

Table S1. List of the ICD-10-CM and ICD-10-PCS codes used

Diagnosis	ICD-10 Code	ICD-9 Code
Drug-eluting stent*	027034, 027035, 027036, 027037, 027044, 027045, 027046, 027047, 027134, 027135, 027136, 027137, 027144, 027145, 027146, 027147, 027234, 027235, 027236, 027237, 027244, 027245, 027246, 027247, 027334, 027335, 027336, 027337, 027344, 027345, 027346, 027347	36.07
Bare-metal stent*	02703D, 02703E, 02703F, 02703G, 02704D, 02704E, 02704F, 02704G, 02713D, 02713E, 02713F, 02713G, 02714D, 02714E, 02714F, 02714G, 02723D, 02723E, 02723F, 02723G, 02724D, 02724E, 02724F, 02724G, 02733D, 02733E, 02733F, 02733G, 02734D, 02734E, 02734F, 02734G	36.06
Intravascular ultrasound*	B240ZZ3, B241ZZ3	00.24
Optical coherence tomography*	B221ZZZ, B223ZZZ	38.24
Intra-aortic balloon pump*	5A02110, 5A02210	37.61
ECMO*	5A15	39.65
Renal replacement therapy*	5A1D	39.95
Mechanical ventilation*	5A1935Z, 5A1945Z, 5A1955Z	96.70, 96.71, 96.72
Mechanical thrombectomy*	02C03, 02C04, 02C13, 02C14, 02C23, 02C24, 02C33, 02C34	36.09, 17.55
Myocardial infarction	I21, I22	410
ST-elevation myocardial infarction	I21.0, I21.1, I21.2, I21.3, I21.9, I22.0, I22.1, I22.8, I22.9	I21.4, I21.A, I22.2
Non-ST-elevation myocardial infarction	410.0, 410.1, 410.1, 410.2, 410.3, 410.4, 410.5, 410.6, 410.8, 410.9	410.7
Smoking	F17, T65, Z72.0, O99.33, Z87.891	V15.82, 305.1
Hypertension	I10	401
Diabetes mellitus	E08, E10, E11, E13	250
Hyperlipidemia	E78	272
Obesity	E66	278.0
Heart failure	I09.81, I11.0, I13.0, I31.2, I50	428
Chronic IHD	I25	412, 414
Atrial fibrillation	I48.0, I48.1, I48.2, I48.91	427.3
Valvular heart disease	I34, I35, I36, I37	424.0, 424.1, 424.2, 424.3
Peripheral artery disease	I70	440, 443.9
Previous stroke	I69, Z86.73	438, V12.54
Previous PCI	Z98.61	V45.82
Previous CABG	Z95.1	V45.81
Pacemaker	Z95.0	V45.01
Pulmonary hypertension	I27.0, I27.2	416.0, 416.8
Chronic kidney disease	N18	585
End-stage renal disease	N18.6	585.6
Liver cirrhosis	K70.2, K70.3, K71.7, K74, K76.1, P78.81, E83.110	571.2, 571.5, 571.6, 573.0
History of malignancy	Z85	V10
Deficiency anemia	D50, D51, D52, D53	280, 281
Malnutrition	E43, E44, E46	262, 263
Major depression	F33	290, 291.2, 294, 331
Cardiogenic shock	R57.0	785.51

*ICD-10-PCS (second column) or ICD-9-PCS codes (third column)

Abbreviations: ECMO = extracorporeal membranous oxygenation; IHD = ischemic heart disease; PCI = percutaneous coronary intervention

Table S2. Baseline characteristics of hospitalizations in which PCI with stent was performed for myocardial infarction from 2008 to 2019

	2008	2009	2010	2011	2012	2013	2014	2015 ^a	2016	2017	2018	2019	P-trend
N (sample)	38,752	40,207	40,284	45,142	47,326	47,748	48,943	50,972	53,827	55,780	56,811	58,371	<.001
N (weighted)	181,629	195,428	196,565	209,234	236,630	238,740	244,715	254,860	269,135	278,900	284,055	291,855	<.001
Intravascular Imaging (%)													
IVUS	3.4	4.4	3.7	5.2	5.4	5.1	5.3	4.9	5.4	5.9	6.8	8.7	<.001
OCT	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.6	<.001
Sex (%)													
Male	68.1	68.2	68.8	68.1	68.3	68.4	68.5	67.9	67.9	67.9	67.8	68.2	0.042
Female	31.9	31.8	31.2	31.9	31.7	31.6	31.5	32.1	32.1	32.1	32.2	31.8	0.042
Age													
Mean (SD)	62.7 (13.2)	62.9 (13.2)	62.7 (13.1)	62.9 (13.0)	63.1 (12.9)	63.2 (12.8)	63.3 (12.8)	63.7 (12.7)	63.9 (12.7)	64.1 (12.6)	64.4 (12.6)	64.6 (12.6)	<.001
<65 (%)	56.7	56.4	57.6	56.5	55.7	54.9	54.3	53.2	52.3	51.8	50.3	49.8	<.001
65-74 (%)	21.7	21.9	21.6	22.5	23.3	24.3	24.8	25.4	25.7	26.2	26.8	27.0	<.001
75-84 (%)	16.5	16.2	15.6	15.4	15.4	15.3	15.4	15.7	16.1	16.1	16.8	17.1	<.001
≥85 (%)	5.2	5.5	5.2	5.6	5.6	5.5	5.6	5.8	5.8	5.9	6.1	6.1	<.001
Race (%)													
White	79.0	78.2	78.1	76.9	77.3	77.6	77.7	77.3	77.1	75.9	75.5	76.0	<.001
Black	7.5	8.2	9.1	8.9	9.0	8.6	8.7	9.1	9.2	9.4	9.2	9.2	<.001
Hispanic	6.2	7.0	7.1	7.4	7.2	7.6	7.4	7.7	7.5	8.3	8.7	8.2	<.001
Asian	2.1	2.0	2.1	2.1	2.0	2.2	2.2	2.4	2.5	2.6	2.7	2.8	<.001
AI/AN	1.1	0.6	0.8	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.6	0.6	<.001
Other	4.1	4.1	2.8	4.2	3.9	3.5	3.5	3.1	3.2	3.2	3.2	3.2	<.001
Comorbidities (%)													
Smoking	42.6	44.0	44.6	45.3	46.9	48.0	44.7	51.5	53.0	53.2	53.5	52.7	<.001
Hypertension	55.9	56.8	57.1	57.9	59.0	59.3	60.4	60.8	58.9	48.5	47.1	46.2	<.001
Diabetes mellitus	28.5	29.7	30.2	32.6	33.1	34.0	34.5	35.9	36.3	36.9	37.8	38.4	<.001
Hyperlipidemia	63.2	65.1	66.8	67.9	68.8	69.3	69.3	68.7	70.0	70.1	70.7	71.9	<.001
Obesity	11.4	13.3	13.2	14.7	15.8	16.6	17.4	18.0	18.6	19.3	21.1	21.4	<.001
Heart failure	15.9	16.9	17.0	18.2	18.0	19.3	19.7	21.5	22.7	25.0	26.1	27.3	<.001
Chronic IHD	91.6	92.0	91.1	91.9	91.8	91.7	91.6	91.2	90.2	89.5	89.1	89.0	<.001
Atrial fibrillation	9.5	10.0	9.6	10.8	11.0	10.9	11.5	12.5	12.5	12.7	13.2	13.4	<.001
Valvular heart disease	6.0	6.0	6.0	6.3	6.5	6.5	6.8	7.2	7.0	6.9	6.9	6.5	<.001
PAD	6.3	7.3	6.3	7.1	7.1	7.2	7.3	7.6	7.6	6.7	5.7	5.6	<.001
Previous stroke	4.0	5.1	4.8	5.8	5.8	6.2	6.5	7.0	7.4	7.8	7.7	7.8	<.001
Previous CABG	4.1	4.3	4.0	4.6	4.7	4.8	5.0	5.9	7.3	7.5	7.6	7.2	<.001
Previous pacemaker	1.4	1.5	1.4	1.6	1.6	1.7	1.6	1.7	1.9	1.9	2.0	1.9	<.001
Chronic pulmonary disease	15.0	15.2	14.9	15.5	16.1	16.5	16.7	17.1	17.1	17.5	17.6	17.7	<.001
Pulmonary hypertension	1.7	2.0	2.0	2.5	2.3	2.6	2.6	2.9	3.0	3.2	3.3	3.4	<.001
Chronic kidney disease	8.9	10.8	11.0	12.1	12.2	13.0	13.5	14.8	16.0	16.5	17.1	18.1	<.001
End-stage renal disease	1.7	2.0	2.1	2.4	2.1	2.3	2.5	2.7	2.8	3.0	3.0	3.1	<.001

