

Supplemental Material

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eTable 1. Mortality and length of stay for acute ischemic stroke (AIS) patients in the COVID-19 (March 2020 – February 2021) versus pre-COVID-19 study period (March 2019 – February 2020)

	Bivariate Comparison (COVID-19 versus pre-COVID-19)	Generalized estimating equation (GEE) Ratio of the Means^a	95% Confidence Interval (CI)	P-value^c
Mortality (% of admissions)	3.51% vs. 3.16%	1.09	1.03 – 1.15	0.0013
Adjusted LOS^b (mean [standard error of the mean])	4.27 (0.04) vs. 4.24 (0.04)	1.01	0.99 – 1.03	0.3121

^a Generalized estimating equation model adjusted for study covariates; ^b LOS Length of stay; ^c P-value derived from GEE model

eTable 2. Mortality and length of stay for acute myocardial infarction (AMI) patients the first wave of COVID-19 (March 2020 – February 2021) versus pre-COVID-19 study period (March 2019 – February 2020)

	Bivariate Comparison (COVID-19 versus pre-COVID-19)	Generalized estimating equation (GEE) Ratio of the Means^a	95% Confidence Interval (CI)	P-value^c
Mortality (% of admissions)	4.81% vs. 4.29%	1.18	1.13 – 1.23	<0.0001
Adjusted LOS^b (mean [standard error of the mean])	3.81 (0.04) vs. 3.96 (0.04)	0.96	0.95 – 0.97	<0.0001

^a Generalized estimating equation model adjusted for study covariates; ^b LOS Length of stay; ^c P-value derived from GEE model

eTable 3. Patient and provider characteristics for acute ischemic stroke (AIS) patients in the first wave of COVID-19 (March-May 2020) versus pre-COVID-19 study period (March-May 2019)

	COVID-19 Era (March – May 2020) (N = 24,355)		Pre-COVID-19 Era (March – May 2019) (N = 32,409)		P-values
AIS Hospitalization Volume	24,355		32,409		24.85% decline
Characteristics	N	%	N	%	
Age (years)					
Median IQR	71.00	19.00	71.00	19.00	0.0002
Mean +/- SD	70.02	13.23	70.50	12.98	0.0016
18 – 49	1,753	7.20%	2,107	6.50%	0.0010
50 – 59	3,351	13.76%	4,311	13.30%	
60 – 69	5,907	24.25%	7,812	24.10%	
70+	13,344	54.79%	18,179	56.09%	
Gender					0.4230
Male	12,710	52.19%	16,803	51.85%	
Female	11,645	47.81%	15,606	48.15%	
Race					<0.0001
White	18,513	76.01%	24,823	76.59%	
Black	3,823	15.70%	4,719	14.56%	
Asian	434	1.78%	622	1.92%	
Other	1,585	6.51%	2,245	6.93%	
Marital Status					<0.0001
Married	10,145	41.65%	13,934	42.99%	

Single	12,063	49.53%	15,508	47.85%	
Other	2,147	8.82%	2,967	9.15%	
Payor					<0.0001
Commercial	3,946	16.20%	4,994	15.41%	
Medicaid	2,193	9.00%	2,661	8.21%	
Medicare	16,629	68.28%	22,890	70.63%	
Other	1,587	6.52%	1,864	5.75%	
Elixhauser Score					<0.0001
0	345	1.42%	579	1.79%	
1	1,424	5.85%	2,437	7.52%	
2+	22,586	92.74%	29,393	90.69%	
Congestive Heart Failure					0.0130
	4,851	19.92%	6,186	19.09%	
Hypertension					0.0160
	21,131	86.76%	27,891	86.06%	
Diabetes					0.5460
	9,680	39.75%	12,800	39.50%	
Obesity					0.0001
	4,154	17.06%	4,958	15.30%	
Atrial Fibrillation					0.0020
	6,011	24.68%	7,627	23.53%	
TIA					0.0120
	436	1.79%	493	1.52%	
Coronary Artery Disease					0.0001
	7,298	29.97%	10,192	31.45%	
Dyslipidemia					0.0180
	16,091	66.07%	21,102	65.11%	
Smoking					0.2960
	5,190	21.31%	6,789	20.95%	
Number of Beds					0.2150
0 – 299	7,783	31.96%	10,189	31.44%	
300 – 500	7,526	30.90%	10,223	31.54%	
500+	9,046	37.14%	11,997	37.02%	
Region					<0.0001
Midwest	5,719	23.48%	7,480	23.08%	
Northeast	2,828	11.61%	4,288	13.23%	
South	12,276	50.40%	16,203	50.00%	
West	3,532	14.50%	4,438	13.69%	
Urban-Rural Status					0.7290
Rural	2,978	12.23%	3,994	12.32%	
Urban	21,377	87.77%	28,415	87.68%	
Teaching					0.4480
	12,367	50.78%	16,561	51.10%	

