

Supplementary Table S1: ICD 10 Codes

Disease/Procedure	ICD Codes
Acute respiratory distress syndrome	J810, J80
COVID-19	U071, U00, U49, U50, U85, J1282
Influenza	J09X1, J09X2, J09X3, J09X9,
	J1000, J101, J1008, J101, J102, J1081,
	J1082, J1083, J1089, J1100, J1108, J111,
	J112, J1181, J1182, J1183, J1189
Vasopressor	3E030XZ, 3E033XZ, 3E040XZ, 3E043XZ, 3E050XZ, 3E053XZ, 3E060XZ, 3E063XZ
Mechanical Circulatory Support	5A02110, 5A02210, 5A0211D, 02HA3RZ, 5A02116, 5A0221D,
	5A1522F, 5A1522G, 5A1522H, 5A15A2F, 5A15A2G, 5A15A2H, 5A15223
Mechanical ventilation invasive	0BH17EZ, 0BH18EZ, 5A1935Z, 5A0945Z, 5A0955Z
Non-invasive mechanical ventilation	5A09457, 5A09458, 5A09358, 5A09557, 5A09558, 5A09357
Sudden cardiac arrest	I462, I468, I469
hemodialysis	5A1D70Z, 5A1D90Z, 5A1D80Z, 5A1D00Z, 5A1D60Z
Cardiogenic Shock	R570
Chronic Kidney Disease	N181, N182, N1830, N1831, N1832, N184, N185, N189
Acute kidney injury	N170, N171, N172, N178, N179, N990
Acute liver failure	K7200, K7201, K712
Venous thromboembolism	I82210, I82220, I82290, I82401, I82402, I82403, I82409, I82411,
	I82412, I82413, I82419, I82421, I82422, I82423, I82429, I82431, I82432,
	I82433, I82439, I82441, I82442, I82443, I82449, I82451, I82452,
	I82453, I82459, I82461, I82462, I82463, I82469, I82491, I82492, I82493,
	I82499, I824Y1, I824Y2, I824Y3, I824Y9, I824Z1, I824Z2, I824Z3, I824Z9,
	I82601, I82602, I82603, I82609, I82611, I82612, I82613, I82619, I82621,
	I82622, I82623, I82629, I82890, I8290, I82A11, I82A12, I82A13, I82A19,
	I82B11, I82B12, I82B13, I82B19, I82C11, I82C12, I82C13, I82C19, I1260,
	I2601, I2602, I2690, I2692, I2693, I2694, I2699, I2609
Smoking	F17, F172, F1720, F17200, F17201, F17203, F17208,

	F17209, F1721, F17210, F17211, F17213, F17218,
	F17219, F1722, F17220, F17221, F17223, F17228,
	F17229, F1729, F17290, F17291, F17293, F17298, F17299, Z87891
History of percutaneous coronary intervention	Z9861, Z9861
History of Coronary Artery Bypass Surgery	Z951
Previous Myocardial Infarction	I252
Coronary Artery Disease	I2510, I25111, I25118, I25119, I252, I253, I254,
	I2541, I2542, I255, I256, I257, I2570, I25700,
	I25701, I25708, I25709, I2571, I25710, I25711, I25718,
	I25719, I2572, I25720, I25721, I25728, I25729, I2573, I25730,
	I25731, I25738, I25739, I2575, I25750, I25751, I25758, I25759,
	I2576, I25760, I25761, I25768, I25769
Chronic Pulmonary Disease	Elixhauser comorbidities index
Diabetes	Elixhauser comorbidities index
AIDS	Elixhauser comorbidities index
Hypothyroidism	Elixhauser comorbidities index
Autoimmune	Elixhauser comorbidities index
Dementia	Elixhauser comorbidities index
Depression	Elixhauser comorbidities index
Lymphoma	Elixhauser comorbidities index
Leukemia	Elixhauser comorbidities index
Metastatic Cancer	Elixhauser comorbidities index
Solid Tumor Without Metastasis (2 kinds)	Elixhauser comorbidities index
Obesity	Elixhauser comorbidities index
Drug Abuse	Elixhauser comorbidities index
Hypertension	Elixhauser comorbidities index

PAD Peripheral vascular disease	Elixhauser comorbidities index
Alcohol	Elixhauser comorbidities index

Supplementary Table S2: COVID 19 ARDS (C-ARDS) and Influenza ARDS (I-ARDS): propensity 1:1 matched patient level characteristic. SD=Standard Deviation.