Liver cirrhosis	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.5	0.6	0.6	0.7	0.7	<.001
History of malignancy	5.4	6.0	5.8	6.5	6.5	6.9	7.0	7.3	7.6	8.1	8.0	8.6	<.001
Deficiency anemia	1.8	2.1	2.0	2.1	1.9	1.9	1.9	2.1	2.4	2.4	2.5	2.4	<.001
Malnutrition	0.7	0.8	0.9	1.0	1.0	1.1	1.1	1.1	1.2	1.4	1.5	1.6	<.001
Dementia	1.8	2.1	1.9	2.3	2.3	2.2	2.3	2.4	2.4	2.4	2.3	2.6	<.001
Major depression	0.4	0.3	0.3	0.3	0.5	0.4	0.5	0.5	0.2	0.4	0.5	0.5	<.001
Hospital characteristics													
Hospital region (%)													
Northwest	19.4	20.0	20.2	17.7	17.7	17.5	17.4	17.2	17.0	16.9	16.5	16.6	<.001
Midwest	17.0	18.2	20.8	19.4	21.7	22.0	22.1	22.3	23.3	23.0	22.8	23.6	<.001
South	45.3	42.2	39.6	43.0	42.7	43.1	43.1	43.1	42.3	41.8	41.8	41.0	<.001
West	18.3	19.5	19.4	19.9	18.0	17.4	17.5	17.4	17.4	18.2	18.9	18.7	<.001
Hospital bed size (%)													
Small	6.7	5.7	8.0	7.4	8.3	7.9	23.6	12.6	13.0	14.7	16.2	17.4	<.001
Medium	21.5	19.1	18.6	22.6	23.5	24.1	28.8	30.0	29.1	30.7	30.5	30.2	<.001
Large	71.8	75.3	73.4	70.0	68.2	68.0	56.7	57.4	58.0	54.6	53.3	52.4	<.001
Urban location (%)													
Rural	6.7	5.9	9.4	4.3	6.5	7.0	5.8	5.7	5.6	5.9	5.9	6.3	<.001
Urban non-teaching	44.6	42.9	43.9	45.1	40.3	39.4	28.5	28.9	27.5	22.9	20.7	17.8	<.001
Urban teaching	48.7	51.2	46.7	50.6	53.3	53.6	65.8	65.4	66.9	71.2	73.5	75.9	<.001
Primary payer (%)													
Medicare	42.5	43.3	42.5	44.7	45.8	46.1	46.5	47.8	48.3	48.7	49.6	49.8	<.001
Medicaid	5.8	5.8	7.1	6.9	7.0	6.8	9.2	9.7	9.7	9.9	9.5	9.5	<.001
Private insurance	39.5	38.2	37.1	35.2	33.4	33.3	34.0	33.2	32.9	32.2	31.4	31.4	<.001
Self-pay	7.9	8.5	8.9	8.8	9.5	9.1	6.8	5.9	5.5	5.7	5.9	5.8	<.001
No charge	0.8	0.8	0.7	1.0	0.8	1.0	0.7	0.6	0.5	0.4	0.5	0.5	<.001
Others	3.5	3.6	3.7	3.4	3.6	3.5	2.8	3.0	3.1	3.0	3.0	3.1	<.001
Median income (%)													
Quartile 1	26.7	26.1	28.6	27.4	30.2	28.7	28.9	30.6	29.6	29.2	28.4	29.6	<.001
Quartile 2	28.6	27.0	26.0	25.0	26.4	27.0	29.1	25.9	27.1	28.1	28.0	26.4	0.012
Quartile 3	23.1	25.7	24.1	26.4	23.6	23.5	23.3	24.4	24.5	23.8	24.7	24.9	0.895
Quartile 4	21.6	21.2	21.3	21.3	20.0	18.6	18.8	19.2	18.9	19.0	18.9	19.1	<.001
Clinical presentation (%)													
STEMI	53.2	50.4	50.9	49.5	47.7	46.8	45.9	45.2	44.4	43.7	43.5	43.4	<.001
NSTEMI	46.8	49.6	49.1	50.5	52.3	53.2	54.1	54.8	55.6	56.3	46.5	56.6	<.001