Mechanical Thrombectomy (MT)	1,879	7.72%	1,909	5.89%	<0.0001
Intravenous Thrombolysis (IVT)	2,558	10.49%	3,004	9.27%	<0.0001

eTable 4. Mortality and length of stay for acute ischemic stroke (AIS) patients in the first wave of COVID-19 (March-May 2020) versus pre-COVID-19 study period (March-May 2019)

	Bivariate Comparison (COVID-19 versus pre-COVID-19)	Generalized estimating equation (GEE) Ratio of the Means^a	95% Confidence Interval (CI)	P-value^c
Mortality (% of admissions)	3.51% vs. 3.07%	1.10	0.99 – 1.22	0.0789
Adjusted LOS^b (mean [standard error of the mean])	4.10 (0.05) vs. 4.22 (0.05)	0.97	0.95 – 0.99	0.0151

^aGeneralized estimating equation model adjusted for study covariates; ^bLOS Length of stay; ^cP-value derived from GEE model

eTable 5. Patient and provider characteristics for acute ischemic stroke (AIS) patients in the second wave of COVID-19 (June-August 2020) versus pre-COVID-19 study period (June-August 2019)

	COVID-19 Era (June – August 2020) (N = 27,925)		Pre-COVID-19 Era (June – August 2019) (N = 31,497)		P-values
AIS Hospitalization Volume	27,925		31,497		11.34% decline
Characteristics	N	%	N	%	
Age (years)					
Median IQR	71.00	18.00	71.00	18.00	0.0348
Mean +/- SD	69.88	13.07	70.12	13.12	0.5167
18 – 49	2,058	7.37%	2,203	6.99%	0.3280
50 – 59	3,752	13.44%	4,296	13.64%	
60 – 69	6,839	24.49%	7,713	24.49%	
70+	15,276	54.70%	17,285	54.88%	
Gender					0.8220
Male	14,596	52.27%	16,434	52.18%	
Female	13,329	47.73%	15,063	47.82%	
Race					<0.0001
White	21,585	77.30%	23,905	75.90%	
Black	4,122	14.76%	4,731	15.02%	
Asian	513	1.84%	661	2.10%	
Other	1,705	6.11%	2,200	6.98%	
Marital Status					0.5410
Married	12,028	43.07%	13,486	42.82%	
Single	13,577	48.62%	15,319	48.64%	
Other	2,320	8.31%	2,692	8.55%	
Payor					0.0020
Commercial	4,560	16.33%	4,917	15.61%	
Medicaid	2,563	9.18%	2,712	8.61%	
Medicare	18,998	68.03%	21,859	69.40%	
Other	1,804	6.46%	2,009	6.38%	
Elixhauser Score					<0.0001
0	369	1.32%	551	1.75%	

1	1,815	6.50%	2,293	7.28%	
2+	25,741	92.18%	28,653	90.97%	
Congestive Heart Failure	5,557	19.90%	5,973	18.96%	0.0040
Hypertension	24,332	87.13%	27,206	86.38%	0.0070
Diabetes	11,045	39.55%	12,379	39.30%	0.5330
Obesity	4,996	17.89%	5,087	16.15%	0.0001
Atrial Fibrillation	6,602	23.64%	7,226	22.94%	0.0440
TIA	487	1.74%	491	1.56%	0.0770
Coronary Artery Disease	8,652	30.98%	9,829	31.21%	0.5580
Dyslipidemia	18,810	67.36%	20,906	66.37%	0.0110
Smoking	6,118	21.91%	6,814	21.63%	0.4180
Number of Beds					0.4300
0 – 299	8,946	32.04%	9,938	31.55%	
300 – 500	8,533	30.56%	9,725	30.88%	
500+	10,446	37.41%	11,834	37.57%	
Region					0.0350
Midwest	6,942	24.86%	7,589	24.09%	
Northeast	3,530	12.64%	4,175	13.26%	
South	13,693	49.03%	15,551	49.37%	
West	3,760	13.46%	4,182	13.28%	
Urban-Rural Status					0.6830
Rural	3,421	12.25%	3,824	12.14%	
Urban	24,504	87.75%	27,673	87.86%	
Teaching	14,437	51.70%	16,459	52.26%	0.1750
Mechanical Thrombectomy (MT)	2,125	7.61%	1,887	5.99%	<0.0001
Intravenous Thrombolysis (IVT)	2,846	10.19%	3,063	9.72%	0.0577

eTable 6. Mortality and length of stay for acute ischemic stroke (AIS) patients in the second wave of COVID-19 (June-August 2020) versus pre-COVID-19 study period (June-August 2019)

	Bivariate Comparison (COVID-19 versus pre-COVID-19)	Generalized estimating equation (GEE) Ratio of the Means^a	95% Confidence Interval (CI)	P-value^c
Mortality (% of admissions)	3.43% vs. 2.84%	1.16	1.06 – 1.27	0.0010
Adjusted LOS^b (mean [standard error of the mean])	4.28 (0.05) vs. 4.17 (0.05)	1.02	0.99 – 1.05	0.0581