Characteristics	C-ARDS (%)	I-ARDS (%)	p value
n = 5,750	2,875	2,875	--
Gender (%)			0.555
Female	1,450 (50.43)	1,400 (48.69)	
Male	1,425 (49.56)	1,475 (51.30)	
Mean Age Years (SD)			--
Female	56.45 (17.11)	58.66 (17.15)	
Male	57.37 (14.11)	54.91 (14.06)	
AGE Groups (%)			0.455
>=18-29	175 (6.08)	130 (4.50)	
30-49	660 (22.95)	744 (25.91)	
50-69	1,425 (49.56)	1,369 (47.65)	
>=70	615 (21.39)	630 (21.91)	
RACE (%)			0.951
White	1,770 (62.54)	1,748 (62.43)	
Asian or Pacific Islander	65 (2.29)	70 (2.50)	
Black	475 (16.78)	494 (17.71)	
Hispanic	420 (14.84)	378 (13.59)	
Native American	50 (1.76)	64 (2.32)	
Other	50 (1.76)	40 (1.43)	

MEDIAN HOUSEHOLD			0.976
INCOME (%)			
≤\$49,999	1,000 (35.52)	969 (34.51)	
\$50,000-64,999	800 (28.41)	824 (29.35)	
\$65,000-85,999	505 (17.93)	517 (18.32)	
≥\$86,000	510 (18.11)	500 (17.79)	
INSURANCE STATUS			0.990
(%)			
Medicaid	560 (19.47)	579 (20.17)	
Medicare	1,235 (42.95)	1,211 (42.08)	
No charge	20 (0.69)	25 (8.86)	
Other	80 (2.78)	76 (2.60)	
Private Insurance	830 (28.86)	814 (28.34)	
Self-pay	150 (5.21)	170 (5.91)	
HOSPITAL DIVISION			<0.001
(%)			
East North Central	530 (18.43)	469 (16.34)	
East South Central	190 (6.60)	265 (9.21)	
Middle Atlantic	510 (17.73)	215 (7.47)	
Mountain	205 (7.13)	151 (5.21)	
New England	185 (6.43)	113 (4.00)	
Pacific	220 (7.65)	360 (12.52)	
South Atlantic	435 (15.13)	640 (22.26)	
West North Central	230 (8.00)	214 (7.47)	
West South Central	370 (12.86)	336 (15.47)	
HOSPITAL BED SIZE (%)			0.055

Large	1,525 (53.04)	1,555 (54.08)	
Medium	675 (23.47)	795 (27.65)	
Small	675 (23.47)	525 (18.26)	
HOSPITAL TEACHING STATUS (%)			0.331
Rural	250 (8.69)	220 (7.65)	
Urban nonteaching	385 (13.39)	470 (16.34)	
Urban teaching	2,240 (77.91)	2,185 (76.00)	
COMORBIDITIES (%)			
Coronary Artery Disease	335 (11.65)	525 (81.73)	0.001
Myocardial infarction	85 (2.95)	110 (3.82)	0.415
Hypertension	1,880 (65.39)	1,871 (65.04)	0.901
Diabetes	1,100 (38.26)	1,131 (39.47)	0.671
Cancer	175 (6.08)	170 (5.91)	0.901
Obesity	750 (26.08)	820 (28.52)	0.354
Drug Abuse	140 (4.86)	165 (5.73)	0.510
Smoking	665 (23.13)	1,010 (35.13)	<0.001
Alcohol	125 (4.34)	156 (5.39)	0.411
Chronic Pulmonary Disease	980 (34.08)	980 (34.08)	1.000
HIV	0 (0.00)	16 (0.52)	0.082
Peripheral Vascular Disease	95 (3.30)	101 (3.47)	0.870
CKD	305 (10.60)	255 (8.87)	0.319
Hypothyroidism	335 (11.65)	350 (12.17)	0.784
Autoimmune	135 (4.69)	151 (5.21)	0.683

Depression	280 (9.73)	291 (10.08)	0.843
Dementia	70 (2.43)	102 (3.47)	0.297