^aICD-9-CM/PCS codes changed to ICD-10-CM/PCS codes beginning October 2015

Abbreviations: AI/AN = American Indian/Alaska Native; COPD = chronic obstructive pulmonary disease; IHD = ischemic heart disease; IVUS = intravascular ultrasound; NSTEMI = non-ST-elevation myocardial infarction; OCT = optical coherence tomography; SD = standard deviation; STEMI = ST-elevation myocardial infarction

Table S3. Procedural characteristics and outcomes of hospitalizations in which PCI with stent was performed for myocardial infarction from 2008 to 2019

	2008	2009	2010	2011	2012	2013	2014	2015 ^a	2016	2017	2018	2019	P-trend
N (sample)	38,752	40,207	40,284	45,142	47,326	47,748	48,943	50,972	53,827	55,780	56,811	58,371	<.001
N (weighted)	181,629	195,428	196,565	209,234	236,630	238,740	244,715	254,860	269,135	278,900	284,055	291,855	<.001
Intravascular imaging (%)													
IVUS	3.4	4.4	3.7	5.2	5.4	5.1	5.3	4.9	5.4	5.9	6.8	8.7	<.001
OCT	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.6	<.001
Stent type (%)													
Drug-eluting stent (%)	56.9	67.5	66.0	68.1	72.9	77.4	81.5	84.6	88.5	92.0	94.9	96.3	<.001
Bare metal stent (%)	46.5	34.8	35.7	33.8	28.4	23.8	19.7	16.7	12.6	8.9	5.7	4.1	<.001
Procedures (%)													
Mechanical thrombectomy	0.2	0.2	0.1	1.2	3.5	3.2	3.3	4.7	9.2	9.4	9.3	9.5	<.001
IABP	6.1	6.0	5.4	5.4	4.9	4.4	4.2	4.3	4.0	4.0	3.6	3.5	<.001
ECMO	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.2	<.001
Percutaneous LVAD	0.1	0.2	0.2	0.3	0.5	0.6	0.7	1.0	1.5	2.0	2.6	2.8	<.001
Durable LVAD	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.697
RRT	1.4	1.7	1.8	2.0	1.8	2.0	2.1	2.3	2.4	2.7	2.6	2.7	<.001
Mechanical ventilation	4.4	4.5	4.5	5.1	4.8	4.9	5.1	5.4	5.6	5.8	5.6	5.6	<.001
Outcomes													
In-hospital mortality (%)	2.7	2.6	2.4	2.6	2.5	2.6	2.6	2.7	2.8	3.0	2.9	3.1	<.001
Length of stay, days, mean (SD)	3.9 (4.0)	3.9 (4.1)	3.9 (3.9)	3.8 (4.2)	3.7 (4.0)	3.7 (4.2)	3.6 (3.8)	3.6 (4.2)	3.6 (4.3)	3.6 (4.3)	3.6 (4.0)	3.6 (4.2)	<.001
Total hospital charge, \$, mean (SD)	70,544 (55,921)	73,149 (61,418)	78,294 (62,598)	82,403 (64,717)	82,426 (68,554)	89,218 (73,429)	92,089 (71,371)	97,164 (83,424)	102,914 (92,874)	108,195 (100,277)	113,308 (112,291)	118,909 (117,515)	<.001
Total hospital cost, \$, mean (SD)	21,161 (13,846)	20,784 (14,302)	21,630 (14,565)	21,945 (15,685)	21,933 (15,716)	22,828 (15,963)	22,755 (14,908)	23,506 (17,047)	24,434 (19,638)	24,939 (19,738)	25,404 (20,759)	26,786 (22,654)	<.001
Inflation-adjusted total hospital cost, \$, mean (SD)	23,264 (15,223)	22,935 (15,782)	23,475 (15,808)	23,097 (16,508)	22,611 (16,202)	23,158 (16,036)	22,755 (14,908)	23,476 (17,025)	24,098 (19,368)	24,084 (19,062)	23,947 (19,568)	24,796 (20,971)	<.001
Cardiogenic shock (%)	5.2	5.5	5.6	5.9	5.6	5.7	6.1	6.4	6.6	6.7	6.8	7.0	<.001

^aICD-9-CM/PCS codes changed to ICD-10-CM/PCS codes beginning October 2015

Abbreviations: ECMO = extracorporeal membranous oxygenation; IABP = intra-aortic balloon pump; IVUS = intravascular ultrasound; LVAD = left ventricular assist device; OCT = optical coherence tomography; RRT = renal replacement therapy; SD = standard deviation

Table S4. Trend of in-hospital mortality rate after PCI for myocardial infarction from 2008 to 2019

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	P-trend
Crude in-hospital mortality rate (%)	2.7	2.6	2.4	2.6	2.5	2.6	2.6	2.7	2.8	3.0	2.9	3.1	<.001
Age-adjusted in-hospital mortality rate (%)	1.6	1.7	1.7	1.7	1.8	1.7	1.7	1.6	1.8	1.9	1.8	1.9	<.001

Table S5. Baseline characteristics of hospitalizations in which IVUS-assisted PCI with stent was performed for myocardial infarction from 2008 to 2019

