

Online appendix

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Online Table 1: The International Classification of Diseases, Ninth Edition, Clinical Modification (ICD-9) codes of the variables included.

Variable	ICD-9 code
SCAD	414.12
Accidental puncture or laceration during a procedure	998.2
Acute ischemic stroke	433.01, 433.11, 433.21, 433.31, 433.81 433.91, 434.01, 434.11, 434.91, 435.x, 436
Intracranial hemorrhage	430, 431, 432.x
Gastrointestinal bleeding	578.0, 578.1, 578.9
Cardiogenic shock	785.51
Family history of CAD	V17.3
Prior myocardial infarction	412
Prior PCI	V45.82
Prior CABG	V45.81
Prior stroke/TIA	V12.54
Carotid artery disease	433.10
Acute systolic heart failure	428.21
Smoking history	V15.82, 305.1
Dyslipidemia	53
Atrial fibrillation	427.31
Ventricular tachycardia	427.1
Ventricular fibrillation	427.41
Dementia	290.xx, 294.0, 294.1x, 294.2x, 310.0, 331.0, 331.11, 331.19, 331.82

*Other variables not reported in the table were collected using Elixhauser Comorbidity Software:

<http://www.hcup-us.ahrq.gov/toolssoftware/comorbidity/comorbidity>.

SCAD= spontaneous coronary artery dissection, PCI= percutaneous coronary intervention, CABG= coronary artery bypass grafting, TIA= transient ischemic attack.

Online Table 2: Independent variables included in the multivariable regression analysis and propensity score match construction.

Variable	In-hospital mortality	Propensity score	SCAD by PCI	SCAD by age
Age*	X	X	X	X
Day of admission	X	X	X	X
Primary payment coverage	X	X	X	X
Race	X	X	X	X
Median home income	X	X	X	X
AIDS	X	X	X	X
Alcohol abuse	X	X	X	X
Deficiency anemia	X	X	X	X
Collagen vascular disease	X	X	X	X
Chronic blood loss anemia	X	X	X	X
Congestive heart failure	X	X	X	X
Chronic pulmonary disease	X	X	X	X
Coagulopathy	X	X	X	X
Depression	X	X	X	X
Diabetes, uncomplicated	X	X	X	X
Diabetes, complicated	X	X	X	X
Drug abuse	X	X	X	X
Hypertension	X	X	X	X
Hypothyroidism	X	X	X	X
Liver disease	X	X	X	X
Lymphoma	X	X	X	X
Fluid and electrolyte disorders	X	X	X	X
Metastatic cancer	X	X	X	X
Other neurological disorders	X	X	X	X
Obesity	X	X	X	X
Paralysis	X	X	X	X
Peripheral vascular disease	X	X	X	X
Psychoses	X	X	X	X
Pulmonary circulation disorders	X	X	X	X
Renal failure	X	X	X	X
Solid tumor without metastasis	X	X	X	X
Peptic ulcer disease	X	X	X	X
Valvular heart disease	X	X	X	X
Weight loss	X	X	X	X
Hospital bed size	X	X	X	X
Hospital location	X	X	X	X
Hospital region	X	X	X	X
Clinical presentation	X	X	X	X
PCI (same admission)	X	X	X	X
CABG (same admission)	X	X	X	X
Family history of CAD	X	X	X	X
Prior myocardial infarction	X	X	X	X
Prior PCI	X	X	X	X
Prior CABG	X	X	X	X
Prior stroke/TIA	X	X	X	X
Carotid artery disease	X	X	X	X
Smoking history	X	X	X	X
Dyslipidemia	X	X	X	X

Atrial fibrillation	X	X	X	X
Dementia	X	X	X	X
SCAD	X	-	-	-
Acute systolic HF	X	X	X	X
Acute ischemic stroke	X	X	X	X
Cardiogenic shock	X	X	X	X
Ventricular tachycardia	X	X	X	X
Ventricular fibrillation	X	X	X	X
Intracranial hemorrhage	X	X	X	X
Gastrointestinal bleeding	X	X	X	X

*Age was entered as a continuous variable in all analyses except SCAD by age multivariable regression where it was categorical (<50 versus ≥50 years old)

HF= heart failure, CS= cardiogenic shock, VA= ventricular arrhythmia, ICH= intracranial hemorrhage, GIB= gastrointestinal bleeding, AIDS= acquired immunodeficiency syndrome, PCI= percutaneous coronary intervention, CABG= coronary artery bypass grafting, CAD= coronary artery disease, TIA= transient ischemic attack, SCAD= spontaneous coronary dissection.