^aGeneralized estimating equation model adjusted for study covariates; ^bLOS Length of stay; ^cP-value derived from GEE model

eTable 7. Patient and provider characteristics for acute ischemic stroke (AIS) patients in the third wave of COVID-19 (September 2020 – February 2021) versus pre-COVID-19 study period (September 2019 – February 2020)

	COVID-19 Era (September 2020 – February 2021) (N = 52,801)		Pre-COVID-19 Era (September 2019 – February 2020) (N = 61,210)		P-values
AIS Hospitalization Volume	52,801		61,210		13.74% decline
Characteristics	N	%	N	%	
Age (years)					
Median IQR	72.00	18.00	72.00	19.00	0.0022
Mean +/- SD	70.33	13.08	70.54	13.14	0.0064
18 – 49	3,740	7.08%	4,179	6.83%	0.0040
50 – 59	6,651	12.60%	7,929	12.95%	
60 – 69	12,868	24.37%	14,488	23.67%	
70+	29,542	55.95%	34,614	56.55%	
Gender					0.2130
Male	27,252	51.61%	31,366	51.24%	
Female	25,549	48.39%	29,844	48.76%	
Race					<0.0001
White	40,327	76.38%	46,519	76.00%	
Black	8,236	15.60%	9,276	15.15%	
Asian	1,053	1.99%	1,202	1.96%	
Other	3,185	6.03%	4,213	6.88%	
Marital Status					0.2060
Married	22,365	42.36%	26,246	42.88%	
Single	25,815	48.89%	29,665	48.46%	
Other	4,621	8.75%	5,299	8.66%	
Payor					0.0040
Commercial	8,385	15.88%	9,800	16.01%	
Medicaid	4,556	8.63%	5,059	8.26%	
Medicare	36,411	68.96%	42,594	69.59%	
Other	3,449	6.53%	3,757	6.14%	
Elixhauser Score					0.0010

0	765	1.45%	1,016	1.66%	
1	3,428	6.49%	4,166	6.81%	
2+	48,608	92.06%	56,028	91.53%	
Congestive Heart Failure	10,197	19.31%	12,017	19.63%	0.1730
Hypertension	45,941	87.01%	53,026	86.63%	0.0600
Diabetes	20,748	39.29%	23,878	39.01%	0.3260
Obesity	9,453	17.90%	9,990	16.32%	0.0001
Atrial Fibrillation	12,894	24.42%	15,106	24.68%	0.3110
TIA	984	1.86%	1,020	1.67%	0.0120
Coronary Artery Disease	16,060	30.42%	18,741	30.62%	0.4610
Dyslipidemia	35,644	67.51%	40,665	66.44%	0.0001
Smoking	10,789	20.43%	12,530	20.47%	0.8770
Number of Beds					0.0060
0 – 299	17,164	32.51%	19,395	31.69%	
300 – 500	15,817	29.96%	18,748	30.63%	
500+	19,820	37.54%	23,067	37.69%	
Region					0.0001
Midwest	12,846	24.33%	14,303	23.37%	
Northeast	6,809	12.90%	8,004	13.08%	
South	25,968	49.18%	30,260	49.44%	
West	7,178	13.59%	8,643	14.12%	
Urban-Rural Status					0.0270
Rural	6,127	11.60%	7,362	12.03%	
Urban	46,674	88.40%	53,848	87.97%	
Teaching					
Mechanical Thrombectomy (MT)	3,975	7.53%	4,120	6.73%	<0.0001
Intravenous Thrombolysis (IVT)	5,206	9.86%	6,126	10.01%	0.4033

eTable 8. Mortality and length of stay for acute ischemic stroke (AIS) patients in the third wave of COVID-19 (September 2020 – February 2021) versus pre-COVID-19 study period (September 2019 – February 2020)

	Bivariate Comparison (COVID-19 versus pre-COVID-19)	Generalized estimating equation (GEE) Ratio of the Means^a	95% Confidence Interval (CI)	P-value^c
Mortality (% of admissions)	3.56% vs. 3.37%	1.06	0.99 – 1.13	0.1107
Adjusted LOS^b (mean [standard error of the mean])	4.36 (0.04) vs. 4.30 (0.04)	1.01	1.00 – 1.03	0.1072

^aGeneralized estimating equation model adjusted for study covariates; ^bLOS Length of stay; ^cP-value derived from GEE model

eTable 9. Patient and provider characteristics for acute myocardial infarction (AMI) patients in the first wave of COVID-19 (March-May 2020) versus pre-COVID-19 study period (March-May 2019)