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	P-trend
N (sample)	1,334	1,784	1,514	2,359	2,544	2,437	2,580	2,515	2,902	3,288	3,863	5,066	<.001
N (weighted)	6,180	8,612	7,327	10,896	12,720	12,185	12,900	12,575	14,510	16,440	19,315	25,330	<.001
Intravascular imaging (%)													
IVUS	100	100	100	100	100	100	100	100	100	100	100	100	1.000
OCT	0.0	0.0	0.0	0.0	0.3	0.1	0.3	0.2	0.4	0.6	0.5	0.9	<.001
Sex (%)													
Male	68.9	68.3	68.4	67.9	69.0	68.8	68.7	68.5	68.9	69.1	67.7	68.4	0.834
Female	31.1	31.7	31.6	32.1	31.0	31.2	31.3	31.5	31.2	30.9	32.3	31.6	0.834
Age													
Mean (SD)	62.5 (13.0)	62.7 (13.3)	62.3 (12.9)	63.0 (13.3)	63.0 (12.8)	63.3 (12.9)	62.9 (13.1)	63.8 (13.0)	63.8 (12.9)	63.7 (12.7)	64.4 (12.7)	64.5 (12.8)	<.001
<65 (%)	55.6	56.7	58.3	55.7	54.7	62.8	54.2	52.2	52.5	52.2	49.1	49.9	<.001
65-74 (%)	24.4	22.0	22.6	22.4	25.1	26.0	25.7	26.1	25.1	27.0	27.6	27.2	<.001
75-84 (%)	15.8	16.4	14.3	16.7	15.5	15.6	14.7	15.4	17.6	15.2	17.3	16.7	0.052
≥85 (%)	4.3	4.9	4.9	5.3	4.7	5.7	5.4	6.3	4.9	5.5	6.0	6.3	<.001
Race (%)													
White	78.4	80.3	76.0	73.0	79.0	77.2	76.0	76.6	77.7	74.8	75.3	75.5	<.001
Black	7.1	6.3	8.7	8.8	8.1	8.0	9.4	9.1	7.7	9.7	9.3	8.3	0.008
Hispanic	6.0	7.7	9.3	9.4	6.7	7.7	7.6	7.0	7.3	8.1	8.0	8.6	0.200
Asian	2.3	2.0	2.2	2.2	1.6	2.2	2.6	2.8	2.7	2.9	3.3	3.2	<.001
AI/AN	0.9	0.7	0.9	0.6	0.5	0.5	0.5	0.6	0.7	0.9	1.0	1.0	0.020
Other	5.3	3.0	2.9	6.0	4.2	4.3	4.0	3.9	3.8	3.6	3.3	3.4	<.001
Comorbidities (%)													
Smoking	41.4	44.8	44.2	43.5	48.0	48.7	50.9	51.4	53.2	53.2	53.2	51.2	<.001
Hypertension	60.9	57.5	58.4	57.7	58.9	60.3	60.7	60.6	58.1	46.6	44.4	42.4	<.001
Diabetes mellitus	26.2	27.9	31.5	33.3	32.6	34.6	33.8	34.0	36.4	37.3	37.3	36.5	<.001
Hyperlipidemia	69.3	70.0	69.8	71.9	70.9	73.3	72.7	70.0	72.9	71.0	70.7	73.4	0.011
Obesity	13.0	14.0	12.8	15.0	17.3	17.8	17.6	18.6	18.5	20.4	22.3	21.8	<.001
Heart failure	14.6	17.9	18.6	19.4	20.0	21.2	21.5	23.0	27.2	28.1	29.4	32.1	<.001
Chronic IHD	94.8	94.2	93.6	93.4	94.1	93.8	92.8	93.9	92.9	92.5	91.9	92.2	<.001
Atrial fibrillation	10.9	9.5	9.3	11.1	12.3	11.5	12.4	13.4	14.3	13.1	14.6	13.3	<.001
Valvular heart disease	5.3	5.8	7.0	5.8	6.5	6.4	7.8	8.2	8.1	7.9	7.6	7.8	<.001
PAD	7.3	7.6	6.8	7.9	8.0	7.9	8.1	7.6	8.6	6.8	6.1	6.4	0.004
Previous stroke	4.4	5.3	5.4	6.6	5.6	6.3	7.5	7.4	7.6	8.0	8.0	8.0	<.001
Previous CABG	3.2	4.5	2.8	4.5	4.2	3.8	4.8	4.3	6.1	5.8	6.1	5.9	<.001
Previous pacemaker	1.7	1.5	1.9	1.6	1.5	1.7	1.4	2.1	2.5	2.0	1.9	2.1	0.020
Chronic pulmonary disease	16.1	15.1	15.1	15.3	18.5	17.8	17.5	17.9	18.7	17.5	18.1	17.6	<.001
Pulmonary hypertension	1.6	2.3	2.4	3.8	3.0	3.8	3.2	3.0	4.5	5.0	4.3	4.0	<.001
Chronic kidney disease	9.4	10.8	13.1	13.0	13.4	14.4	14.7	15.8	17.6	17.5	18.3	19.5	<.001
End-stage renal disease	1.7	2.1	2.9	2.3	2.3	2.6	3.1	2.8	3.5	2.8	3.8	3.6	<.001

Liver cirrhosis	0.4	0.3	0.3	0.5	0.4	0.7	0.7	0.8	0.8	0.8	0.9	0.9	<.001
History of malignancy	6.2	5.6	6.4	5.9	7.4	8.1	7.4	8.8	7.5	8.6	8.3	8.6	<.001
Deficiency anemia	2.1	2.8	3.0	2.5	1.8	2.2	2.1	2.3	3.1	2.7	3.1	2.6	0.101
Malnutrition	1.1	1.1	0.9	0.4	0.9	0.9	1.0	1.2	1.2	1.7	1.6	2.0	<.001
Dementia	1.1	2.1	1.9	2.2	2.0	2.0	1.8	2.4	1.9	1.9	2.2	2.8	0.005
Major depression	0.5	0.3	0.2	0.6	0.7	0.8	0.7	0.5	0.1	0.6	0.4	0.6	0.880
Hospital characteristics													
Hospital region (%)													
Northwest	13.0	22.5	11.3	16.5	13.9	12.9	14.3	13.5	14.4	14.6	14.6	16.3	0.608
Midwest	16.9	10.1	16.4	16.8	20.1	21.5	19.1	21.2	22.1	22.8	21.5	24.0	<.001
South	38.2	38.6	30.6	31.7	37.9	39.3	38.6	38.1	37.2	36.6	37.5	31.5	<.001
West	31.9	28.8	41.7	35.0	28.2	26.4	28.0	27.3	26.4	26.0	26.4	28.2	0.017
Hospital bed size (%)													
Small	5.3	4.3	6.3	9.6	8.5	7.6	13.9	13.4	12.7	14.8	14.0	14.2	<.001
Medium	33.2	21.7	15.4	22.2	22.6	23.9	26.7	25.1	23.0	25.3	24.7	24.1	0.105
Large	61.5	64.1	78.3	68.2	68.9	68.5	59.5	61.5	64.3	59.9	61.3	61.7	<.001
Urban location (%)													
Rural	4.2	5.4	9.4	2.7	7.5	7.9	6.0	5.3	6.7	6.6	6.3	5.7	0.404
Urban non-teaching	42.7	38.5	49.6	42.6	53.6	42.0	28.5	27.7	26.6	20.1	19.4	17.3	<.001
Urban teaching	53.2	56.1	41.0	54.7	48.9	50.1	65.5	67.1	66.8	73.3	74.3	77.0	<.001
Primary payer (%)													
Medicare	43.5	42.2	41.1	43.7	46.2	48.0	46.1	46.4	48.5	48.3	49.8	49.9	<.001
Medicaid	4.8	7.7	7.6	8.2	6.5	6.3	9.7	10.0	9.8	9.8	9.7	9.3	<.001
Private insurance	41.3	39.8	38.5	36.3	36.4	33.2	35.3	35.0	33.3	33.5	32.2	31.6	<.001
Self-pay	6.5	7.4	8.1	8.2	7.8	8.4	6.2	5.3	5.6	4.9	4.7	5.5	<.001
No charge	1.0	0.3	0.7	0.6	0.4	0.8	0.4	0.4	0.2	0.3	0.2	0.4	<.001
Others	3.0	2.6	4.0	3.0	2.8	3.3	2.3	2.9	2.6	3.2	3.3	3.5	0.216
Median income (%)													
Quartile 1	26.2	20.0	23.5	25.3	38.0	28.7	27.6	27.9	29.2	27.5	27.3	25.7	<.001
Quartile 2	26.4	24.5	25.5	23.0	25.4	25.9	26.4	24.3	24.6	27.2	25.5	25.4	0.276
Quartile 3	21.0	30.4	26.0	25.9	23.7	23.7	24.7	26.8	26.4	24.5	25.6	26.1	0.591
Quartile 4	26.4	25.2	25.0	25.8	22.9	21.7	21.4	21.0	19.9	20.8	21.6	22.8	<.001
Clinical presentation (%)													
STEMI (%)	43.9	43.2	44.5	44.5	40.9	41.5	40.6	41.3	40.5	40.7	40.5	40.9	<.001
NSTEMI (%)	56.1	56.8	55.5	55.5	59.1	58.5	59.4	58.7	59.5	59.3	59.5	59.1	<.001