Online Table 3: The patients' hospital characteristics of women with spontaneous coronary artery dissection according to age.

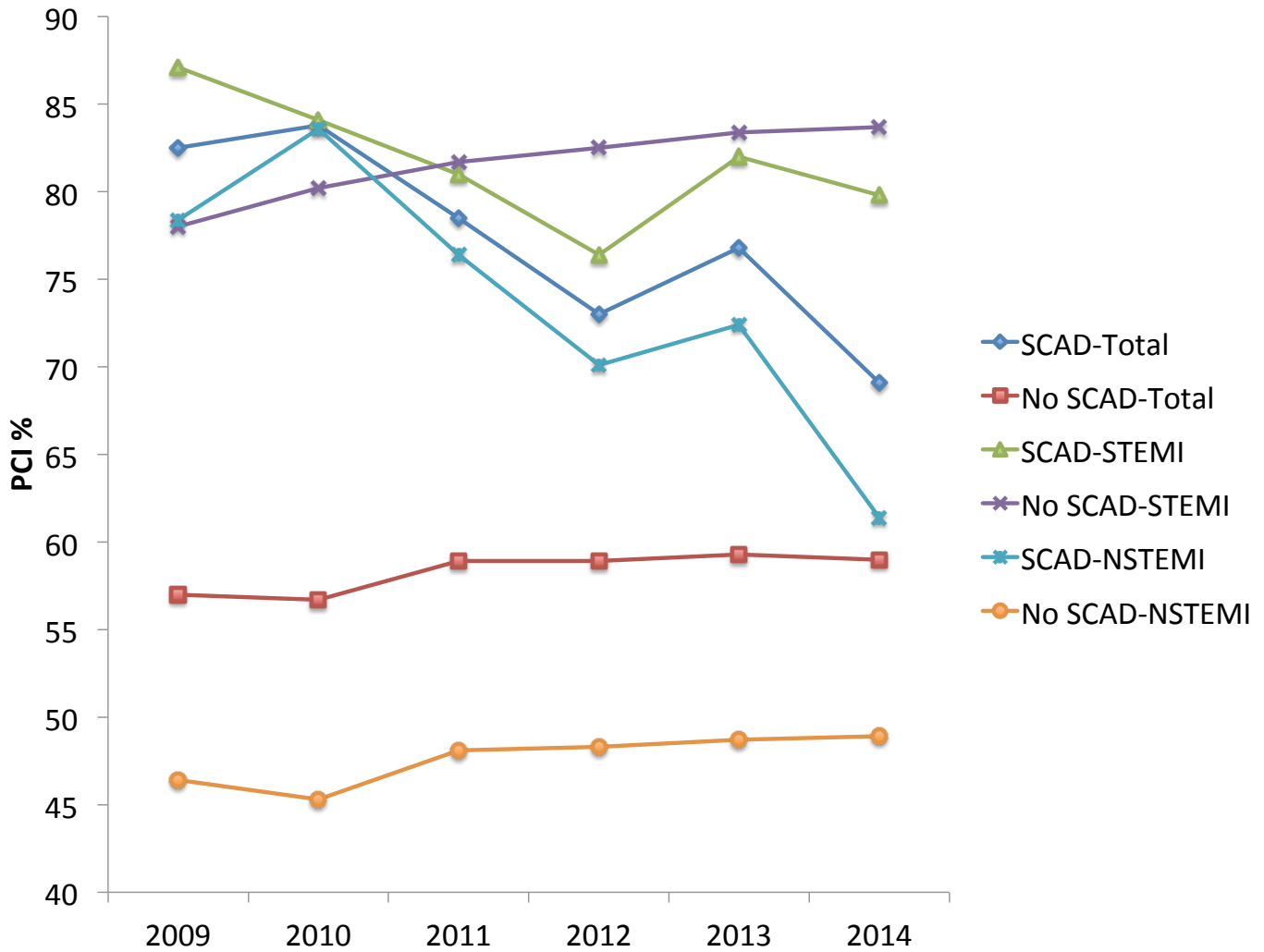
Variable	Age		P-Value*
	<50yr	≥50yr	
Patients, number	1,687	5,660	
STEMI	44.4%	44.9%	0.741
Weekend admission	28.2%	24.7%	0.004
Patient Demographics			
Race			
White	73.8%	80.9%	<0.0001
African American	11.0%	7.9%	
Hispanic	10.2%	6.1%	
Asian/Pacific Islander	1.5%	2.1%	
Native American	<1.0%	<1.0%	
Other	3.6%	2.6%	
Median household income			
0-25 th percentile	23.6%	27.7%	0.003
26 th to 50 th percentile	27.2%	25.8%	
51 st to 75 th percentile	24.2%	24.5%	
76 th to 100 th percentile	25.0%	22.0%	
Primary expected payer			
Medicare	3.6%	55.8%	<0.0001
Medicaid	17.1%	5.5%	
Private Insurance	63.1%	31.7%	
Self-Pay	11.5%	4.9%	
No Charge	1.4%	<1.0%	
Other	3.3%	1.6%	
Smoking	37.9%	33.4%	
Family history of CAD	16.1%	11.8%	<0.0001
Comorbidities			
Prior MI	3.9%	7.6%	<0.0001
Prior TIA/stroke	3.2%	6.0%	<0.0001
Prior PCI	4.7%	10.1%	<0.0001
Prior CABG	1.2%	1.6%	0.324
Carotid artery disease	<1.0%	2.5%	<0.0001
Dyslipidemia	37.1%	64.1%	<0.0001
Atrial fibrillation	3.2%	14.3%	<0.0001
Dementia	<1.0%	2.9%	<0.0001
Alcohol abuse	<1.0%	<1.0%	0.865
Deficiency anemias	12.6%	16.4%	<0.0001
Rheumatoid arthritis	2.1%	3.4%	0.006
Chronic blood loss anemia	<1.0%	<1.0%	0.267
Congestive heart failure	<1.0%	<1.0%	0.003
Chronic pulmonary disease	16.4%	21.8%	<0.0001
Coagulopathy	3.2%	5.2%	<0.0001
Depression	11.0%	10.2%	0.301
Diabetes uncomplicated	11.3%	24.2%	<0.0001
Diabetes with chronic complications	<1.0%	4.1%	<0.0001
Drug abuse	2.6%	1.0%	<0.0001
Hypertension	39.2%	71.9%	<0.0001
Hypothyroidism	6.7%	18.1%	<0.0001