	COVID-19 Era (March – May 2020) (N = 26,340)		Pre-COVID-19 Era (March – May 2019) (N = 35,993)		P-values
AMI Hospitalization Volume	26,340		35,993		26.81% decline
Characteristics	N	%	N	%	
Age (years)					
Median IQR	66.00	18.00	67.00	19.00	<0.0001
Mean +/- SD	65.79	12.96	66.71	13.15	0.0116
18 – 49	2,974	11.29%	3,812	10.59%	<0.0001
50 – 59	5,245	19.91%	6,911	19.20%	
60 – 69	7,579	28.77%	9,603	26.68%	
70+	10,542	40.02%	15,667	43.53%	
Gender					<0.0001
Male	17,212	65.35%	22,746	63.20%	
Female	9,128	34.65%	13,247	36.80%	
Race					<0.0001
White	21,301	80.87%	28,449	79.04%	
Black	2,707	10.28%	3,942	10.95%	
Asian	483	1.83%	767	2.13%	
Other	1,849	7.02%	2,835	7.88%	
Marital Status					<0.0001
Married	12,634	47.97%	17,088	47.48%	
Single	11,405	43.30%	15,293	42.49%	
Other	2,301	8.74%	3,612	10.04%	
Payor					<0.0001
Commercial	6,794	25.79%	8,392	23.32%	
Medicaid	2,575	9.78%	3,310	9.20%	
Medicare	14,541	55.21%	21,265	59.08%	
Other	2,430	9.23%	3,026	8.41%	
Elixhauser Score					0.0540
0	827	3.14%	1,245	3.46%	

1	2,843	10.79%	3,964	11.01%	
2+	22,670	86.07%	30,784	85.53%	
Congestive Heart Failure	11,306	42.92%	15,462	42.96%	0.9300
Hypertension	21,849	82.95%	29,906	83.09%	0.6490
Diabetes	10,720	40.70%	15,025	41.74%	0.0090
Obesity	6,649	25.24%	8,209	22.81%	0.0001
Atrial Fibrillation	4,047	15.36%	6,058	16.83%	0.0001
TIA	56	0.21%	82	0.23%	0.6900
Coronary Artery Disease	22,426	85.14%	30,599	85.01%	0.6610
Dyslipidemia	19,429	73.76%	26,062	72.41%	0.0001
Smoking	7,321	27.79%	9,471	26.31%	0.0001
Number of Beds					<0.0001
0 – 299	9,132	34.67%	11,959	33.23%	
300 – 500	8,584	32.59%	12,114	33.66%	
500+	8,624	32.74%	11,920	33.12%	
Region					<0.0001
Midwest	6,456	24.51%	9,074	25.21%	
Northeast	3,082	11.70%	4,627	12.86%	
South	12,953	49.18%	17,189	47.76%	
West	3,849	14.61%	5,103	14.18%	
Urban-Rural Status					0.9130
Rural	3,484	13.23%	4,750	13.20%	
Urban	22,856	86.77%	31,243	86.80%	
Teaching	12,810	48.63%	18,020	50.07%	0.0001
Percutaneous Coronary Intervention (PCI)	16,948	64.34%	21,681	60.24%	0.0001

eTable 10. Mortality and length of stay for acute myocardial infarction (AMI) patients the first wave of COVID-19 (March-May 2020) versus pre-COVID-19 study period (March-May 2019)

	Bivariate Comparison (COVID-19 versus pre-COVID-19)	Generalized estimating equation (GEE) Ratio of the Means^a	95% Confidence Interval (CI)	P-value^c
Mortality (% of admissions)	4.56% vs. 4.37%	1.13	1.04 – 1.23	0.0043
Adjusted LOS^b (mean [standard error of the mean])	3.74 (0.04) vs. 4.02 (0.05)	0.93	0.91 – 0.95	<0.0001

^aGeneralized estimating equation model adjusted for study covariates; ^bLOS Length of stay; ^cP-value derived from GEE model

eTable 11. Patient and provider characteristics for acute myocardial infarction (AMI) patients in the second wave of COVID-19 (June-August 2020) versus pre-COVID-19 study period (June-August 2019)

	COVID-19 Era (June – August 2020) (N = 29,372)		Pre-COVID-19 Era (June – August 2019) (N = 34,010)		P-values
AMI Hospitalization Volume	29,372		34,010		13.63% decline
Characteristics	N	%	N	%	
Age (years)					
Median IQR	66.00	19.00	67.00	19.00	<0.0001
Mean +/- SD	65.89	13.10	66.34	13.19	0.2542
18 – 49	3,277	11.16%	3,729	10.96%	0.0010
50 – 59	6,101	20.77%	6,740	19.82%	
60 – 69	8,026	27.33%	9,170	26.96%	
70+	11,968	40.75%	14,371	42.26%	
Gender					0.1470
Male	18,819	64.07%	21,602	63.52%	
Female	10,553	35.93%	12,408	36.48%	
Race					<0.0001
White	23,721	80.76%	27,030	79.48%	
Black	3,097	10.54%	3,599	10.58%	
Asian	611	2.08%	729	2.14%	
Other	1,943	6.62%	2,652	7.80%	
Marital Status					0.8300
Married	14,045	47.82%	16,287	47.89%	
Single	12,650	43.07%	14,584	42.88%	
Other	2,677	9.11%	3,139	9.23%	
Payor					<0.0001
Commercial	7,323	24.93%	8,139	23.93%	
Medicaid	2,989	10.18%	3,206	9.43%	
Medicare	16,448	56.00%	19,477	57.27%	
Other	2,612	8.89%	3,188	9.37%	
Elixhauser Score					0.0010
0	987	3.36%	1,181	3.47%	