Abbreviations: AI/AN = American Indian/Alaska Native; COPD = chronic obstructive pulmonary disease; IHD = ischemic heart disease; IVUS = intravascular ultrasound; NSTEMI = non-ST-elevation myocardial infarction; OCT = optical coherence tomography; SD = standard deviation; STEMI = ST-elevation myocardial infarction

Table S6. Baseline characteristics of hospitalizations in which OCT-assisted PCI with stent was performed for myocardial infarction from 2008 to 2019

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	P-trend
N (sample)	-	-	-	53	84	105	104	114	148	157	168	319	<.001
N (weighted)	-	-	-	246	420	525	520	570	740	785	840	1,595	<.001
Intravascular imaging (%)													
IVUS	-	-	-	0.0	8.3	1.9	7.7	5.3	7.4	12.1	10.7	13.8	<.001
OCT	-	-	-	100	100	100	100	100	100	100	100	100	1.000
Sex (%)													
Male	-	-	-	56.6	73.8	68.5	71.2	71.1	70.3	71.3	63.7	69.0	0.881
Female	-	-	-	43.3	26.2	31.5	28.9	29.0	29.7	28.7	36.3	31.0	0.881
Age													
Mean (SD)	-	-	-	61.9 (12.4)	60.1 (12.6)	59.9 (12.0)	63.1 (13.4)	59.5 (13.2)	62.7 (13.0)	61.2 (12.4)	64.1 (14.3)	63.6 (13.7)	0.003
<65 (%)	-	-	-	56.6	69.1	68.5	54.8	4.9	54.7	61.8	46.4	51.7	<.001
65-74 (%)	-	-	-	28.3	16.7	17.6	24.0	21.1	27.7	20.4	28.6	25.4	0.121
75-84 (%)	-	-	-	15.1	7.1	10.2	15.4	10.5	12.8	15.3	17.3	16.3	0.017
≥85 (%)	-	-	-	0.0	7.1	3.7	5.8	3.5	4.7	2.6	7.7	6.6	0.126
Race (%)													
White	-	-	-	71.7	78.6	79.6	79.8	82.5	78.4	73.9	72.6	71.2	0.025
Black	-	-	-	20.8	15.5	7.4	11.5	7.9	10.1	7.6	10.1	11.0	0.193
Hispanic	-	-	-	1.9	1.2	6.5	5.8	5.3	4.7	7.6	8.9	9.1	0.002
Asian	-	-	-	3.8	1.2	4.6	1.0	1.8	2.7	4.5	1.8	4.1	0.407
AI/AN	-	-	-	0.0	0.0	0.0	1.0	0.0	1.4	1.9	0.6	0.6	0.317
Other	-	-	-	1.9	3.6	1.9	1.0	2.6	2.7	4.5	6.0	4.1	0.061
Comorbidities (%)													
Smoking	-	-	-	41.5	50.0	53.7	55.8	46.5	54.7	52.9	54.2	54.9	0.153
Hypertension	-	-	-	62.3	69.1	61.1	64.4	57.0	57.4	54.8	50.6	48.6	<.001
Diabetes mellitus	-	-	-	37.7	33.3	27.8	27.9	31.6	31.1	28.0	33.9	29.2	0.611
Hyperlipidemia	-	-	-	73.6	69.1	70.4	81.7	77.2	71.0	70.7	73.2	68.7	0.249
Obesity	-	-	-	11.3	22.6	15.7	14.4	21.1	23.0	15.9	14.9	17.9	0.939
Heart failure	-	-	-	22.6	11.9	15.7	20.2	21.9	14.9	17.2	23.2	26.7	0.005
Chronic IHD	-	-	-	96.2	91.7	95.4	91.4	95.6	95.3	93.6	93.5	92.8	0.589
Atrial fibrillation	-	-	-	5.7	8.3	8.3	13.5	10.5	10.1	10.2	14.9	13.8	0.025
Valvular heart disease	-	-	-	9.4	8.3	4.6	6.7	8.8	10.8	9.6	7.7	5.0	0.497
PAD	-	-	-	9.4	4.8	8.3	5.8	7.0	8.1	6.4	3.0	5.3	0.157
Previous stroke	-	-	-	7.6	6.0	6.5	11.5	5.3	6.8	8.3	9.5	7.8	0.601
Previous CABG	-	-	-	7.6	3.6	4.6	0.0	4.4	4.1	7.6	4.2	3.8	0.962
Previous pacemaker	-	-	-	1.9	2.4	0.9	1.0	0.0	0.7	0.0	3.6	1.9	0.395
Chronic pulmonary disease	-	-	-	9.4	16.7	18.5	15.4	7.9	16.2	18.5	18.5	11.9	0.945
Pulmonary hypertension	-	-	-	0.0	0.0	4.6	2.9	0.9	2.7	3.2	5.4	3.1	0.059
Chronic kidney disease	-	-	-	7.6	6.0	9.3	7.7	11.4	14.9	7.0	14.9	13.5	0.016
End-stage renal disease	-	-	-	5.7	1.2	2.8	3.9	7.0	2.0	1.9	4.2	2.8	0.659