Liver disease	<1.0%	1.4%	<0.0001
Lymphoma	<1.0%	<1.0%	0.388
Fluid and electrolytes imbalance	16.8%	22.1%	<0.0001
Metastatic cancer	<1.0%	<1.0%	0.800
Other neurological disorders	4.8%	4.8%	0.357
Obesity	23.2%	15.5%	<0.0001
Paralysis	<1.0%	1.6%	<0.0001
Peripheral vascular disorders	3.0%	13.5%	<0.0001
Psychoses	3.6%	2.4%	0.013
Pulmonary circulation disorders	<1.0%	<1.0%	0.221
Renal failure	1.2%	11.2%	<0.0001
Solid tumor without metastasis	<1.0%	1.7%	0.001
Valvular disease	<1.0%	<1.0%	0.084
Weight loss	<1.0%	3.2%	<0.0001
Acute ischemic stroke	<1.0%	<1.0%	0.241
Intracranial hemorrhage	<1.0%	<1.0%	0.014
Gastrointestinal bleeding	<1.0%	2.7%	<0.0001
Cardiogenic shock	6.8%	10.1%	<0.0001
Acute systolic heart failure	3.0%	3.7%	0.158
Ventricular tachycardia	7.5%	8.3%	0.311
Ventricular fibrillation	6.8%	5.5%	0.038
Hospital characteristics			
Bed size of hospital			
Small	4.4%	9.4%	<0.0001
Medium	25.8%	23.1%	
Large	69.7%	67.5%	
Location/teaching status of hospital			
Rural	4.6%	6.5%	<0.0001
Urban non-teaching	33.6%	38.9%	
Urban teaching	61.8%	54.6%	
Region of hospital			
Northeast	21.3%	17.5%	0.001
Midwest/North Central	17.7%	20.4%	
South	37.4%	39.5%	
West	23.6%	22.6%	

* P-value by Pearson Chi-square test.