1	3,132	10.66%	3,923	11.53%	
2+	25,253	85.98%	28,906	84.99%	
Congestive Heart Failure	12,373	42.13%	14,238	41.86%	0.5070
Hypertension	24,252	82.57%	28,173	82.84%	0.3720
Diabetes	11,917	40.57%	13,976	41.09%	0.1830
Obesity	7,591	25.84%	7,862	23.12%	0.0001
Atrial Fibrillation	4,624	15.74%	5,331	15.67%	0.8140
TIA	82	0.28%	85	0.25%	0.4740
Coronary Artery Disease	24,863	84.65%	28,856	84.85%	0.4910
Dyslipidemia	21,630	73.64%	24,799	72.92%	0.0400
Smoking	7,993	27.21%	9,155	26.92%	0.4050
Number of Beds					0.0030
0 – 299	10,211	34.76%	11,394	33.50%	
300 – 500	9,605	32.70%	11,239	33.05%	
500+	9,556	32.53%	11,377	33.45%	
Region					0.3160
Midwest	7,786	26.51%	8,875	26.10%	
Northeast	3,834	13.05%	4,400	12.94%	
South	13,585	46.25%	15,982	46.99%	
West	4,167	14.19%	4,753	13.98%	
Urban-Rural Status					0.0510
Rural	3,865	13.16%	4,656	13.69%	
Urban	25,507	86.84%	29,354	86.31%	
Teaching					
Percutaneous Coronary Intervention (PCI)	18,660	63.53%	20,907	61.47%	0.0001

eTable 12. Mortality and length of stay for acute myocardial infarction (AMI) patients in the second wave of COVID-19 (June-August 2020) versus pre-COVID-19 study period (June-August 2019)

	Bivariate Comparison (COVID-19 versus pre-COVID-19)	Generalized estimating equation (GEE) Ratio of the Means^a	95% Confidence Interval (CI)	P-value^c
Mortality (% of admissions)	4.53% vs. 3.98%	1.17	1.09 – 1.27	<0.0001
Adjusted LOS^b (mean [standard error of the mean])	3.83 (0.05) vs. 3.93 (0.05)	0.97	0.95 – 0.99	0.0119

^aGeneralized estimating equation model adjusted for study covariates; ^bLOS Length of stay; ^cP-value derived from GEE model

eTable 13. Patient and provider characteristics for acute myocardial infarction (AMI) patients in the third wave of COVID-19 (September 2020 – February 2021) versus pre-COVID-19 study period (September 2019 – February 2020)

	COVID-19 Era (September 2020 – February 2021) (N = 55,868)		Pre-COVID-19 Era (September 2019 – February 2020) (N = 68,130)		P-values
	N	%	N	%	
AMI Hospitalization Volume	55,868		68,130		18.00% decline
Characteristics	N	%	N	%	
Age (years)					
Median IQR	67.00	18.00	67.00	18.00	0.0007
Mean +/- SD	66.49	13.03	66.74	13.07	0.4825
18 – 49	5,921	10.60%	7,012	10.29%	0.0130
50 – 59	10,756	19.25%	12,993	19.07%	
60 – 69	15,451	27.66%	18,566	27.25%	
70+	23,740	42.49%	29,559	43.39%	
Gender					0.0140
Male	35,567	63.66%	42,911	62.98%	
Female	20,301	36.34%	25,219	37.02%	
Race					<0.0001
White	45,086	80.70%	54,323	79.73%	
Black	6,062	10.85%	7,199	10.57%	
Asian	1,182	2.12%	1,418	2.08%	
Other	3,538	6.33%	5,190	7.62%	
Marital Status					0.5130
Married	26,402	47.26%	32,246	47.33%	
Single	24,272	43.45%	29,437	43.21%	
Other	5,194	9.30%	6,447	9.46%	
Payor					0.0010
Commercial	13,239	23.70%	16,001	23.49%	
Medicaid	5,484	9.82%	6,301	9.25%	
Medicare	32,142	57.53%	39,834	58.47%	
Other	5,003	8.96%	5,994	8.80%	
Elixhauser Score					0.1270