Liver cirrhosis	-	-	-	0.0	0.0	0.0	2.9	0.0	0.7	0.0	0.6	0.3	0.741
History of malignancy	-	-	-	7.6	7.1	7.4	7.7	12.3	9.5	8.9	13.7	8.9	0.319
Deficiency anemia	-	-	-	3.8	1.2	0.0	3.9	0.9	3.4	2.6	6.0	4.1	0.033
Malnutrition	-	-	-	0.0	0.0	0.9	1.0	0.9	2.0	0.6	1.2	0.6	0.704
Dementia	-	-	-	1.9	0.0	1.9	1.9	0.9	0.7	0.6	2.4	1.9	0.450
Major depression	-	-	-	0.0	0.0	0.0	0.0	1.8	0.0	0.6	0.6	0.6	0.327
Hospital characteristics													
Hospital region (%)													
Northwest	-	-	-	11.3	14.3	17.6	21.2	29.0	32.4	35.7	38.1	42.3	<.001
Midwest	-	-	-	3.8	22.6	27.8	16.4	20.2	21.0	12.1	11.3	10.3	<.001
South	-	-	-	84.9	41.7	34.3	41.4	32.5	29.7	32.5	35.7	29.8	<.001
West	-	-	-	0.0	21.4	20.4	21.2	18.4	16.9	19.8	14.9	17.6	0.585
Hospital bed size (%)													
Small	-	-	-	0.0	6.0	1.9	6.7	14.9	10.1	9.6	3.0	4.7	0.974
Medium	-	-	-	11.3	7.1	21.3	32.7	36.8	43.2	44.6	40.5	31.0	<.001
Large	-	-	-	88.7	86.9	76.9	60.6	48.3	46.6	45.9	56.6	64.3	<.001
Urban location (%)													
Rural	-	-	-	1.9	3.6	3.7	5.8	3.5	6.1	2.6	2.4	4.1	0.900
Urban non-teaching	-	-	-	0.0	29.8	30.6	19.2	19.3	14.2	15.3	11.3	7.5	<.001
Urban teaching	-	-	-	98.1	66.7	65.7	75.0	77.2	79.7	82.2	86.3	88.4	<.001
Primary payer (%)													
Medicare	-	-	-	41.5	39.3	37.0	45.2	37.7	39.2	38.2	51.2	47.0	0.030
Medicaid	-	-	-	3.8	8.3	9.3	14.4	11.4	12.2	12.1	10.7	10.0	0.452
Private insurance	-	-	-	37.7	39.3	39.8	28.9	42.1	41.9	40.1	32.7	35.4	0.441
Self-pay	-	-	-	15.1	9.5	10.2	8.7	4.4	3.4	5.7	2.4	3.8	<.001
No charge	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3	0.187
Others	-	-	-	1.9	3.6	3.7	2.9	4.4	3.4	3.8	2.4	3.5	0.994
Median income (%)													
Quartile 1	-	-	-	35.9	34.5	25.7	37.5	17.5	25.7	23.6	19.6	25.7	0.013
Quartile 2	-	-	-	24.5	20.2	27.6	22.1	26.3	23.7	25.5	22.6	22.3	0.648
Quartile 3	-	-	-	3.2	26.2	21.9	17.3	21.9	23.0	19.8	23.8	21.0	0.372
Quartile 4	-	-	-	9.4	19.1	24.8	23.1	34.2	27.7	31.2	33.9	31.0	<.001
Clinical presentation (%)													
STEMI (%)	-	-	-	47.2	47.2	44.4	37.5	38.6	37.8	40.1	39.3	37.9	<.001
NSTEMI (%)	-	-	-	52.8	52.8	55.6	62.5	61.4	62.2	59.9	60.7	62.1	<.001

Abbreviations: AI/AN = American Indian/Alaska Native; COPD = chronic obstructive pulmonary disease; IHD = ischemic heart disease; IVUS = intravascular ultrasound; NSTEMI = non-ST-elevation myocardial infarction; OCT = optical coherence tomography; SD = standard deviation; STEMI = ST-elevation myocardial infarction

Table S7. Procedural characteristics and outcomes of hospitalizations in which IVUS-assisted PCI was performed for myocardial infarction from 2008 to 2019

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	P-trend
N (sample)	1,334	1,784	1,514	2,359	2,544	2,437	2,580	2,515	2,902	3,288	3,863	5,066	<.001
N (weighted)	6,180	8,612	7,327	10,896	12,720	12,185	12,900	12,575	14,510	16,440	19,315	25,330	<.001
Intravascular imaging (%)													
IVUS	100	100	100	100	100	100	100	100	100	100	100	100	1.000
OCT	0.0	0.0	0.0	0.0	0.3	0.1	0.3	0.2	0.4	0.6	0.5	0.9	<.001
Stent type (%)													
Drug-eluting stent (%)	63.0	74.2	74.2	74.7	78.9	80.0	84.8	87.8	90.6	93.8	96.1	98.0	<.001
Bare metal stent (%)	43.9	29.1	28.3	27.6	23.0	21.6	17.1	13.8	11.0	7.5	4.7	2.4	<.001
Procedures (%)													
Mechanical thrombectomy	0.3	0.3	0.1	1.7	5.9	4.8	5.9	7.6	13.9	15.0	14.3	16.5	<.001
IABP	5.2	4.9	6.0	5.8	5.7	4.8	4.7	4.9	4.9	5.3	4.7	4.5	0.019
ECMO	0.0	0.0	0.1	0.0	0.1	0.0	0.1	0.4	0.1	0.3	0.3	0.4	<.001
Percutaneous LVAD	0.2	0.3	0.7	0.4	0.9	1.1	1.3	2.4	3.7	4.4	5.4	5.5	<.001
Durable LVAD	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.104
RRT	1.7	1.9	2.7	2.1	2.2	2.2	2.5	2.6	3.3	2.7	3.3	3.0	<.001
Mechanical ventilation	1.6	3.6	4.4	4.8	3.8	4.1	4.3	5.4	5.0	6.5	5.7	5.7	<.001
Outcomes													
In-hospital mortality (%)	1.6	1.5	1.8	1.8	1.7	1.7	1.8	2.2	2.0	2.9	2.3	2.7	<.001
Length of stay, days, mean (SD)	4.0 (3.9)	4.0 (4.1)	4.1 (4.0)	3.9 (3.8)	3.9 (4.0)	3.8 (4.0)	3.8 (3.8)	3.9 (4.1)	4.1 (4.4)	4.0 (4.4)	4.0 (4.5)	4.0 (4.8)	0.169
Total hospital charge, \$, mean (SD)	89,003 (64,232)	85,471 (65,048)	96,660 (76,813)	90,944 (62,573)	95,842 (70,809)	104,384 (76,756)	110,725 (82,916)	116,253 (88,899)	127,195 (127,796)	131,380 (112,098)	136,760 (128,285)	142,165 (131,796)	<.001
Total hospital cost, \$, mean (SD)	25,595 (15,016)	24,934 (14,928)	26,887 (18,363)	25,692 (15,005)	25,899 (16,739)	27,243 (17,251)	27,171 (17,134)	28,623 (19,463)	31,232 (28,279)	31,160 (23,203)	31,697 (24,304)	32,910 (27,446)	<.001
Inflation-adjusted total hospital cost, \$, mean (SD)	28,139 (16,509)	27,515 (16,473)	29,180 (19,929)	27,040 (15,792)	26,700 (17,256)	27,665 (17,604)	27,170 (17,134)	28,586 (19,439)	30,802 (27,890)	30,092 (22,407)	29,879 (22,911)	30,465 (23,406)	<.001
Cardiogenic shock (%)	3.8	4.4	5.0	5.3	5.2	5.2	5.4	6.7	6.2	7.5	7.4	8.0	<.001

