characteristics ^a			Odds ratio	95% confidence interval		P
				Lower Limit	Upper Limit	
Age group	≤75 years	Medicare		Reference category		
		Medicaid	0.76	0.74	0.78	<0.001
		Private	0.60	0.59	0.61	<0.001
		Uninsured	0.84	0.81	0.87	<0.001
		Others	0.81	0.77	0.85	<0.001
	>75 years	Medicare		Reference category		
		Medicaid	0.94	0.89	0.99	0.03
		Private	1.06	1.03	1.08	<0.001
		Uninsured	0.92	0.85	1.00	0.06
		Others	1.60	1.52	1.68	<0.001
Sex	Male	Medicare		Reference category		
		Medicaid	0.75	0.73	0.78	<0.001
		Private	0.64	0.63	0.65	<0.001
		Uninsured	0.74	0.71	0.77	<0.001
		Others	0.97	0.93	1.01	0.15
	Female	Medicare		Reference category		
		Medicaid	0.80	0.77	0.83	<0.001
		Private	0.75	0.73	0.77	<0.001
		Uninsured	0.86	0.82	0.91	<0.001
		Others	1.28	1.21	1.36	<0.001
Race	White	Medicare		Reference category		
		Medicaid	0.77	0.74	0.80	<0.001
		Private	0.68	0.67	0.69	<0.001
		Uninsured	0.82	0.78	0.85	<0.001
		Others	1.17	1.12	1.22	<0.001
	Non-white ^b	Medicare		Reference category		
		Medicaid	0.79	0.76	0.81	<0.001
		Private	0.68	0.66	0.70	<0.001
		Uninsured	0.76	0.72	0.79	<0.001
		Others	0.89	0.84	0.94	<0.001
Tertiles of study period	2000-2005	Medicare		Reference category		
		Medicaid	0.96	0.92	0.99	0.02
		Private	0.71	0.69	0.72	<0.001
		Uninsured	0.85	0.81	0.91	<0.001

Table S4 (continued)

Table S4 (continued)

Patient characteristics ^a			Odds ratio	95% confidence interval		P	
				Lower Limit	Upper Limit		
	2006-2011	Others	0.97	0.91	1.03	0.36	
		Medicare		Reference category			
		Medicaid	0.82	0.78	0.85	<0.001	
		Private	0.77	0.75	0.79	<0.001	
		Uninsured	0.93	0.88	0.98	0.006	
	2012-2017	Others	1.11	1.05	1.17	<0.001	
		Medicare		Reference category			
		Medicaid	0.66	0.63	0.69	<0.001	
		Private	0.67	0.65	0.69	<0.001	
		Uninsured	0.75	0.71	0.79	<0.001	
	Percutaneous coronary intervention	Yes	Others	1.16	1.10	1.23	<0.001
			Medicare		Reference category		
			Medicaid	0.65	0.61	0.69	<0.001
			Private	0.53	0.50	0.55	<0.001
			Uninsured	0.72	0.67	0.78	<0.001
No		Others	0.94	0.86	1.03	0.17	
		Medicare		Reference category			
		Medicaid	0.80	0.78	0.82	<0.001	
		Private	0.72	0.71	0.73	<0.001	
		Uninsured	0.79	0.76	0.82	<0.001	
Palliative care or do-not-resuscitate status	Yes	Others	1.09	1.05	1.13	<0.001	
		Medicare		Reference category			
		Medicaid	0.94	0.87	1.01	0.09	
		Private	1.45	1.39	1.51	<0.001	
		Uninsured	1.38	1.23	1.54	<0.001	
	No	Others	2.23	2.08	2.39	<0.001	
		Medicare		Reference category			
		Medicaid	0.77	0.75	0.79	<0.001	
		Private	0.65	0.64	0.66	<0.001	
		Uninsured	0.78	0.75	0.81	<0.001	
		Others	0.91	0.87	0.95	<0.001	

aEach sub-group was adjusted for age, sex, race, socio-economic stratum, hospital characteristics, comorbidities, year of admission, cardiogenic shock, cardiac arrest, acute respiratory failure, acute kidney injury, systolic heart failure, prior CABG, complications, cardiac procedures, non-cardiac procedures, DNR status and palliative care referral; bBlack, Hispanic, Asian, Native American, Others