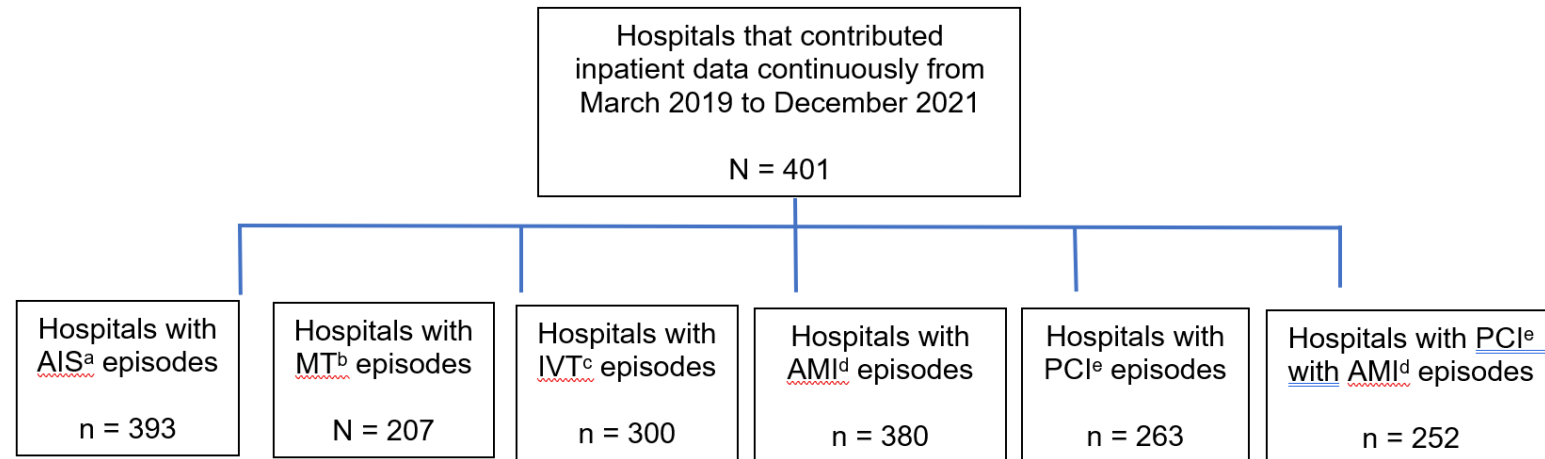
0	1,788	3.20%	2,189	3.21%	
1	5,938	10.63%	7,485	10.99%	
2+	48,142	86.17%	58,456	85.80%	
Congestive Heart Failure	23,966	42.90%	29,243	42.92%	0.930
Hypertension	46,333	82.93%	56,779	83.34%	0.057
Diabetes	22,754	40.73%	28,419	41.71%	0.000
Obesity	14,312	25.62%	16,038	23.54%	0.000
Atrial Fibrillation	9,110	16.31%	11,245	16.51%	0.347
TIA	120	0.21%	145	0.21%	0.941
Coronary Artery Disease	47,278	84.62%	57,789	84.82%	0.337
Dyslipidemia	41,467	74.22%	49,878	73.21%	0.000
Smoking	14,826	26.54%	17,977	26.39%	0.548
Number of Beds					0.0140
0 – 299	19,470	34.85%	23,206	34.06%	
300 – 500	18,060	32.33%	22,267	32.68%	
500+	18,338	32.82%	22,657	33.26%	
Region					0.0070
Midwest	14,292	25.58%	16,873	24.77%	
Northeast	7,259	12.99%	9,020	13.24%	
South	26,368	47.20%	32,322	47.44%	
West	7,949	14.23%	9,915	14.55%	
Urban-Rural Status					0.0820
Rural	7,279	13.03%	8,650	12.70%	
Urban	48,589	86.97%	59,480	87.30%	
Teaching	27,391	49.03%	34,031	49.95%	0.0010
Percutaneous Coronary Intervention (PCI)	34,883	62.44%	41,458	60.85%	0.0001

eTable 14. Mortality and length of stay for acute myocardial infarction (AMI) patients in the third wave of COVID-19 (September 2020 – February 2021) versus pre-COVID-19 study period (September 2019 – February 2020)

	Bivariate Comparison (COVID-19 versus pre-COVID-19)	Generalized estimating equation (GEE) Ratio of the Means^a	95% Confidence Interval (CI)	P-value^c
Mortality (% of admissions)	5.08% vs. 4.39%	1.21	1.14 – 1.28	<0.0001
Adjusted LOS^b (mean [standard error of the mean])	3.86 (0.04) vs. 3.99 (0.04)	0.97	0.95 – 0.98	<0.0001

^aGeneralized estimating equation model adjusted for study covariates; ^bLOS Length of stay; ^cP-value derived from GEE model

e Figure 1: Flow diagram of hospitals contributing inpatient data continuously from March 2019 to December 2021



^aAIS Acute Ischemic Stroke; ^bMT Mechanical Thrombectomy; ^cIVT Intravenous Thrombectomy; ^dAMI Acute Myocardial Infarction; ^ePCI Percutaneous Coronary Intervention