Abbreviations: ECMO = extracorporeal membranous oxygenation; IABP = intra-aortic balloon pump; IVUS = intravascular ultrasound; LVAD = left ventricular assist device; OCT = optical coherence tomography; RRT = renal replacement therapy; SD = standard deviation

Table S8. Procedural characteristics and outcomes of hospitalizations in which OCT-assisted PCI was performed for myocardial infarction from 2008 to 2019

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	P-trend
N (sample)	-	-	-	53	84	105	104	114	148	157	168	319	<.001
N (weighted)	-	-	-	246	420	525	520	570	740	785	840	1,595	<.001
Intravascular imaging (%)													
IVUS	-	-	-	0.0	8.3	1.9	7.7	5.3	7.4	12.1	10.7	13.8	<.001
OCT	-	-	-	100	100	100	100	100	100	100	100	100	1.000
Stent type (%)													
Drug-eluting stent (%)	-	-	-	75.5	82.1	87.0	85.6	91.2	97.3	93.6	99.4	98.8	<.001
Bare metal stent (%)	-	-	-	26.4	17.9	13.9	20.2	10.5	4.1	8.9	2.4	1.9	<.001
Procedures (%)													
Mechanical thrombectomy	-	-	-	7.6	8.3	7.4	7.7	3.5	10.1	10.8	14.3	12.5	0.007
IABP	-	-	-	0.0	1.2	2.8	1.9	2.6	3.4	4.5	1.8	2.2	0.524
ECMO	-	-	-	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.204
Percutaneous LVAD	-	-	-	1.9	1.2	2.8	0.0	0.9	1.4	3.8	3.6	1.3	0.567
Durable LVAD	-	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	<.001
RRT	-	-	-	3.8	1.2	1.9	4.8	4.4	2.0	1.3	4.2	2.5	0.949
Mechanical ventilation	-	-	-	3.8	0.0	3.7	0.0	7.0	4.1	3.2	3.6	2.3	0.794
Outcomes													
In-hospital mortality (%)	-	-	-	0.0	1.2	0.9	0.0	1.8	1.4	1.9	0.6	0.6	0.108
Length of stay, days, mean (SD)	-	-	-	3.0 (1.9)	3.1 (2.2)	3.9 (5.2)	3.4 (2.6)	3.9 (5.0)	3.5 (3.4)	3.3 (2.2)	3.7 (3.1)	3.5 (3.2)	0.670
Total hospital charge, \$, mean (SD)	-	-	-	63,869 (27,502)	79,023 (37,357)	96,688 (91,627)	99,536 (56,798)	107,345 (75,298)	107,156 (65,753)	121,377 (83,513)	126,631 (89,178)	129,716 (110,418)	<.001
Total hospital cost, \$, mean (SD)	-	-	-	21,072 (8,398)	22,307 (9,086)	27,763 (20,558)	26,237 (11,915)	28,386 (18,515)	29,131 (16,280)	30,746 (18,319)	30,655 (17,370)	32,866 (23,055)	<.001
Inflation-adjusted total hospital cost, \$, mean (SD)	-	-	-	22,177 (8,838)	22,997 (9,367)	28,185 (21,156)	26,237 (11,915)	28,350 (18,491)	28,730 (16,056)	29,692 (17,691)	28,897 (16,373)	30,424 (21,342)	<.001
Cardiogenic shock (%)	-	-	-	3.8	2.4	2.8	1.9	5.3	2.7	5.7	4.2	2.5	0.866

Abbreviations: ECMO = extracorporeal membranous oxygenation; IABP = intra-aortic balloon pump; IVUS = intravascular ultrasound; LVAD = left ventricular assist device; OCT = optical coherence tomography; RRT = renal replacement therapy; SD = standard deviation

Table S9. Use of intravascular imaging across different races, hospitals, primary payer, and income

	Total	Intravascular Imaging (+)	Intravascular Imaging (-)
Race			
White	2,221,692	125,768 (5.7%)	2,095,924 (94.3%)
Black	255,421	14,107 (5.5%)	241,314 (94.5%)
Hispanic	219,707	12,913 (5.9%)	206,794 (94.1%)
Asian	67,710	4,317 (6.4%)	63,392 (93.6%)
AI/AN	17,128	1,232 (7.2%)	15,896 (92.8%)
Other	100,089	6,323 (6.3%)	93,766 (93.7%)
Hospital characteristics			
Hospital region			
Northwest	512,150	25,429 (4.9%)	486,721 (95.0%)
Midwest	625,529	33,382 (5.3%)	592,147 (94.7%)
South	1,217,405	59,417 (4.9%)	1,157,988 (91.2%)
West	526,663	46,433 (8.8%)	480,230 (92.8%)
Hospital bed size			
Small	325,519	18,613 (5.7%)	306,906 (94.3%)
Medium	759,293	40,120 (5.3%)	719,173 (94.7%)
Large	1,785,869	105,822 (5.9%)	1,680,047 (94.1%)
Urban location			
Rural	172,796	9,970 (5.8%)	162,826 (94.2%)
Urban non-teaching	923,678	47,878 (5.2%)	875,800 (94.8%)
Urban teaching	1,774,207	106,706 (6.0%)	1,667,501 (94.0%)
Primary payer			
Medicare	1,344,242	77,258 (5.7%)	1,266,984 (92.3%)
Medicaid	238,413	14,356 (6.0%)	224,057 (94.0%)
Private insurance	978,990	57,067 (5.8%)	921,923 (94.2%)
Self-pay	207,108	10,242 (4.9%)	196,865 (95.1%)
No charge	19,844	694 (3.5%)	19,150 (96.5%)
Others	92,774	5,033 (5.4%)	87,741 (94.6%)
Median income			
Quartile 1	829,428	44,099 (5.3%)	785,329 (94.7%)
Quartile 2	781,362	41,722 (5.3%)	739,640 (94.7%)
Quartile 3	702,140	41,695 (5.9%)	660,445 (94.1%)
Quartile 4	568,816	37,144 (6.5%)	531,672 (93.5%)