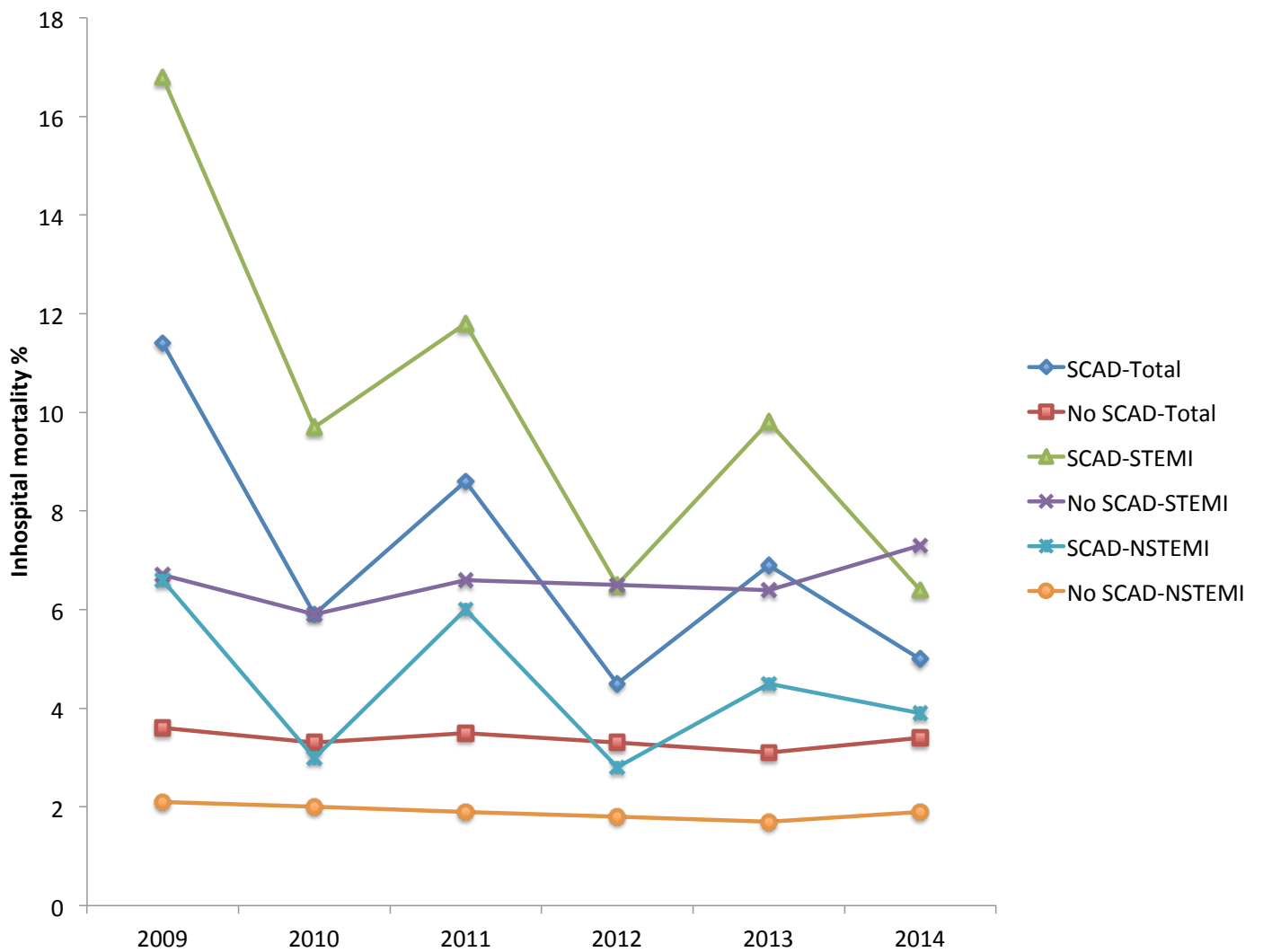
Ys. = Years STEMI= ST-elevation myocardial infarction, CAD= coronary artery disease, TIA= transient ischemic attack, PCI= percutaneous coronary intervention, CABG= coronary artery bypass grafting, AIDS= acquired immunodeficiency syndrome.

Online Figure 1: Trends of percutaneous coronary intervention by clinical presentation, years 2009-2014.



PCI= percutaneous coronary intervention, SCAD= spontaneous coronary artery dissection, STEMI= ST-segment elevation myocardial infarction, NSTEMI= non-ST-segment elevation myocardial infarction.

Online Figure 2: Trends of in-hospital mortality by clinical presentation, years 2009-2014.



SCAD= spontaneous coronary artery dissection, STEMI= ST-segment elevation myocardial infarction, NSTEMI= non-ST-segment elevation myocardial infarction.