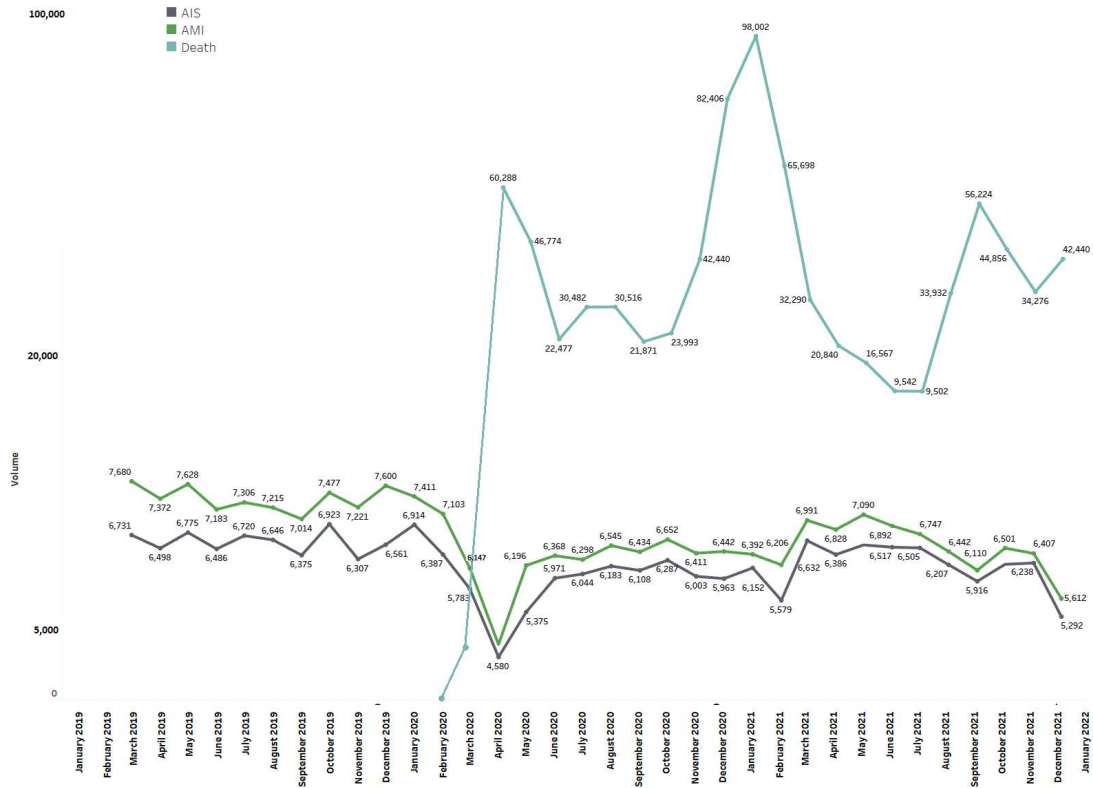
Note: AIS and AMI volume was based on inpatient admissions with a primary diagnosis of these two conditions, respectively; MT and IVT was based on inpatient admissions associated with primary or secondary diagnosis of AIS; PCI volume was based on inpatient admissions associated with these procedures irrespective of diagnosis; and PCI with AMI was based on inpatient admissions associated with AMI primary diagnosis. This allowed for better assessment of volume for these procedures, as some patients may have undergone these procedures and not received AIS or AMI primary diagnosis. As such, the average volume of PCI in the table is higher than the average volume of AMI, as PCI procedures may be associated with coronary artery disease treatment (besides AMI).

Table 15. Characteristics of hospitals contributing inpatient data continuously from March 2019 to December 2021

Characteristics	Hospitals with continuous inpatient data		Hospitals with AIS ^a episodes		Hospitals with MT ^b episodes		Hospitals with IVT ^c episodes		Hospitals with AMI ^d episodes		Hospitals with PCI ^e episodes		Hospitals with PCI ^e with AMI ^d episodes	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Number of hospitals	401	100%	393	100%	207	100%	300	100%	380	100%	263	100%	252	100%
Number of beds														
0-299	269	67.08%	261	66.41%	85	41.06%	168	56.00%	248	65.26%	133	50.57%	123	48.81%
300-500	77	19.20%	77	19.59%	68	32.85%	77	25.67%	77	20.26%	75	28.52%	74	29.37%
500+	55	13.72%	55	13.99%	54	26.09%	55	18.33%	55	14.47%	55	20.91%	55	21.83%
Region														
Midwest	85	21.20%	83	21.12%	35	16.91%	54	18.00%	83	21.84%	49	18.63%	49	19.44%
Northeast	57	14.21%	56	14.25%	36	17.39%	50	16.67%	56	14.74%	33	12.55%	30	11.90%
South	178	44.39%	173	44.02%	89	43.00%	132	44.00%	164	43.16%	123	46.77%	117	46.43%
West	81	20.20%	81	20.61%	47	22.71%	64	21.33%	77	20.26%	58	22.05%	56	22.22%
Urban-rural status														
Rural	127	31.67%	126	32.06%	28	13.53%	62	20.67%	118	31.05%	46	17.49%	46	18.25%
Urban	274	68.33%	267	67.94%	179	86.47%	238	79.33%	262	68.95%	217	82.51%	206	81.75%
Teaching	131	32.67%	128	32.57%	103	49.76%	117	39.00%	126	33.16%	112	42.59%	109	43.25%