Abbreviations: AI/AN = American Indian/Alaska Native

Table S10. Characteristics of percutaneous coronary intervention with and without intravascular imaging

	Intravascular Imaging (+)	Intravascular Imaging (-)	P-value
Unweighted sample size	33,324	550,839	
Weighted sample size	164,660	2,717,086	
Intravascular Imaging (%)			
IVUS	96.6	0	<.001
OCT	3.8	0	<.001
Sex (%)			0.142
Male	68.5	68.1	
Female	31.5	31.9	
Age, mean (SD)	63.5	63.5	0.647
Race (%)			<.001
White	76.4	77.2	
Black	8.6	8.9	
Hispanic	7.8	7.6	
Asian	2.6	2.3	
AI/AN	0.8	0.6	
Other	3.9	3.5	
Comorbidities (%)			
Smoking	49.8	49.2	0.035
Hypertension	53.6	55.4	<.001
Diabetes mellitus	34.3	34.4	0.623
Hyperlipidemia	71.6	68.6	<.001
Obesity	18.2	17.0	<.001
Heart failure	24.3	20.9	<.001
Chronic IHD	93.1	90.6	<.001
Atrial fibrillation	12.5	11.6	<.001
Valvular heart disease	6.5	7.2	<.001
Peripheral artery disease	6.8	7.3	<.001
Previous stroke	7.0	6.4	<.001
Previous PCI	9.3	8.9	0.003
Previous CABG	4.9	5.8	<.001
Previous pacemaker	1.9	1.7	0.037
Chronic pulmonary disease	17.3	16.5	<.001
Pulmonary hypertension	3.6	2.6	<.001
Chronic kidney disease	15.6	13.9	<.001
End-stage renal disease	3.0	2.5	<.001
Liver cirrhosis	0.7	0.5	<.001
History of malignancy	7.1	7.7	<.001
Deficiency anemia	2.6	2.1	<.001
Malnutrition	1.3	1.2	0.094
Dementia	2.1	2.3	0.019
Major depression	0.5	0.4	0.003
Hospital characteristics (%)			
Hospital region			<.001
Northwest	15.4	17.8	
Midwest	20.2	21.7	
South	36.1	42.7	
West	28.3	17.7	
Hospital bed size			<.001
Small	11.3	11.4	
Medium	24.3	26.4	
Large	64.4	62.2	
Urban location			<.001
Rural	6.1	6.2	
Urban non-teaching	29.4	32.5	
Urban teaching	64.5	61.3	

Primary payer (%)			<.001
Medicare	46.9	46.6	
Medicaid	8.7	8.2	
Private insurance	34.7	34.0	
Self-pay	6.2	7.3	
No charge	0.4	0.7	
Others	3.1	3.3	
Median income (%)			<.001
Quartile 1	26.7	28.9	
Quartile 2	25.3	27.2	
Quartile 3	25.4	24.3	
Quartile 4	22.7	19.6	
Stent type (%)			
Drug-eluting stent	86.7	80.1	<.001
Bare metal stent	15.1	21.2	<.001
Procedures (%)			
Mechanical thrombectomy	9.2	4.7	<.001
Intra-aortic balloon pump	4.9	4.5	<.001
ECMO	0.2	0.1	<.001
Percutaneous LVAD	2.8	1.1	<.001
Durable LVAD	0.0	0.0	0.509
Renal replacement therapy	2.7	2.2	<.001
Mechanical ventilation	4.9	5.2	0.029
Clinical presentation (%)			<.001
STEMI	41.4	47.0	
NSTEMI	58.7	53.0	

Abbreviations: AI/AN = American Indian/Alaska Native; CABG = coronary artery bypass graft; ECMO = extracorporeal membranous oxygenation; IHD = ischemic heart disease; IVUS = intravascular ultrasound; LVAD = left ventricular assist device; NSTEMI = non-ST-elevation myocardial infarction; OCT = optical coherence tomography; PCI = percutaneous coronary intervention; SD = standard deviation; STEMI = ST-elevation myocardial infarction

Table S11. Comparison of outcomes after intravascular ultrasound and optical coherence tomography-guided percutaneous coronary intervention

	Outcome	IVUS (+)	IVUS (-)	Crude Odds Ratio	P-value	Adjusted Odds Ratio^a	P-value
IVUS	In-hospital mortality (\$)	2.1	2.8	0.77 (0.71-0.83)	<.001	0.71 (0.65-0.78)	<.001
	Length of stay (days)	4.3	4.1	0.29 (0.25-0.34) ^b	<.001	0.21 (0.17-0.25) ^b	<.001
	Total hospital cost ^c (\$)	28,872	23,211	5,661 (5,463-5,858) ^b	<.001	3,990 (3,828-4,152) ^b	<.001
	Outcome	OCT (+)	OCT (-)	Crude Odds Ratio	P-value	Adjusted Odds Ratio^a	P-value
OCT	In-hospital mortality (%)	1.1	2.8	0.38 (0.21-0.66)	0.001	0.59 (0.30-1.15)	0.123
	Length of stay (days)	3.4	3.7	0.25 (0.01-0.49) ^b	0.037	0.06 ([-0.15]-0.26) ^b	0.586
	Total hospital cost ^c (\$)	27,581	23,211	4,370 (3,364-5,376) ^b	<.001	4,402 (3,581-5,224) ^b	<.001

^aAdjusted for sex, age, comorbidities, hospital characteristics, primary payer, median income, clinical presentation, and procedural characteristics

^bMean difference with 95% confidence interval

^cInflation-adjusted total hospital cost, rounded to the nearest United States dollar

Abbreviations: IVUS = intravascular ultrasound; OCT = optical coherence tomography

Figure S1. Flow chart of this study