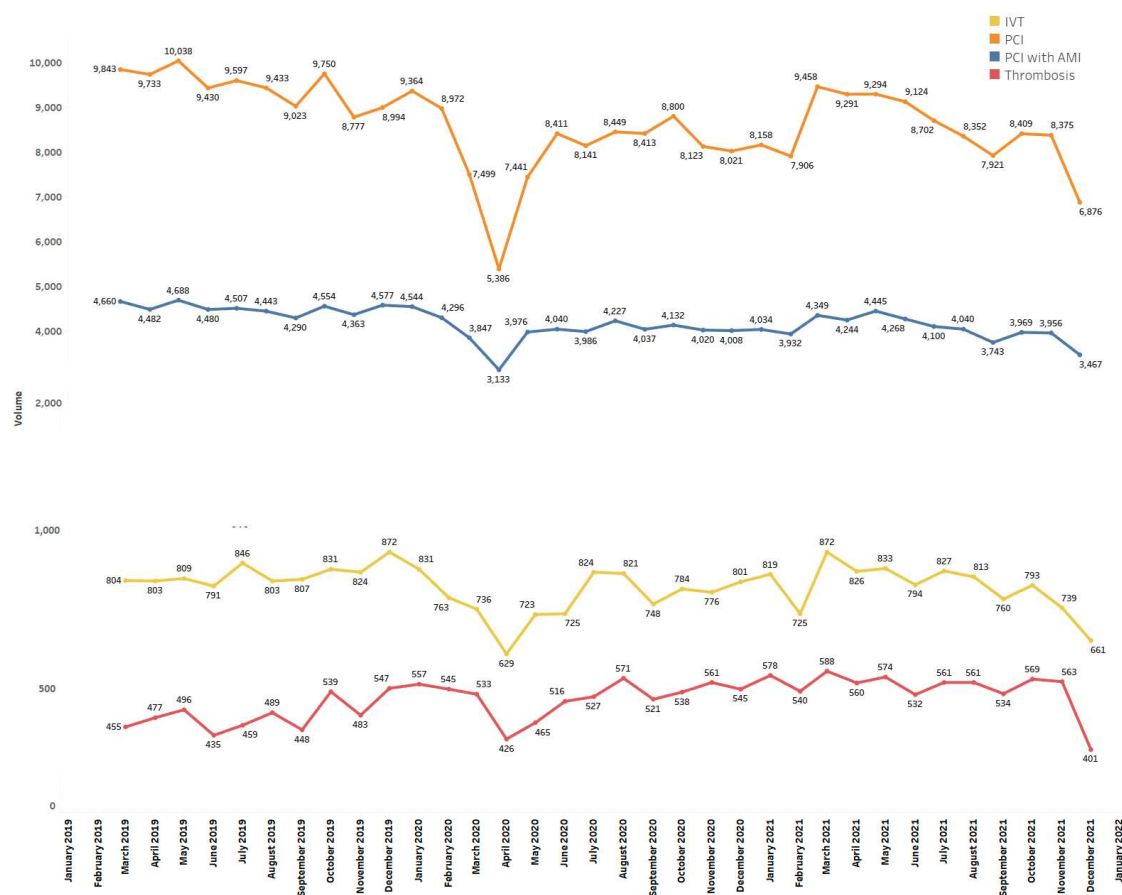
^aAIS Acute Ischemic Stroke; ^bMT Mechanical Thrombectomy; ^cIVT Intravenous Thrombectomy; ^dAMI Acute Myocardial Infarction; ^ePCI Percutaneous Coronary Intervention

e Figure 2: Volume of acute ischemic stroke (AIS), acute myocardial infarction (AMI), and number of US Deaths shown as number of admissions per month from March 2019 – December 2021



Deaths due to COVID-19 were referenced from: https://covid.cdc.gov/covid-data-tracker/#trends_dailydeaths (Accessed August 1, 2022)

eFigure 3: Volume of intravenous thrombolysis (IVT), mechanical thrombectomy (MT), percutaneous coronary intervention (PCI), and PCI with AMI shown as number of admissions per month from March 2019 – December 2021



Note: AIS and AMI volume was based on inpatient admissions with a primary diagnosis of these two conditions, respectively; MT and IVT was based on inpatient admissions associated with primary or secondary diagnosis of AIS; PCI volume was based on inpatient admissions associated with these procedures irrespective of diagnosis; and PCI with AMI was based on inpatient admissions associated with AMI primary diagnosis. This allowed for better assessment of volume for these procedures, as some patients may have undergone these procedures and not received AIS or AMI primary diagnosis. As such, the average volume of PCI in the table is higher than the average volume of AMI, as PCI procedures may be associated with coronary artery disease treatment (besides AMI)

